Resumption in Igbo: two types of resumptives, complex phi-mismatches, and dynamic deletion domains*

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Abstract

This paper investigates the morphosyntax of resumption in Igbo (Benue-Congo). The first part addresses the syntax and argues that Igbo has two types of resumptive pronouns (RPs): (i) RPs that terminate base-generation Ā-dependencies, and (ii) RPs at the bottom of Ā-movement dependencies. While similar splits have been claimed to exist in a few other languages, established with a limited data set, Igbo provides pervasive evidence for the co-existence of both types within the same language: type-(ii) RPs occur in *all* Ā-movement dependencies, and there is comprehensive evidence from a variety of movement tests, including also cyclicity effects, parasitic gap licensing, and language-specific diagnostics. We pursue a spell-out approach to type-(ii) RPs à la Pesetsky (1998); Landau (2006) and discuss potential reasons behind their restricted distribution: type-(ii) RPs only surface in PPs, DPs, and &Ps, which are thus not (absolute) islands in Igbo. The second part of the paper deals with the morphological side of resumption, viz., with phi- and (alleged) case mismatches between the RP and its antecedent. The phi-mismatch provides further evidence for two types of RPs in Igbo. Moreover, it is more complex than the mismatches reported so far in the literature since the loss of phi-information depends on the type of antecedent (pro/noun, coordination). This pattern poses a challenge for previous accounts of phi-mismatches with movement-derived RPs that are based on static deletion domains. We propose that the cross-linguistic variation in phi-mismatches can be captured in a partial copy deletion approach along the lines of van Urk (2018) if the amount of structure that is deleted is defined dynamically. This further supports the relevance of dynamic domains in morphosyntax, in particular in postsyntactic operations, as previously identified in other areas e.g., in Moskal's (2015*b*) work on contextual allomorphy. Finally, we show that the 'case' mismatch is a consequence of the (supra)segmental nature of the relevant exponent and the relative timing of the operations involved.

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1 Introduction

This paper reports on a study of the syntax and morphology of resumption in Ā-dependencies in Igbo, a Benue-Congo language spoken in Nigeria. In the first part, we consider the distribution of RPs and the nature of the syntactic dependencies that RPs occur in. For this purpose, we contrast topicalization with focus fronting. Both constructions can host RPs, but their status is not the same: While the RPs found with topicalization terminate a base-generation Ā-dependency, those that occur under focus fronting surface at the bottom of an Ā-movement dependency. We thus argue that Igbo has two different types of RPs. While similar RP-splits have been reported for a few other languages before, the evidence available in the literature usually comes from RPs in relative clauses (RCs), and is mainly based on island-sensitivity and/or (sometimes very subtle) reconstruction effects. Igbo, on the other hand, offers comprehensive evidence: First, RPs that terminate movement chains occur in *all* Ā-movement dependencies (focus/wh-fronting, relativization). Second, the empirical evidence additionally includes cyclicity effects, parasitic gap licensing, and language-specific diagnostics. Igbo is thus the first language for which we have evidence from all major movement tests for the co-existence of two RP-types.

We argue that RPs in movement dependencies in Igbo are best captured in a spell-out approach to resumption, where RPs realize subparts of lower copies. Following the optimality-theoretic analyses by Pesetsky (1998); Landau (2006), we assume that RPs pronounce the D-head of a lower copy (see Postal 1969; Elbourne 2001) that is affected by partial rather than by (default) full deletion (which results in a gap). Partial deletion is a repair triggered by pronunciation requirements (which we take to be related the prosodic prominence) associated with certain positions. In fact, RPs in movement chains do not freely alternate with gaps in Igbo. Rather, they are required in only a few contexts, i.e., when an element is subextracted from a PP, a DP or an &P. These constituents are thus not (absolute) islands in the language.

The second part of the paper investigates the morphology of resumption in Igbo. The language exhibits both phi- and (what we will provisionally call) case mismatches between the antecedent and its RP – but only in Ā-movement dependencies, not in base-generation dependencies. This provides further evidence for the existence of the two types of RPs argued for in the first part. Moreover, the Igbo phi-mismatch is more complex than previously described patterns because the loss of person and number information depends on the type of antecedent (pronoun vs. lexical noun, coordination). This pattern challenges previous accounts of phi-mismatches in movement-derived resumption, which involve static deletion domains, e.g., van Urk (2018) and work based on his proposal. We propose that the cross-linguistic variation, including the Igbo split pattern, can be captured if the domain for partial deletion is defined dynamically (context-dependent). Differences between the antecedent types are a consequence of (in part independently established) structural differences between them. The pronoun/noun split as well as the use of dynamic domains for postsyntactic operations is reminiscent of Moskal's (2015*b*) work on contextual allomorphy. 'Case' incongruity arises in all Ā-dependencies when an RP surfaces in a genitive-marked position, while antecedents always occur in their accusative form. We argue that this mismatch falls out from the timing of the operations involved once we (a) distinguish morphological and abstract case in Igbo, and (b) take into account the tonal nature of the genitive.

The paper is structured as follows: Section 2 gives an overview of the basic grammatical properties of Igbo. In Section 3 we provide evidence from a number of movement tests for the claim that Igbo has both base-generation dependencies, which terminate in an RP, and

Ā-movement dependencies that usually leave gaps. We show in Section 4 that there are four contexts which require an RP in Igbo even though the dependency involves Ā-movement. In Section 5 we argue for a partial copy deletion approach to RPs in movement dependencies as proposed in Pesetsky (1998); Landau (2006). Section 6 addresses phi-mismatches and Section 7 'case' mismatches in resumption. Section 8 concludes. The appendix includes (A) additional movement test data and (B) a discussion of the triggers of movement-related resumption. Unless references are provided, the Igbo data and judgments in this paper come from the native speaker co-author, Mary Amaechi, who speaks the standard variety. The data were cross-checked with three other native speakers. While some of the facts regarding the syntax of focus fronting in Section 3 have been observed in the literature cited there, we use our own examples with different lexical items to provide minimal pairs throughout this paper as much as possible.

2 The Igbo language

In this section we briefly summarize the basic grammatical properties of Igbo that will be relevant for our study; see the grammars by Green and Igwe (1963); Carrel (1970); Manfredi (1991); Uwalaka (1997); Mbah (2006); Emenanjo (1978; 2015). The basic word order in a declarative all-new sentence in Igbo is SVO; adjuncts occur in the clause-final position, see (1).[1]

(1) Ézè hụ̀-rụ̀ Àdá n'-áhíá
Eze see-rV Ada P-market
"Eze saw Ada at the market."

This order can be changed to express information-structural categories such as topic and focus, see Section 3. Igbo is a tone language that distinguishes low (à) and high tone (á) as well as a downstep (ꜜá) (Green and Igwe 1963; Goldsmith 1976; Nwachukwu 1995). The downstep is a pitch drop that arises when two high tones associated with separate tone bearing units are adjacent (Clark 1990). Tone in Igbo has not only lexical but also grammatical functions; for example, the difference between a declarative sentence and a yes-no-question based on it is expressed by a different tone on the pronominal subject. Igbo has rich verbal morphology that indicates derivation and inflection (e.g., tense, aspect, Uwalaka 1988). Vowels come in [±ATR] pairs; we encode the [–ATR]-variants by a dot subscript. Regarding nominal inflection, the 2sg and 3sg personal pronouns exhibit two forms, which we will provisionally identify as morphological case:

[1] The following glosses are used in this paper: $1/2/3 = 1^{st}/2^{nd}/3^{rd}$ person, ACC = accusative, COP = copula, CPL = completive aspect, DEM = demonstrative, DIR = directional, EXPL = expletive, FOC = focus marker, GEN = genitive, NEG = negation, NMLZ = nominalizer, NOM = nominative, OVS = open vowel suffix, P = preposition, PFV = perfective, PFX = prefix, PL = plural, PROG = progressive, PRT = particle, REFL = reflexive, SG = singular.

Many of our examples contain a verb form with the suffix *-rV*, where V is a vowel that harmonizes with the verb stem in quality and tone. We gloss this suffix as *-rV* since its meaning is debated in the literature. Carrel (1970); Emenanjo (1978); Uwalaka (1988); Nwachukwu (1995) identify it as a past marker. Manfredi (1997) classifies it as an aspect marker, Déchaine (1993); Emenanjo (2015) as a factive marker, and Amaechi (2020: ch.4.3) analyses it as an exponent of affirmative polarity. Nwachukwu (1976) postulate several homophonous *-rV*-suffixes. Nothing hinges on the exact meaning of the suffix for our purposes.

The form *n'* of the preposition *nà*, as it occurs e.g. in (1), does not indicate that the vowel is deleted. It is rather the common orthographic representation of harmony (in quality and tone) between the vowel of the preposition and the vowel of the following syllable that happens in rapid speech (Green and Igwe 1963: 45). This harmony also occurs with other (homophonous) elements (*nà*$_1$, *nà*$_2$, and *ná*$_4$ as identified in fn. 15), for which it is usually not indicated by *n'* in written form, however. We follow this orthographic convention.

The V(owel)-form of these pronouns (*í*, *ó*) can only be used as the subject of an (in/di)transitive verb, while the CV-variant (*gị́*, *yá*) has a wider distribution and must be used, e.g., in (in)direct object function, see (2) (and Manfredi 1991: 233; Déchaine and Manfredi 1998: 76f.).

(2) a. Ị́ / Ọ́ nwù-rù
2SG.NOM / 3SG.NOM die-rV
"You(sg) / S/he died."

b. Ị́ hù-rù yá
2SG.NOM see-rV 3SG.ACC
"You(sg) saw her/him."

c. Ọ́ hù-rù gị́
3SG.NOM see-rV 2SG.ACC
"S/he saw you(sg)."

Given that the distribution in (2) corresponds to the typical nominative-accusative pattern, we will call the V-forms of the 2sg and 3sg pronouns the NOM(inative) exponent, and the CV-forms the ACC(usative) exponent. This is in line with the terminology used in Emenanjo (2015: 29-30, 304) and (partially) Manfredi (1991: 233).[2] Other pronouns and all lexical nouns do not distinguish NOM- and ACC-forms, there is only a single exponent that covers both uses, see the pronominal paradigm in (3).[3] In what follows, we will indicate NOM/ACC glosses only for pronouns, but not for nouns; we will refer to the form of nouns in NOM/ACC-contexts as their *base form*.

(3) Personal pronouns (Emenanjo 2015: 304, Déchaine and Manfredi 1998: 76):

<table>
<tr><th></th><th>1sg</th><th>2sg</th><th>3sg</th><th>1pl</th><th>2pl</th><th>3pl</th></tr>
<tr><td>NOM</td><td rowspan="2">ḿ</td><td>í/ị́</td><td>ó/ọ́</td><td rowspan="3">ànyị́</td><td rowspan="3">ụ́nù</td><td rowspan="2">há</td></tr>
<tr><td>ACC</td><td>gị́</td><td>yá</td></tr>
<tr><td>GEN</td><td>ꜜḿ</td><td>ꜜgị́</td><td>ꜜyá</td><td>ꜜhá</td></tr>
</table>

In addition, nouns and pronouns exhibit a form that is referred to as GEN(itive) in the literature. It is used to indicate possession (in the associative construction) and for direct objects in certain aspects; GEN is expressed by a tone change (at least in some environments, see Goldsmith 1976; Clark 1990; Nwachukwu 1995; Manfredi 2018). With monosyllabic pronouns the GEN-form is distinct from both the ACC- and the NOM-form. See (4) for examples with the 3sg pronoun and the proper name *Chí* (base form): GEN is segmentally identical to ACC/the base form but surfaces with a downstep rather than a high tone. We will discuss morphological case in Section 7 and argue that the alternation in (3) are in fact not a realization of abstract case.

[2] Manfredi (1991) uses the label ACC for the object forms, but does not use NOM for the subject V-forms (which are clitics, see fn. 3) because he assumes that they are not the argument of the verb; rather, he takes the thematic argument to be pro-dropped (and the clitic to be an agreement element); see also Eze (1995) for this view. Evidence against this hypothesis comes from the observation that the NOM-clitics cannot co-occur with an overt subject DP in an all-new declarative sentence. The only grammatical parse of such a string involves subject topicalization (where the clitic is a resumptive, see Section 3). In many grammars of Igbo, the NOM/ACC forms of sg-pronouns are not identified as different cases, but are called separable/independent/free (=ACC) and inseparable/dependent/bound (=NOM) forms, see, e.g., Green and Igwe (1963: 32) and Uwalaka (1988: 5). This is based on the observation that only ACC-forms can be used in isolation, e.g., in fragment answers.

[3] There is no morphological gender in Igbo. The two instances of the 2sg and 3sg NOM- pronouns separated by a slash in (1) differ in their [ATR]-value since they undergo [ATR]- and tone harmony with the verb stem. This is because these two pronouns are clitics, which form a phonological word with the verb (Goldsmith 1976; Clark 1990; Eze 1995; Anyanwu 2012); other personal pronouns are strong by the tests in Cardinaletti and Starke (1996).

(4) a. jí ꜜyá
yam 3SG.GEN
"his/her yam"

b. jí ꜜChí
yam Chi.GEN
"Chi's yam"

We adopt the clause structure in (5) for a declarative clause with a transitive verb such as (1) (without the adjunct) from Amaechi and Georgi (2019):

(5) $[_{CP}$ C $[_{TP}$ DP_{ext} $[_{T'}$ V+v+Asp+T $[_{AspP}$ ⟨Asp⟩ $[_{vP}$ ⟨DP_{ext}⟩ $[_{v'}$ ⟨v⟩ $[_{VP}$ ⟨V⟩ DP_{int}]]]]]]]

Heads precede their complements in Igbo, i.e., the VP (PP, NP) are head-initial. The external argument (DP_{ext}) is base-generated in Spec*v*. The structurally highest argument moves to SpecT due to the obligatory EPP of T. The finite verb moves cyclically through v and Asp to T. See Déchaine (1993); Amaechi (2020) for justification of these assumptions and further references.[4]

3 Base-generation vs. Ā-movement in Igbo

In this section we investigate the formation of Ā-dependencies in Igbo. We will contrast focus fronting (focus ex-situ) and topicalization applied to direct objects (DO); we will comment on other grammatical functions and on other Ā-dependencies later. This section summarizes the results of our previous work on the morphosyntax of focus fronting (including ex-situ wh-questions) in Igbo, see Amaechi and Georgi (2019); the language-specific tests as well as the cyclicity and topicalization data presented here were not included in that work, however.[5] Consider the declarative sentence in (6-a), which is our baseline. New information and contrastive focus in Igbo can be expressed by putting the focus XP in the clause-initial position where it is followed by the focus marker *kà*, see (6-b). In the canonical postverbal position of the DO we find a gap (underlined); using an RP (= 3sg ACC-pronoun *yá*) leads to ungrammaticality. Focused XPs are represented in small caps in the English translations throughout the paper.[6] A topic XP also occurs in the clause-initial position, but it is not followed by a specific morpheme (there is no topic marker), only by an intonational break. The canonical postverbal DO-position must be filled by an RP (= 3sg ACC-pronoun *yá*), a gap is impossible, see (6-c).

(6) a. Ézè hụ̀-rụ̀ Àdá
Eze see-rV Ada
"Eze saw Ada." *declarative*

[4]Previous studies of the Igbo clause structure differ in the number of projections postulated in the CP- and TP-domains, and in how far V moves: to Affirmative (Déchaine 1993; Amaechi 2020) or to T (Amaechi and Georgi 2019). Nothing hinges on this for our purposes.

[5]The formation of ex-situ wh-questions with wh-pronouns, which is syntactically identical to focus ex-situ in Igbo, has been a central topic in the literature on Igbo syntax. Apart from brief overviews in the grammars listed in Section 2, the topic is addressed in Goldsmith (1981); Ikekeonwu (1987); Ndimele (1991); Uwalaka (1991); Ogbulogo (1995); Maduagwu (2012); Nwankwegu (2015); Nweya (2018). With the exception of Goldsmith (1981), these studies are rather descriptive and do not provide a deep analysis of the syntactic structure.

[6]Focus in Igbo can also be expressed in-situ and with clefts, see Amaechi and Georgi (to appear) for an overview. We only consider the non-cleft ex-situ strategy here; see Amaechi (2020: ch.2) for a discussion of cleft structures in Igbo. Since we are not dealing with a cleft, we refrain from using clefts to indicate focus in the English translations.

b. Àdá kà Ézé hù-rù ___ / *yá
Ada FOC Eze see-rV 3SG.ACC
"Eze saw ADA." *DO focus*

c. Àdá, Ézè hù-rù yá / *___
Ada Eze see-rV 3SG.ACC
"As for Ada, Eze saw her." *DO topic*

The application of a set of general movement tests as well as of two language-specific movement diagnostics (=LSMDs) to dependencies with a clause-initial focus or topic XP (summarized in Table 1) leads us to conclude that focus fronting is the result of movement, while topicalization involves base-generation of the topic XP at the left edge of the clause: focus fronting is sensitive to islands and to two LSMDs, exhibits reconstruction and tonal cyclicity effects, licenses parasitic gaps (*pg*s); topicalization has none of these properties.

Table 1: Movement tests: summary of results for focus fronting and topicalization

	island-sens.	reconstruction	cyclicity	*pg*-licensing	LSMDs	bottom
focus	✓	✓	✓	✓	✓	gap
topical.	*	*	*	*	*	RP

In what follows, we illustrate these properties. Complex noun phrases (CNPs) are islands in Igbo. (7) shows that focus fronting the DO out of a relative clause is ungrammatical, while topicalizing the DO is fine.[7] Note that long-distance focus fronting is possible in Igbo (see, e.g., (8-b)); the ungrammaticality of (7-b) is thus not simply caused by the crossing of a clause boundary.

(7) CNP-island (relative clause):

a. Úchè pù-rù [mgbè Ézè hù-chà-rà Àdá]
Uche leave-rV time Eze see-CPL-rV Ada
"Uche left at the time when Eze saw Ada." *declarative*

b. *Àdá kà Úché pù-rù [mgbè Ézé hù-chà-rà ___]
Ada FOC Uche leave-rV time Eze see-CPL-rV
"Uche left at the time when Eze saw ADA." *DO focus*

c. Àdá, Úchè pù-rù [mgbè Ézè hù-chà-rà yá]
Ada Uche leave-rV time Eze see-CPL-rV 3SG.ACC
"As for Ada, Uche left at the time when Eze saw her." *DO topic*

Focus fronting reconstructs to the gap position in Igbo. We illustrate this here for Strong Cross Over (SCO) and idiom interpretation.[8] In the baseline in (8-a), the matrix 3sg subject pronoun cannot be co-referent with any of the proper names in the embedded clause as this would cause a Principle C violation. When the DO of the embedded clause is focused, it still cannot be co-referent with the matrix subject, see (8-b). This follows if the fronted XP reconstructs to the gap position. There are, however, no restrictions on co-reference between a topic related to the embedded DO-resumptive and the matrix subject, see (8-c); this suggests that the topic

[7] Relative clauses in Igbo neither have an (overt) relative pronoun nor a complementizer; the position to which the head noun is related in the relative clause is simply occupied by a gap (e.g., when a DO is relativzed) or an RP (in the four contexts in (15) – (18)). See Amaechi (2020: ch.2.3) on the syntax of relative clauses in Igbo.

[8] Amaechi and Georgi (2019: 5-7, 18) provide further evidence for a movement derivation of the (syntactic) wh-ex-situ equivalent of focus fronting from reconstruction for scope, variable binding and Principle A.

XP does not originate in the c-command domain of the matrix subject (viz., the position of the RP). See also Uwalaka (1991: 199) for SCO effects under wh-movement in Igbo.

(8) Strong cross-over:

a. Ó chè-ré nà Ézè hụ̀-rụ̀ Àdá.
3SG.NOM think-rV that Eze see-rV Ada
"S/he$_i$ thinks that Eze$_j$/$_{*i}$ saw Ada$_k$/$_{*i}$." *declarative*

b. Àdá kà ó chè-ré nà Ézé hụ̀-rụ̀ __
Ada FOC 3SG.NOM think-rV that Eze see-rV
it is x such that *x/✓y thinks that Eze saw x *DO focus*

c. Àdá, ó chè-ré nà Ézè hụ̀-rụ̀ yá
Ada 3SG.NOM think-rV that Eze see-rV 3SG.ACC
as for x, ✓x/✓y thinks that Eze saw x *DO topic*

Focus fronting also reconstructs for idiom interpretation. The expression 'to hit the teeth with the spoon' in Igbo has a literal reading and the idiomatic reading 'to eat'. Focus fronting of 'the spoon' (which is a DO in Igbo, not a PP adjunct as in English) preserves the idiomatic reading. Under topicalization of 'spoon', however, the idiomatic reading is lost. Assuming that idiom parts must be adjacent at LF to receive the idiomatic reading, the facts follow if focus fronting involves movement (and can thus reconstruct) but topicalization does not.

(9) Reconstruction for idiom interpretation:

a. Há nà-à-kụ́ ńgàjì n'ézè
3PL.NOM PROG-NMLZ-hit spoon P-teeth
"They are eating." *declarative, idiomatic*
"They are hitting the teeth with the spoon." *declarative, literal*

b. Ńgàjì kà há nà-à-kụ́ __ n'ézè
spoon FOC 3PL.NOM PROG-NMLZ-hit P-teeth
"They are EATING." *focus, idiomatic*
"They are hitting the teeth WITH THE SPOON." *focus, literal*

c. Ńgàjì, há nà-à-kụ́ !yá n'ézè
spoon 3PL.NOM PROG-NMLZ-hit 3SG.GEN P-teeth
*"As for eating, they are doing it." *topic, idiomatic*
"As for the spoon, they are hitting the teeth with it." *topic, literal*

A hallmark of Ā-movement is that it licenses parasitic gaps (Engdahl 1985). (10-a,b) show that focus fronting can license a *pg* in an adjunct clause in Igbo, but topicalization does not have this capacity, see (10-c) ('to prize sth.' is expressed as 'agree sth. to mouth').[9] The following set of facts provides evidence for the claim that (10-b) involves a true parasitic gap: (i) Both (10-b,c) can also have an overt pronoun (*yá*) instead of the gap in the adjunct clause; (ii) the gap variant in (10-b) is only grammatical when an XP in the matrix clause has undergone Ā-movement, but not when the XP stays in-situ (wh-/focus-in-situ, possible in Igbo) or when it undergoes A-movement – the overt pronoun is possible in both cases; (iii) Igbo is not an (object) *pro*-drop language, we can thus rule out the presence of a silent pro in the *pg*-site in (10-b) (see fn. 2 on subject pro-drop). Ogbulogo (1995: 139) and Uwalaka (1991: 201) provide *pg*-examples in other Ā-movement dependencies in Igbo.

[9]The particle *ná* in the adjunct clause surfaces because the clause is negated and there is Ā-movement of an empty operator. See below for more information on this particle.

(10) *pg*-licensing in Igbo:

a. Ézè kwèr-è ìtè ọ́nú [$_{CP}$ ná ǃá-zú-ghí yá / *__]
Eze agree-rV pot mouth PRT PFX-buy-NEG 3SG.ACC
"Eze priced the pot without buying it." *declarative*

b. Ìtè kà Ézé kwèr-è __ ọ́nú [$_{CP}$ ná ǃá-zú-ghí pg]
pot FOC Eze agree-rV mouth PRT PFX-buy-NEG
"Eze priced THE POT without buying (it)." *DO focus*

c. *Ìtè, Ézè kwè-rè yá ọ́nú [$_{CP}$ ná ǃá-zú-ghí pg]
pot Eze agree-rV 3SG.ACC mouth PRT PFX-buy-NEG
"As for the pot, Eze priced it without buying (it)." *DO topic*

We now turn to cyclicity effects. These are morpho-phonological changes along the path of Ā-movement (see Boeckx 2008; Abels 2012; Georgi 2014; van Urk 2015 for overviews). Amaechi (2020: ch.4) shows that Igbo is rich in (tonal) cyclicity effects. She argues that they qualify as reflexes of Ā-movement because they are triggered in all dependencies that involve Ā-movement (by the other tests in Table 1), but are absent (i) under base-generation, (ii) from constructions involving A-movement, and (iii) from sentences in which the focused XP stays in-situ. We will illustrate the final H(igh) tone on crossed-over subjects (see also Robinson 1974; Tada 1995; Manfredi 2018). If an XP Ā-moves across a subject DP, the final tone of the subject becomes high. Take the subject *Ézè* in the baseline in (6-a), which ends in a low tone. When the DO is focus fronted, this final tone on the subject obligatorily changes to high, see (11-a) (and all focus fronting examples in this paper). No tone change occurs when the DO is topicalized, see (11-b). (11-c) illustrates that this tone change is triggered in all clauses of the dependency under long movement (the matrix subject *Úchè* ends in a low tone in declaratives, cf., (7-a)).[10]

[10] An anonymous reviewer wonders whether there may be a different (non-Ā-movement-related) explanation for the difference in the tones on the subject between (11-a) (focus) and (11-b) (topicalization): The final tone on the subject DP and the final tone on the preceding word may be subject to a low/high alternation requirement: In (11-b), the topic ends in a high tone, hence the subject must end in a low tone. In (11-a), however, the focus marker bears a low tone, and therefore the subject changes its final tone to high. The following evidence argues against this alternative hypothesis: (1) We get the same effect, viz., absence of a tonal effect on the subject, when the topic ends in a low tone, see (i); this also holds when the subject bears only low tones itself (name *Ùgò* in (i)). (2) Final H-tone overwriting applies to the linearly last tone-bearing unit of the subject DP, regardless of the syntactic complexity of this constituent. In (ii), for example, the subject contains a relative clause, and the final H-tone surfaces on the rightmost element of this clause, which is an adverb. If the H-tone on the adverb were triggered to produce an alternation with the low-toned focus marker, this would be a highly non-local interaction.

(i) a. Ézè/Ùgò hù-rù Úchè
Eze/Ugo see-rV Uche
"Eze/Ugo saw Uche." *declarative*

b. Úchè, Ézè/Ùgò hù-rù yá
Uche Eze/Ugo see-rV 3SG.ACC
"As for Uche, Eze/Ugo saw him." *DO topic*

(ii) a. [Nwáányí ǃgá-ǃrá Àbá ụ̀nyáhụ̀] hù-rù Àdá
woman go-rV Aba yesterday see-rV Ada
"The woman who went to Aba yesterday saw Ada." *declarative*

b. Àdá kà [nwáányí ǃgá-ǃrá Àbá ụ̀nyá**hụ́**] hù-rù __
Ada FOC woman go-rV Aba yesterday see-rV
"The woman who went to Aba yesterday saw ADA." *DO focus*

The reviewer also wonders where this final H-tone originates in the structure. Amaechi (2020) argues that it is triggered in C^0 (or the lowest functional head FP in a split CP) whenever an XP moves to SpecC (or SpecFP). The default association direction of the floating H-tone is to the right. Since the overt element right-adjacent

(11) Final H-tone on the subject:

a. Àdá kà **Ézé** hù-rù __
Ada FOC Eze see-rV
"Eze saw ADA."

b. Àdá, Ézè hù-rù yá
Ada Eze see-rV 3SG.ACC
"As for Ada, Eze saw her."

c. Àdá kà **Úché** chè-rè nà **Ézé** hù-rù __
Ada FOC Uche think-rV that Eze see-rV
"Uche thinks that Eze saw ADA."

We now turn to two language-internal Ā-movement diagnostics in Igbo. The first is the ban on extraction from perfective clauses (Nwachukwu 1976, Amaechi 2020: ch. 4.6). Perfective aspect is expressed by a morphologically complex form consisting of a nominalizing prefix and suffixes; due to the nominalization, the DO of a perfective verb surfaces in the GEN-form, see (12). It is not possible to Ā-extract any XP (argument or adjunct) from a clause with perfective aspect, see (12-b) for the attempt to focus the DO. But topicalization from a perfective clause is fine, see (12-c).[11] Note that the ban on movement does not hold for A-movement and that focus/wh–in-situ is possible in clauses with perfective morphology. The effect thus diagnoses Ā-movement.

to C^0 is the subject DP in SpecT, the tone attaches to it. More specifically, it attaches to the right edge of the constituent in SpecT and overwrites the tone at its right edge, see (ii-b) with a complex subject DP. That the floating H-tone originates in C is supported by the following observations: When the subject DP itself undergoes Ā-movement (as in local/long subject relativization and in long subject questions/focus fronting) the moved subject is *not* affected by final H-overwriting. Rather, the floating H-tone attaches elsewhere, and the alternative attachment sites suggest its origin in C^0 (rather than in some lower position). For concreteness, Amaechi (2020) argues that another floating tone is triggered in SpecT (which affects the tones of the finite verb) whenever the subject DP undergoes Ā-movement. This floating tone in SpecT blocks the default rightwards association of the floating tone originating in C^0. As a consequence, the floating H-tone in C^0 changes its association direction and associates with the closest *overt* element to its *left*. In a local subject relative, this element is the head noun, since the relative operator in SpecC of the relative clause is silent in Igbo. Under long-distance subject Ā-extraction, however, the linearly closest element to the left of the embedded C is the matrix verb, and this is indeed where the floating H-tone surfaces. See Amaechi (2020: 4.3.) for examples. Note that there is no final H-tone overwriting in local subject questions ('Who saw Ada?') or with local subject focus ('EZE saw Ada.') because wh-/focused subjects cannot undergo local Ā-movement in Igbo (Amaechi and Georgi 2019 and fn. 13); thus, the floating H-tone in C^0 is not triggered in these contexts.

[11] The exact function of the OVS-suffix that occurs in (12) is debated in the literature. It occurs in a number of constructions, not just in the perfective. See Amaechi (2020: ch.4.6.2.3) for discussion and references. Note that the OVS-suffix is optional for some verbs and obligatorily absent with others, so it will not show up in all perfective forms in this paper.

Emenanjo (1978) provides arguments that the constructions in (12) expresses perfective aspect rather than perfect tense. Kandybowicz and Baker (2003) report a similar extraction restriction in Nupe (Kwa, Nigeria). Their explanation is based on the word order change from VO to OV in the perfective in Nupe. Since no such effect is observed in the Igbo perfective, the analysis cannot be transferred. See Amaechi (2020: ch. 4.6) for a subjacency account based on the observation that the perfective – unlike other aspects in the language – involves two nominalizing shells. To express ex-situ focus in the perfective as in (11-b), speakers resort to the *-rV* form of the verb, discussed in fn. 1. With this form, focus fronting is possible as shown throughout this section, see e.g. (6-b).

(12) Ban on extraction from perfective clauses:

a. Ézè è-rí-é-lá ꜜjí
Eze NMLZ-eat-OVS-PFV yam.GEN
"Eze has eaten yam." *declarative*

b. *Jí kà Ézé è-rí-é-lá ___
yam FOC Eze NMLZ-eat-OVS-PFV
"Eze has eaten YAM." *DO focus*

c. Jí, Ézè è-rí-é-lá yꜜá
yam Eze NMLZ-eat-OVS-PFV 3SG.GEN
"As for the yam, Eze has eaten it." *DO topic*

The second language-specific Ā-movement test is the occurrence of the *ná*-particle (glossed as PRT). This particle must surface between the subject DP and the finite verb when an XP is Ā-moved from a clause that contains sentential negation. Negation is expressed by a high toned prefix (glossed as PFX) and the suffix *ghi*; both affixes agree in the ATR-value with the vowel of the verb stem; the suffix takes over the tone of the verb in addition. (13-b) shows an example with DO-focus in a negative clause, where *ná* is compulsory. Just like the ban on extraction from perfective clauses, the *ná*-particle is not triggered in negated clauses in which A-movement applies, nor by focus/wh-in-situ and also not in dependencies that involve base-generation by other movement tests (Amaechi 2020), see the DO-topicalization example in (13-c).

(13) *Ná*-particle in negated clauses:[12]

a. Ézè á-ꜜhụ́-ghị́ Àdá
Eze PFX-see-NEG Ada
"Eze did not see Ada." *declarative*

b. Àdá kà Ézè *(ná) ꜜá-hụ́-ghị́ ___
Ada FOC Eze PRT PFX-see-NEG
"Eze did not see ADA." *DO focus*

c. Àdá, Ézè (*ná) á-ꜜhụ́-ghị́ yá
Ada Eze PRT PFX-see-NEG 3SG.ACC
"As for Ada, Eze did not see her." *DO topic*

To summarize, there is comprehensive empirical evidence that Igbo has both movement and base-generation Ā-dependencies. An ex-situ focus XP moves from the gap site to its surface position; a topic XP is base-generated at the left edge of the clause and binds an RP (which is the thematic argument of the verb). Gaps and RPs are in complementary distribution in Igbo. Amaechi and Georgi (2019) propose that ex-situ foci and topics occupy different left-peripheral positions in a split CP à la Rizzi (1997). A focus XP targets the specifier of FocP, whose head is realized by the focus marker *kà*, see DO-focus in (14-a); topics are base-merged in the higher SpecTopP, see a DO-topic in (14-b). Evidence for this split comes from the observation that topic and focus XPs can co-occur in a clause, but only in the order topic $\succ$ focus.

[12]The downstep on the underlyingly high tone verb 'to see' in (13a,c) is induced by the high tone of the verbal prefix. Recall that a downstep arises when two high tones that are associated with different TBUs are adjacent (Clark 1990). Likewise, the high toned particle *ná* triggers downstep on the following underlyingly high toned verbal prefix in (13-b). These are regular tonal processes in the language. Note that the final high tone on crossed over subjects (see (11)) and the *ná*-particle are in complementary distribution: the particle is a movement reflex that is only triggered in negative clauses, while the final high tone effect only surfaces in affirmative clauses. See Amaechi (2020: ch.4) for an analysis.

(14) a. [$_{\text{FocP}}$ **DP$_{\textbf{int}1}$** [$_{\text{Foc}'}$ Foc [$_{\text{TP}}$ DP$_{ext}$ [$_{\text{T}'}$ V+v+Asp+T [$_{\text{AspP}}$ ⟨Asp⟩ [$_{\text{vP}}$ ⟨DP$_{ext}$⟩ [$_{\text{v}'}$ ⟨v⟩ [$_{\text{VP}}$ ⟨V⟩ __$_1$]]]]]]]

b. [$_{\text{TopP}}$ **DP** [$_{\text{Top}'}$ Top [$_{\text{TP}}$ DP$_{ext}$ [$_{\text{T}'}$ V+v+Asp+T [$_{\text{AspP}}$ ⟨AsP⟩ [$_{\text{vP}}$ ⟨DP$_{ext}$⟩ [$_{\text{v}'}$ ⟨v⟩ [$_{\text{VP}}$ ⟨V⟩ **RP**$_{int}$]]]]]]]

The facts reported for DOs above carry over to other grammatical functions, viz., to subjects, indirect objects and adjuncts. Focus fronting of these elements also terminates in gaps, while topicalization requires an RP, see, e.g., Goldsmith (1981); Uwalaka (1991); Amaechi and Georgi (2019) for examples involving wh-movement.[13] The properties reported here for focus fronting also hold for other Ā-movement dependencies such as ex-situ wh-question formation (which has the same syntax as focus ex-situ, see Amaechi and Georgi 2019), relativization (which involves empty operator movement, see Amaechi 2020: ch. 2.3), and constructions based on them (clefts), see Amaechi 2020: ch. 2-3). These works contain examples, tests, and further references.

4 Resumptives in Ā-movement dependencies

The data presented in the previous section suggest a correlation between Ā-dependency type and the choice of the element at the bottom of the dependency: Ā-movement leaves gaps, base-generation co-occurs with an RP. We will show in this section that this correlation breaks down in other contexts: Igbo also exhibits obligatory RPs under Ā-movement. We thus have to distinguish RPs in base-generation from RPs in movement dependencies.

4.1 Evidence for a second type of RP

The findings reported in the last section are based on the fronting of core arguments of the verb. However, once we consider XPs in other functions, we see that even focus fronting sometimes requires the presence of an RP in Igbo. There are four contexts in which this happens: focus fronting of (i) the complement of a preposition (CompP, see (15)), (ii) a possessor (Poss, see (16)), (iii) a conjunct (Conj, see (17)), and (iv) an XP that a focus-sensitive particle associates with (FSP-XP, see (18)). In all these examples the focused XP originates in a constituent (PP, DP, &P) in direct object position.[14, 15]

[13] There is one exception to this generalization: Amaechi and Georgi (2019); Amaechi (2020) show that subjects in Igbo cannot undergo focus or wh-movement in the minimal clause, but have to stay in their canonical position SpecT. Subjects can, however, undergo long-distance movement. In this case they behave as reported in the text: they leave a gap. The gap is only possible, however, if the embedding complementizer is absent, since Igbo exhibits the *that*-trace effect.

[14] There is a fifth context in which RPs can occur in Igbo: the *that*-trace configuration (long subject movement), see fn. 13. This effect can be repaired by deletion of the embedding complementizer (as in English), or by keeping the complementizer and inserting an RP in the embedded subject position (see Goldsmith 1981: 380f.,389f., and Amaechi and Georgi 2019 for a full paradigm). We do not include RPs in the *that*-trace environment in the present paper because their properties differ from those in (15) – (18). Pending a comprehensive investigation, initial results suggests that the dependency does not involve movement.

[15] An anonymous reviewer questions that the *nà*-element in examples like (15) is a preposition and hypothesizes that this gloss is simply based on the English translation. This critique is rooted in (a) the idea that this *nà* is diachronically derived from a stative verb of location (see, e.g., Welmers 1973; Uwalaka 1988; Emenanjo 2015), and (b) the fact that there are a number of (at least segmentally) homophonous functional elements in the language that are clearly not prepositions. The reviewer wonders whether the alleged prepositional *nà* (called "P-*nà*" in what follows) may not be identical to one of the other *nà*s. It is in fact difficult to provide direct evidence for the prepositional nature of P-*nà*, as there seem to be at most two P-elements in the language (*nà*, *màkà*). Moreover, we cannot use the ability to assign case to its complement (a common property of adpositions in languages with morphological case) as a diagnostic because we will argue in Section 7 that the morphological

shape (ACC) of the nominal following P-*nà* is not the realization of abstract case. We can show, however, that P-*nà* (i) is not a member of the other lexical categories (N, A, V), and (ii) that it cannot be equated with any of the homophonous functional elements in the language. We begin with (i). P-*nà* is not an adjective: There are very few true adjectives in Igbo; most of the English adjectives are expressed by nouns or in verbal constructions instead (see Emenanjo 2015: ch. 14). Furthermore, the few proper adjectives in the language follow the noun they modify (see Welmers and Welmers 1969: 321), whereas P-*nà* precedes the noun it is related to. It is also not likely for P-*nà* to be a noun: Nouns are rarely monosyllabic in Igbo, and the very few nouns that are have a high tone (see Green and Igwe 1963: 15), whereas P-*nà* has a low tone. Furthermore, P-*nà* cannot be replaced by a personal pronoun in examples like (15), unlike proper nouns. P-*nà* is also not a lexical verb since it cannot inflect like a verb; for example, it is impossible to negate it or to add tense/aspect related morphology like, e.g., the -*rV*-suffix, see (i) (based on (15)):

(i) a. *Ézè kwè-rè [PP nà-ghí Àdá]
Eze believe-rV P_{na}-NEG Ada
"Eze does not believe in Ada."

b. *Ézè kwè-rè [PP nà-rà Àdá]
Eze believe-rV P_{na}-rV Ada
"Eze believed in Ada."

As for (ii), there is empirical evidence against a unification of P-*nà* with one of the homophonous elements in Igbo. *Nà*$_1$ is the imperfective marker that is prefixed to the verb. An imperfective verb requires its complement to be nominalized, i.e., to appear in the GEN(itive) form (see example (i) in fn. 45 and Amaechi 2020: 151); P-*nà*, however, requires its complement to appear in the ACC-/base form (see all examples with P-*nà* in this paper). *Nà*$_2$ functions as a coordination that conjoins nouns. P-*nà* is not the same as *nà*$_2$ since it does not have to appear in between two nouns as shown in (ii), which contains an intransitive verb (and hence no noun preceding P-*nà*, unlike in the other PP-examples in this paper). Moreover, the noun following the coordinator *nà*$_2$ can only marginally be extracted in Igbo (if at all, see fn. 16), unlike the noun following P-*nà* (see, e.g. (15)).

(ii) Ézè gà-rà nà ḿgbèdè
Eze go-rV P evening
"Uche went in the evening."

A third element, *nà*$_3$ is a complementizer that introduces embedded declarative clauses, see, e.g., (8). P-*nà* as used in examples like (ii) or (15) clearly has a different position (clause-final rather than clause-initial) and does not introduce an embedded clause. In addition, *nà*$_3$ must be deleted under long extraction of the embedded subject (an instance of the *that*-trace effect, see Amaechi and Georgi 2019: 17 for examples); P-*nà* remains overt in this context, however, see (iii) (and it also remains overt when its own complement is extracted, as shown in all CompP extraction examples in this paper):

(iii) Ézè kà Úché chè-rè [CP **(*nà**$_3$**)** __ kwè-rè ***(nà)**$_{P-na}$ Àdá]
Eze FOC Uche think-rV that believes in Ada
Uche thinks that EZE believes in Ada.

Finally, *ná*$_4$ is a particle that surfaces between the subject and the finite verb when Ā-movement affects a negative clause (see examples (13) and (25)). P-*nà* has a different position in the clause. Furthermore, *ná*$_4$ differs from all the other *nà*-elements in the language in that it bears a high tone. Given that P-*nà* cannot be reanalyzed as belonging to a different lexical category (N, A, V) or as one of the homophounous functional elements, and given its position and function (it introduces adjuncts of time and place, complements of some verbs of saying/thinking) we take it to be the most plausible choice to identify it as a preposition. Crucially, it is immaterial in the argumentation for the existence of movement-derived RPs in the current section what the category of the selector of the position following P-*nà* is.

(15) Complement of P:

a. Ézè kwè-rè [$_{PP}$ nà Àdá]
Eze believe-rV P Ada
"Eze believes in Ada."

b. Àdá kà Ézé kwè-rè [$_{PP}$ nà
Ada FOC Eze believe-rV P
yá / *__]
3SG.ACC
"Eze believes in ADA."

(16) Possessor:

a. Ézè hụ̀-rụ̀ [$_{DP}$ ńkíꜜtá Àdá]
Eze see-rV dog Ada.GEN
"Eze saw Ada's dog."

b. Àdá kà Ézé hụ̀-rụ̀ [$_{DP}$ ńkíꜜtá
Ada FOC Eze see-rV dog
ꜜ**yá** / *__]
3SG.GEN
"Eze saw ADA'S dog."

(17) Conjunct:[16]

a. Ézè hụ̀-rụ̀ [$_{\&P}$ Àdá nà Òbí]
Eze saw Ada and Obi
"Eze see-rV Ada and Obi."

b. Àdá kà Ézé hụ̀-rụ̀ [$_{\&P}$ **yá** /
Obi FOC Eze see-rV 3SG.ACC
*__ nà Òbí]
and Obi
"Eze saw ADA and Obi."

(18) FSP-XP:[17]

a. Ézè hụ̀-rụ̀ [$_{DP}$ sọ̀ọ́sọ̀ Àdá]
Eze see-rV only Ada
"Eze saw only Ada."

b. Àdá kà Ézé hụ̀-rụ̀ [$_{DP}$ sọ̀ọ́sọ̀ **yá**
Ada FOC Eze see-rV only
/ *__]
3SG.ACC
"Eze saw only ADA."

In all four contexts, focus fronting of the respective element is ungrammatical when the dependency terminates in a gap, as focus fronting otherwise does (see Section 3). Interestingly, the sentences become grammatical once an RP (bold-faced) is used. That RPs in Igbo can occur in dependencies that usually host gaps was first reported in Goldsmith (1981) for three of the contexts (CompP, Poss, Conj); Sells (1984) reuses his data.[18] An alternative strategy to form well-formed sentences in all four contexts is pied-piping of the entire PP, DP or &P; see (19) for a few examples (with gaps since we front a DO).

(19) Pied-piping:

a. [$_{PP}$ Nà Àdá] kà Ézé kwèrè __
P Ada FOC Eze believe
"Eze believes in ADA."

[16]Throughout this paper, we illustrate Conj-extraction with the first conjunct. This is because all of our informants accept the extraction of the initial conjunct (with an RP), while extraction of the second conjunct is degraded for some (though not totally ungrammatical) even with an RP. We leave the exploration of the reasons for this asymmetry for future research. Interestingly, it seems to hold for many languages in which conjunct extraction has been reported to be possible that only the initial conjunct can be moved, see Stjepanović (2014); Oda (2017); Murphy and Puškar (2019); Bošković (to appear) on Korean, Japanese, and Bosnian-Croatian-Serbian. It is unclear whether the "rescue-by-PF-deletion" account (Bošković 2011) for conjunct extraction can be extended to Igbo: The coordinator *nà* is not a clitic attached to the 1st conjunct; its vowel harmonizes in tone and quality, but only in rapid speech and only with the conjunct following it, not with the initial conjunct.

[17]The facts reported in this example do not only hold for the exclusive FSP *sọ̀ọ́sọ̀* 'only', but for FSPs in general, e.g., for the additive FSP *mà* 'also'.

[18]Uwalaka (1991: 193) and Ogbulogo (1995: 181) also note that wh-/focus of CompP that leaves a gap is ungrammatical in Igbo; Ogbulogo (1995: 178, 179) notes the same for ex-situ wh-questions involving Poss and Conj. These authors do not discuss the use of RPs in these contexts, however. Ogbulogo (1995: 152) mentions that CompP must be resumed in Igbo, though he illustrates this only for topicalization, a dependency that always requires an RP.

b. [DP ńkíꜜtá Àdá] kà Ézé hù-rù __
dog Ada FOC Eze see-rV
"Eze saw ADA's dog."

c. [DP sòǫ́sò Àdá] kà Ézé hù-rù __
only Ada FOC Eze see-rV
"Eze saw only ADA."

This appearance of RPs in a dependency that usually exhibits gaps is not a peculiarity of focus fronting. It holds in exactly the same four contexts in all other Ā-movement dependencies, viz., in ex-situ wh-questions, relative clauses, and clefts based on them. We do not illustrate these constructions here for reasons of space; see Goldsmith (1981) for some examples.

The first question that arises is whether focus fronting that leaves an RP has the same syntactic derivation as focus fronting that terminates in a gap, viz., whether both are the result of movement. One reason for thinking that their derivations might be different is the following: The XPs from which we extract in (15) – (18) (PP, DP, &P) are islands in many languages, at least for subextraction of certain elements (e.g., possessors in DPs). Extracting from them violates the Coordinate Structure Constraint, the Left Branch Condition (Ross 1967) or the ban on preposition stranding. Suppose these XPs are islands in Igbo, too. The usual movement derivation of focus fronting (leaving gaps) would thus be blocked. As a repair, the language might resort to the independently available base-generation strategy to form the dependency. Since base-generation always terminates in an RP in Igbo, we would also have an explanation for the occurrence of the RP in the four contexts. In fact, this scenario has been described for other languages, e.g., for Lebanese Arabic (Aoun et al. 2001) and Irish (McCloskey 1990; 2001; 2002): When a movement derivation is blocked by an island, the language employs the base-generation strategy instead. We can check whether this holds for Igbo, too, by applying the movement tests from Section 3 to the four RP-contexts (15) – (18). Table 2, an extended version of Table 1, summarizes the results; a third line has been added to illustrate the behavior of focus fronting that leaves an RP.

Table 2: Movement tests: summary of results for focus fronting and topicalization

	island-sens.	reconstruction	cyclicity	*pg*-licensing	LSMDs	bottom
focus	✓	✓	✓	✓	✓	gap
topical.	*	*	*	*	*	RP
focus	✓	✓	✓	✓	✓	RP

As Table 2 shows, we have to refute the base-generation hypothesis for focus fronting with RPs. Focus fronting always exhibits the typical properties of movement, regardless of whether it terminates in a gap or in an RP. In what follows, we illustrate this for extraction of CompP. In the examples, we extract a DP from the PP-complement of the verbs 'believe in' (see (15)) or 'talk about', respectively (choice based on plausibility in the sentence). The tests are exemplified for the three other RP-requiring contexts in Appendix A. First, focus fronting of CompP is sensitive to CNP-islands, see (20). Extracting CompP from a relative clause leads to ungrammaticality even though an RP is present (a gap is out, too). This also shows that movement-derived RPs in Igbo do not have the capacity to repair islands.

(20) CNP-island (relative clause):

a. Úchè pụ̀-rụ̀ [ḿgbè Ézè kwù-chà-rà [PP màkà Àdá]]
Uche leave-rV time Eze talk-CPL-rV about Ada
"Uche left at the time when Eze talked about Ada." *declarative*

b. *Àdá kà Úché pụ̀-rụ̀ [ḿgbè Ézé kwù-chà-rà [PP màkà yá]]
Ada FOC Uche leave-rV time Eze talk-CPL-rV about 3SG.ACC
"Uche left at the time when Eze talked about ADA." *CompP focus*

Focus fronting that terminates in an RP also exhibits reconstruction effects such as Strong Cross-Over: a long-distance focus fronted CompP cannot be co-referent with the matrix subject pronoun, see (21).

(21) Strong cross-over:

a. Ó chè-rè [CP nà Ézè kwè-rè [PP nà Àdá]]
3SG.NOM think-rV that Eze believe-rV in Ada
"S/he$_i$ thinks that Eze$_j$/$_{*i}$ believes in Ada$_k$/$_{*i}$." *declarative*

b. Àdá kà ó chè-rè [CP nà Ézé kwè-rè [PP nà yá]]
Ada FOC 3SG.NOM think-rV that Eze believes in 3SG.ACC
it is x such that *x/✓y thinks that Eze believes in x *CompP focus*

Focus fronting of CompP also reconstructs for variable binding, as illustrated in (22). In the baseline, the variable can be bound by the universally quantified subject of the embedded clause, such that every mother believes in her own child. This reading is preserved when CompP undergoes focus fronting.

(22) Variable binding:

a. Úchè chè-rè nà ńné ọ̀bụ́là kwè-rè [PP nà nwá ꜜyá]
Uche think-rV that mother every believe-rV in child 3SG.GEN
"Uche thinks that every mother believes in her (own) child." *declarative*

b. nwá ꜜyá kà Úché chè-rè nà ńné ọ̀bụ́lá kwè-rè [PP nà yá]
child 3SG.GEN FOC Uche think-rV that mother every believe-rV in 3SG.ACC
"Uche thinks that every m. believes in HER (OWN) CHILD." *CompP focus*

Furthermore, focus fronting that leaves an RP licenses *pg*s, see (23):

(23) *pg*-licensing:

a. Ézè kwè-rè [PP nà Àdá] [CP ná à-mà-ghí yá / *__]
Eze believe-rV P Ada PRT PFX-know-NEG 3SG.ACC
"Eze believes in Ada without knowing her." *declarative*

b. Àdá kà Ézé kwè-rè [PP nà yá] [CP ná à-mà-ghí *pg*]
Ada FOC Eze believe-rV P 3SG.ACC PRT PFX-know-NEG
"Eze believed in ADA without knowing (her)." *CompP focus*

Focus fronting of elements that leave RPs also triggers the tonal cyclicity effect on subjects: the (underlying) final low tone of subjects along the movement path becomes a high tone. Compare, e.g., the a.-examples (baseline) in (15)–(18) (subject *Ézè*) with the respective ex-situ focus b.-examples (subject *Ézé*).

Finally, focus fronting of an XP that leaves an RP also triggers the two language-internal diagnostics for Ā-movement in Igbo: First, the dependency is blocked in clauses with perfective morphology; see (24) for an attempt to focus front CompP in such a context (as with gap-leaving focus fronting, extraction is possible when the verb occurs in the *-rV*-form instead).

(24) Ban on extraction from perfective clauses:

a. Ézè è-kwé-ré-lá [PP nà Àdá]
Eze NMLZ-believe-rV-PFV in Ada
"Eze believed in Ada." *declarative*

b. *Àdá kà Ézé è-kwé-ré-lá [PP nà yá]
Ada FOC Eze NMLZ-believe-rV-PFV in 3SG.ACC
"Eze believed in ADA." *CompP focus*

Second, when RP-leaving focus fronting takes place from a negated clause, the particle *ná* must surface between the subject and the finite verb, see (25).

(25) *Ná*-particle in negated clauses:

a. Ézè é-ꜜkwé-ghí nà Àdá
Eze PFX-believe-NEG P Ada
"Eze does not believe in Ada."

b. Àdá kà Ézè *(ná) ꜜé-kwé-ghí nà yá
Ada FOC Eze PRT PFX-believe-NEG P 3SG.ACC
"Eze does not believe in ADA."

In light of this evidence, we conclude that focus fronting is always the result of movement, whether it leaves a gap or an RP. This holds for all Ā-movement dependencies in the language, viz., also for wh-movement and relativization, which require RPs in the same four contexts as focus fronting, though we do not illustrate this systematically here (see (26-b) for an example of CompP relativization). This result falsifies Goldsmith's (1981) approach to gaps vs. RPs in Igbo relativization: He proposes a non-movement analysis for both gap and RP contexts; the antecedent is base-generated at the left edge and binds an overt pronoun (RP) or a null pronoun (gap) at the bottom of the dependency. Sells (1984), who reanalyzes Goldsmith's data, postulates that both gaps and RPs are derived by movement, in line with the present findings. However, these authors do not provide empirical evidence for their assumptions from tests such as those applied above.[19] The results also show that the speculation in our own previous work (Amaechi and Georgi 2019: 15) that the presence of the RP suggests that ex-situ conjuncts are base-generated rather than moved is wrong. A conclusion we can draw is that Igbo has two

[19] Goldsmith (1981: 380) shows that relativization (of a DO, terminating in a gap) is sensitive to complex NP islands in Igbo. But he dismisses a movement derivation for contexts that require an RP, e.g., for the extraction of possessors in wh- and what is called *kèdú*-questions (involving relativization) because these dependencies would violate the Subjacency Condition. Sells (1984: ch.4) assumes that there is movement in the RP-cases, but that it is clause-bound. For long movement, he postulates a kind of iterative prolepsis derivation. He rejects long-movement because "[...] Igbo shows no sign of cyclic movement – and the lack of pied-piping (cf. (6a)) [an example structurally equivalent to (16b), DG & MA] makes the notion of movement at all in Igbo look a little suspect" (p.215). We would like to point out that both of Sells' claims are empirically wrong. For example, the final H-tone reflex of movement reported in Section 3 is cyclic, i.e., it occurs in every clause under long Ā-movement, see, e.g., examples (11-c) and (22-b), as well as Tada (1995); Manfredi (2018), Amaechi (2020: ch. 4.4). Pied-piping is possible for all of our informants, see the data in (19).

different types of RPs in Ā-dependencies: (i) RPs that occur at the bottom of a base-generation dependency (topicalization), and (ii) RPs that surface in the launching site of a movement dependency. Type-(ii) RPs are more restricted than type-(i) RPs in the sense that type-(ii) RPs only occur in the four contexts in (15) – (18), while type-(i) RPs also arise when the dependency involves core arguments of the verb. Finally, the evidence provided in this section shows that PPs, DPs and &Ps are not (absolute) islands in Igbo. This holds at least for the extraction of Poss (DPs) and of entire conjuncts (&P), though extraction of other material from these phrases is still blocked. For example, the possessum cannot be extracted from a DP in Igbo, and &P is still an island for subextraction *from* a conjunct. See fn. 22, 51, and Appendix B for a brief discussion of the semi-transparency of &P in Igbo and other languages, and the status of the CSC; Georgi and Amaechi (2020) discuss the CSC and other islands in Igbo. This result raises questions about the uniformity of islands and the source of cross-linguistic variation in islandhood, respectively, which we will not pursue in this paper, however.[20]

4.2 Typological considerations

That RPs cannot just occur at the bottom of base-generation dependencies, but also surface in the base position of Ā-movement is not a new insight, see among others Borer (1984) on Hebrew (free) relatives, Engdahl (1985) on Swedish, Aoun et al. (2001) on Lebanese Arabic; and Boeckx (2003) and Salzmann (2017: ch.3.1) for overviews of the literature on this topic. In fact, it has been argued before for a few languages that RPs in base-generation and in movement dependencies can co-exist in a single language, see Agüero-Bautista (2001) on Spanish, Aoun et al. (2001) on Lebanese Arabic, Bianchi (2004), e.g., on Italian, Alexandre (2012) on Cape Verdean Creole, Sichel (2014) on Hebrew, Panitz (2014) on Brazilian Portuguese, Korsah and Murphy (2019) on Asante Twi (object RPs), Scott (2020) on Swahili, an Yip and Ahenkorah (2021) on Asante Twi (subject RPs) and Cantonese. Given the evidence presented in this paper, Igbo can be added to this list.

Nevertheless, resumption in Igbo is remarkable in two respects. First, in the majority of the aforementioned languages with movement and base-generation resumptives the evidence is based on the distribution of RPs in relative clauses. This is related to the observation that cross-linguistically, RPs are most frequent in relatives and cleft structures based on them, but rarer in (mono-clausal) wh-movement constructions (Salzmann 2017: 180). In Igbo, we find RPs in all constructions involving Ā-movement, including focus and wh-move- ment. Second, Igbo is the first language with these two types of RPs for which we have comprehensive evidence from virtually all major movement tests as well as from language-specific movement diagnostics to support the split (see Table 2).[21] The main tests for dependency type employed in the resumption literature are island sensitivity and/or reconstruction effects, other tests are applied much less frequently.[22] In fact, Salzmann (2017: 206) concludes from his overview of the resumptive

[20] Note that the movement-derived RP-contexts in Igbo can actually be 'stacked' and still allow for subextraction – as long as no proper island is crossed, i.e., as long as we do not subextract from a conjunct. For example, it is possible to have a coordination as the complement of a preposition (CompP + Conj) and to focus front the initial conjunct; or to extract the Poss of a DP in CompP. See Georgi and Amaechi 2020 for some examples.

[21] Another frequently applied movement diagnostic is quantifier float, see, e.g., McCloskey (2000); Baier (2018). Since Igbo does not allow quantifiers to float, also not under A-movement, we cannot use this test. Igbo also lacks weak cross-over effects under Ā-movement.

[22] Sometimes a language lacks the construction required to apply a certain movement test (Rouveret 2011). For example, in many languages with resumption, RPs repair islands, and hence, island-sensitivity is not a useful

literature concerning the application of movement tests that "there is arguably not a single language which has been tested for all movement diagnostics. In other words, the empirical picture is quite incomplete" (see also Rouveret 2011). Moreover, he argues that some of the available data are inconclusive (due to the lack of full paradigms or ungrammatical examples). The present paper closes this gap; Igbo offers pervasive evidence for the co-existence of two types of RPs in a single language.

RPs in movement dependencies in Igbo are obligatory, viz., they are in complementary distribution with gaps across all contexts. Several properties have been associated with obligatory resumption cross-linguistically, at least as tendencies. First, the obligatoriness of movement-derived RPs is common; optional RPs freely alternating with gaps tend to occur in base-generation dependencies (Sichel 2014). Second, optional RPs, but not obligatory ones, often impose semantic restrictions on the RP-antecedent, viz., the antecedent must be specific/referential/D-linked, but cannot be quantified, non-D-linked, or occur in amount relatives; in addition, *de dicto* readings are not available in sentences with such RPs (see Doron 1982; Suñer 1998; Sharvit 1999; Aoun et al. 2001; Bianchi 2004). Igbo is a typical obligatory resumption language in this respect: there are no interpretative restrictions on the antecedent of a movement RP, as illustrated in (26-a) for an amount relative clause (RC) whose head corresponds to a conjunct inside the RC (Conj-context), and in (26-b) for focus fronting of a quantified CompP.

(26) Non-referential antecedents of RPs:

a. ógè$_i$ ó mé-fù-rù [$_{\&P}$ yá$_i$ nà é!gó]
time 3SG.NOM do-lose-rV 3SG.ACC and money
"He has waisted (a lot of) TIME and money."
Lit.: "the time that he wasted it and money." *amount RC*

b. Ọ̀tụ́tụ́ mmà dù kà há kwè-rè [$_{PP}$ nà há]
many people FOC 3PL.NOM believe-rV in 3PL.ACC
"They believe in MANY PEOPLE." *quantified antecedent*

5 Modeling the emergence of RPs in movement dependencies

In this section we discuss how the occurrence of RPs in movement dependencies can be modeled. We adopt a spell-out approach according to which these RP realize the remnants of a partially deleted lower copy of the moved XP. We briefly address possible reasons for the restriction of the RPs to CompP, Poss, Conj, and FSP-XP (a detailed discussion can be found in appendix B). We conclude that full copy deletion is blocked in these four positions because of their prosodic strength. We also provide the structures of the RP-containing constituents, as they will be relevant in subsequent sections.

diagnostic anymore. Regarding the languages with two types of RPs listed above, this holds, e.g., for Hebrew (headed RCs), Asante Twi and Lebanese Arabic. Apart from Asante Twi, the languages in this list also do not exhibit morphophonological cyclicity effects in Ā-dependencies in the first place, so that this test cannot be applied either. Among the split-RP languages, *pg*-licensing has only been tested for Swahili (Scott 2020). Since Igbo exhibits cyclicity effects and since RPs do not repair islands (see (20)), it offers more test options. Other constructions that constitute islands in Igbo (apart from relative clauses) are complement clauses to nouns, adjuncts, and subject clauses. Coordinations are islands only for subextraction from a conjunct, but not for the extraction of a conjunct (as shown in (17)), at least not for the first conjunct, see Georgi and Amaechi (2020) for examples. None of these islands can be repaired by RPs in Igbo.

5.1 RPs as the spell-out of reduced copies

A prominent idea in the resumption literature that has been used to explain the obligatoriness of RPs, e.g., in CompP- and Conj-position is that the extraction site is located inside an island (viz., PP, &P). Since the usual movement derivation (leaving gaps) is blocked, base-generation (terminating in an RP) is used instead. We have already ruled out this explanation for Igbo in Section 4: the empirical evidence shows that the dependency involved is movement.

Boeckx (2003); Müller (2014) and Klein (2016) develop movement accounts to RPs inside islands. In these approaches, the presence of an RP leads to a derivation in which an island ceases to block movement (Müller 2014), does not become an island in the first place (Klein 2016), or the derivation involves locality-insensitive operations (Boeckx 2003). While these approaches are compatible with the Igbo facts, the question arises why not all islands can be circumvented in this way. Recall that CNP (and other) islands cannot be repaired by RPs in Igbo, see (20) and see fn. 22. We are thus back at the initial question: What makes the contexts in (15)–(18) special such that the presence of an RP allows subextraction from them, but not, e.g., from a CNP-island?

Type-(ii) RPs in Igbo require a proper movement account in which PPs, DPs, and &Ps are not (absolute) islands. Movement approaches to resumption that are in principle compatible with the Igbo facts are BigDP/stranding approaches (see, e.g., Aoun et al. 2001; Boeckx 2003), where the DP and its associated RP start out as one constituent from which the DP is subextracted, and approaches in which RPs are the spell out of traces/lower copies. We will pursue a spell-out approach for Igbo because it allows us to integrate phi-mis- matches in resumption, which we will discuss in Section 6, more easily. In what follows, we briefly summarize the basic idea of the spell-out approach.

In spell-out approaches, which ultimately go back to Perlmutter (1972), RPs are the morphological realization of (parts of) a trace/lower copy. For concreteness, we adopt the implementation proposed in Pesetsky (1998); Landau (2006) (see also the application in van Urk 2018, and a system similar in spirit in Fanselow and Ćavar 2001): Working with the copy theory of movement (Chomsky 1995), they assume that lower copies are usually subject to full deletion, which results in a gap, since no structure is left that could be pronounced. But if full deletion is blocked, only a subpart of the copy is deleted (partial deletion), and the remnants of the copy are pronounced as a pronoun. How copy deletion proceeds is determined by PF-constraints that interact in an optimality-theoretic fashion. The two crucial constraints are recoverability and an economy constraint on pronunciation. The economy constraint (Econ) demands the deletion of copies; recoverability (Rec) requires that at least one copy is pronounced so that its content is recoverable. There are various definitions of these constraints, we provide two general ones below:

(27) a. Econ (Silent Trace, Pesetsky 1998: 361): Do not pronounce traces.
b. Rec (Fanselow and Ćavar 2001: 110): The content of unpronounced elements must be recoverable from a local antecedent.

Given the ranking Rec ≫ Econ, all copies but one are deleted entirely (full deletion). In Igbo, as in many other languages, the copy that is pronounced is the highest one, see (28) (lower copies are in angled brackets, deletion is indicated by a strike-through).[23] This results in an

[23] We will not discuss why it is the highest copy that is pronounced in Igbo, see Müller (1997); Richards (2001); Nunes (2004); Landau (2007); Kandybowicz (2007); Salzmann et al. (2013) for proposals. Our main concern is how/when the lowest copy in the chain is realized.

output with a focus fronted XP and a gap in the base position of this XP (as well as in potential intermediate landing sites), as we find it, e.g., under DO-focus fronting in Igbo.

(28) Full deletion → gap:
[DP_1 ... <[~~DP NP~~]T>]

(29) Partial deletion → RP:
[DP_1 ... <[DP $\boxed{D}$ ~~NP~~]$_{1>}$]

Econ and Rec can interact with other constraints on pronunciation. If those constraints require the overtness of a copy in position P and are ranked above Econ, they prohibit full deletion of the copy in P. In particular, if P hosts a lower copy, this copy cannot be entirely deleted. In this case, Econ still enforces to delete a subpart of the copy in P so that only a small set of nodes remains that can be pronounced. We thus get partial deletion.[24] According to Pesetsky, the remaining structure surfaces as a pronoun since pronouns, which express phi-features, are the minimal representation of a nominal. See van Urk (2018) for a formal implementation of this idea, which we will discuss in Section 6, and Rouveret (1994) for a related proposal. The partial deletion analysis of RPs is inspired by Postal (1969); Elbourne (2001; 2005); Patel-Grosz and Grosz (2017) according to whom pronouns are the spell-out of D-heads in a DP with an elided NP-complement.

5.2 On the distribution of RPs in movement dependencies

A question we have not addressed so far is why RPs in movement dependencies are restricted to CompP, Poss, Conj, and FSP-XP in Igbo. Under a partial copy deletion approach, this amounts to the question what exactly the constraints ranked above Econ are that enforce the overtness of copies in these positions. Previous accounts of the distribution of RPs in Igbo are not convincing. Goldsmith (1981) adopts a base-generation account for all Ā-dependencies in the language and assumes that they terminate in a pronoun. Gaps result from the application of a rule that deletes this pronoun. When the deletion rule is suspended, the pronouns are realized overtly (= RPs). The contexts in which it is suspended are simply listed as exceptions in the structural description of the rule: it does not apply when the pronoun is contained in a DP (Poss, Conj) or a PP (CompP) (Goldsmith 1981: 386). Apart from the fact that the evidence in Section 4 argues against base-generation, Goldsmith's analysis of the distribution of RPs basically restates the observation. Sells (1984) proposes that the choice between gaps and RPs is related to government: Positions that are lexically or antecedent governed host gaps; those that are not governed must host RPs. The analysis requires the stipulation (noted by Sells 1984: 217) that P does not govern its complement in Igbo to account for RPs in CompP; besides, the status of government in current theorizing is unclear.

From a conceptual point of view, there are two desiderata on constraints that regulate the distribution of movement-derived RPs: Ideally, there should be a single constraint that covers all four contexts in Igbo in which these RPs occur. Second, since the contexts in which obligatory RPs surface across languages are rather uniform (Salzmann 2017: ch.3.2.), we should apply constraints that have been identified for other languages with a similar distribution of RPs. We thus need to compare the previous proposals in the literature and evaluate how well they are suited to capture the distribution of movement-derived RPs in Igbo. These proposals include minimal word requirements, affix/host requirements, a phonological EPP, an overtness requirement for

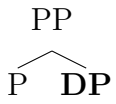
[24] As Pesetsky (1998: 366) notes, if Econ is supposed to delete as much as possible, this constraint must be gradient. Thus, the violations of Econ must be minimized.

oblique case, and an anti-locality-based approach. Since a detailed discussion of all proposals would lead too far afield, and since the question what triggers partial deletion is orthogonal to the main purpose of this paper (empirical evidence for two types of RPs in Igbo), we postpone it to Appendix B. The upshot is that hardly any of the previous proposals can capture all four contexts in a uniform way because there is either counter-evidence for some of the contexts, and/or no independent supporting evidence. The only approach, that, in our view, may cover all four contexts is one that takes them to be associated with phonological pronunciation requirements (the positions cannot be null), which are related to the prosodic prominence of the positions. We believe that this approach is the least problematic one. Crucially, nothing of what follows hinges on this choice.

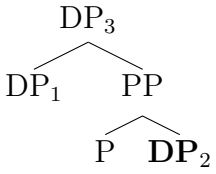
5.3 The structure of constituents that contain movement-derived RPs

Before closing the syntactic part of this paper, we will outline our assumptions about the structure of the constituents that contain movement-derived RPs in Igbo, viz., PPs, &Ps, DPs containing a Poss or an FSP. The structure of these constituents will be relevant in the discussion in Appendix B (the trigger of partial deletion) as well as in the analyzes of morphological mismatches in resumption that we address in Sections 6 and 7. The structures we adopt are illustrated in (30) – (33); the RP-hosting positions are bold-faced.

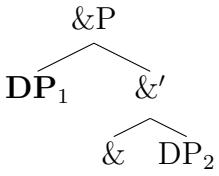
(30) CompP:



(31) Poss



(32) ConjP:



(33) FSP-XP:

We adopt the standard structure for PP: P takes a DP as its complement; we have no reason to postulate more projections in between these two elements.

As mentioned in Section 2, possession is expressed in the associative construction in Igbo. In this construction, two nominal projections (which we represent as DPs) are juxtaposed on the surface. The DPs can stand in a number of semantic relations, possession being just one of them. The structure of the associative construction has received some attention in the Igbo literature. The general consensus is that the two nominal projections are syntactically linked by a functional head F: the second DP (DP_2 in (31), possessor) is the complement of F, and the FP adjoins to the first DP ($DP1_1$ in (31), possessum). We follow the argumentation in Clark (1990: 258ff.) who identifies F as a preposition (Manfredi 1993 and Goldsmith 1976: 183 call it a case-related head K(ase) or "Genitive"); FP is thus a PP, see (31). Since Poss occupies the position of DP_2, which is the complement of a preposition, Poss extraction is an instance of CompP-extraction. While the head P is segmentally empty in the associative construction, it hosts a high tone; the effects of this tone will be discussed in Section 7.

Turning to the structure of nominal (DP) coordination, we adopt an asymmetric &P structure for Igbo. This means that the second conjunct (DP_2 in (32)) is the complement of the coordination head &, while the initial conjunct (DP_1 in (32)) is base-merged in the specifier of &. Empirical evidence for the asymmetric (and against a symmetric) structure comes from the observation that a variable in the second conjunct can be bound by the first conjunct, but not

vice-versa. This suggests that the first conjunct c-commands the second conjunct (see Progovac 1998 for an overview of &P-structures). One may wonder whether what we have called a nominal coordination in this paper may actually be a comitative that contains a PP. The Igbo equivalent of *Obi and Ada* would then literally be *Obi with Ada*. This seems plausible given that the coordinating element *nà* is homophonous with the preposition *nà* (used, e.g., in (15)). However, applying syntactic and semantic tests for comitatives vs. &Ps, we do not find any evidence for the comitative hypothesis.[25] We can thus not subsume Conj-extraction under CompP-extraction. The structure of coordination will be crucial in Section 6 where we analyze phi-mismatches in resumption. In this context, we will add more projections above &P, but we will keep the basic asymmetric structure of &P. Lastly, we consider FSPs and their associated DP. Given that the FSP and its DP (i) co-occur in-situ, (ii) have to be adjacent in-situ, and (iii) can be moved as a unit (see (19-c)), we take them to form a constituent. It is debated whether FSPs are

[25]The following facts (based on the tests in Haspelmath 2007) argue against a comitative analysis of expression like *Àdá nà Òbí* in Igbo. (1) The meaning *with* in Igbo is not expressed by the element *nà*. Both comitative uses (see (i)) and instrumental uses (see (ii)) of *with* are expressed in a serial verb construction in Igbo, not with a preposition.

(i) a. Òbí jì òkú!té kụ́ọ́ ńnụ̀nụ̀
Obi use stone hit bird
"Obi hit a bird with a stone."

b. Òbí sò Àdá gáá àhịá
Obi follow Ada go market
"Obi went to the market with Ada."

(2) The XP in which *nà* combines two nominals is treated as a plural entity in Igbo: It can be the subject of a collective predicate (see (ii)), unlike singular nouns, and it is taken up by the 3pl pronoun *hà* in a subsequent sentence. Comitatives are often treated as singulars.

(ii) a. *Àdá gbà-kọ̀-tà-rà
Ada come-together-DIR-rV
"Ada gathered."

b. Àdá nà Òbí gbà-kọ̀-tà-rà
Ada and Obi come-together-DIR-rV
"Ada and Obi gathered."

(3) In the structure *Àdá nà Òbí*, the subpart *nà Òbí* cannot be linearly separated from *Àdá*; PPs in comitatives can often be split from the first noun (compare e.g. English: Anna went to the market with Paul). This subpart can also not be focus fronted, neither with a gap nor an RP, see (iii). Recall that PPs can undergo focus fronting in Igbo (see (19-a)). Thus, the *nà*-construction does not behave like PPs in the language.

(iii) *Nà Òbí kà Ézè hụ̀-rụ̀ Àdá __ / yá
and Obi FOC Eze see-rV Ada 3SG.ACC
"Eze saw Ada AND OBI."

(4) The sequence *ḿmáí nà ḿmí!rí* in (iv) does not have the "with"-interpretation, i.e., it cannot mean that Ada had one drink after lunch, namely wine with water in it. It can only mean that she had two drinks, one of them was wine and the other one was water.

(iv) Àdá nù-rù [ḿmáí nà ḿmí!rí] mgbè ó rị̀-chà-rà ńrí éhíhìè
Ada drink-rV wine and water when 3SG.NOM eat-finish-rV food afternoon
"Ada drank wine and water after lunch."

(5) If we want to combine three nouns with the *nà*-construction in Igbo, we can put *nà* bewteen each of them or only in front of the final noun, see (v). This is common for coordinations, but unusual if this were a comitative, where the element meaning 'with' has to be used in between all elements (Ada with Obi with Uche), if possible at all.

(v) Àdá (nà) Òbí nà Úchè

adjuncts to the DP or whether they are heads that take the associated DP as their complement. It is not easy to provide empirical evidence for/against one of these views. We adopt the latter approach with FSPs being heads, see (33) (and also Aboh 2004; Corver and van Koppen 2009 for the postulation of a FocP in nominals). The reason is that this assumption makes it easier to integrate the FSP-XP position (a complement position in (33)) in possible explanations about the trigger of partial deletion, see Appendix B. But nothing in the main text (evidence for two types of resumption, morphological mismatches between the antecedent and the RP) hinges on this choice. We will thus continue to label the FSP+DP constituent as a DP in what follows.

6 Phi-mismatches in Igbo

In the first part of this study we have investigated the syntax of resumption, i.e., the derivation and distribution of RPs. In the second part, we turn to its morphological properties. Recall from Section 2 that RPs in Igbo are taken from the personal pronoun paradigm, repeated in (34); personal pronouns in Igbo inflect for person, number and what we have provisionally called case.

(34) Igbo personal pronouns:

<table>
<tr><th></th><th>1sg</th><th>2sg</th><th>3sg</th><th>1pl</th><th>2pl</th><th>3pl</th></tr>
<tr><td>NOM</td><td rowspan="2">ḿ</td><td>í/ḭ́</td><td>ó/ọ́</td><td rowspan="2">ànyḭ́</td><td rowspan="2">ụ́nù</td><td rowspan="2">há</td></tr>
<tr><td>ACC</td><td>gḭ́</td><td>yá</td></tr>
<tr><td>GEN</td><td>ꜜḿ</td><td>ꜜgḭ́</td><td>ꜜyá</td><td>ꜜhá</td></tr>
</table>

Interestingly, the antecedent and its associated RP do not always match in features in Igbo. The languages exhibits mismatches in phi-features (current Section) and in 'case' (Section 7). The phi-mismatch is important because (i) it provides further evidence for the existence of two types of RPs in Igbo, (ii) it favors a partial copy deletion account of movement-derived RPs over a BigDP approach, and (iii) it is relevant in terms of cross-linguistic variation since the Igbo mismatch pattern is more complex than previously described patterns in that it is sensitive to the type of antecedent. To capture this pattern, we propose an extension of van Urk's (2018) partial copy deletion approach that makes use of dynamic rather than static deletion domains.

6.1 Conditions on phi-(mis)matching

In all RP-examples presented so far in this paper, the antecedent was a 3sg proper name. The corresponding RP was also 3sg, which suggests that RP and antecedent must match in phi-features. In fact, this holds for RPs in base-generation dependencies. (35) illustrates this for a 2sg and a 1pl DO topic (recall that even core arguments of the verb are resumed under topicalization); using an RP that mismatches in person or number leads to ungrammaticality.

(35) Obligatory phi-agreement on RPs related to topics:

a. Gḭ́, Ézè hù-rù gḭ́ / *yá
2SG.ACC Eze see-rV 2SG.ACC 3SG.ACC
"As for you(sg), Eze saw you (sg)." *2sg topic*

b. Ànyḭ́, Ézè hù-rù ànyḭ́ / *há / *ḿ / *yá
1PL.ACC Eze see-rV 1PL.ACC / 3PL.ACC / 1SG.ACC / 3SG.ACC
"As for us, Eze saw us." *1pl topic*

The picture is more complicated with RPs in Ā-movement dependencies since we find a split

between pronominal and lexical N(oun) antecedents. With a lexical N antecedent, the RP has to match in phi-features – though this is only observable for number since nouns are always 3rd person. (36) exemplifies this for a common noun antecedent. Using any non-agreeing RP leads to ungrammaticality.[26] In what follows, we illustrate phi-mismatches in Ā-movement chains with extraction of CompP, but the generalizations also hold for extraction of Poss, Conj, and FSP-XP.

(36) Obligatory phi-agreement on RPs related to nominal foci:

a. nwá áhù kà Ézé kwèrè [PP nà yá / *há]
child DEM FOC Eze believe-rV P 3SG.ACC 3PL.ACC
"Eze believes in THE CHILD." *3sg noun focus*

b. úmùáˡká áhù kà Ézé kwèrè [PP nà há / *yá]
children DEM FOC Eze believe-rV P 3PL.ACC 3SG.ACC
"Eze believes in THE CHILDREN." *3pl noun focus*

With pronominal antecedents, however, the RP can only be the 3sg pronoun, regardless of the person and number values of the antecedent, see (37-a). Using a fully or partially agreeing RP with non-3sg extractees results in ungrammaticality; (37-b) illustrates this for the 2pl pronoun. The only previous mention of the use of a 3sg RP in a dependency with a local person pronoun antecedent in Igbo can be found in Goldsmith (1981: 385, fn.5) for focus fronting in a cleft.

(37) a. { mí / gí / yá / ànyí / ụ́nụ / há } kà Ézé
1SG.ACC / 2SG.ACC / 3SG.ACC / 1PL.ACC / 2PL.ACC / 3PL.ACC FOC Eze
kwè-rè [PP nà **yá**]
believe-rV in 3SG.ACC
"Eze believes in ME/YOU(SG)/HIM∼HER/US/YOU(PL)/THEM."

b. Ụ́nụ kà Ézé kwè-rè [PP nà *ụ́nụ / *gí / *há]
2PL.ACC FOC Eze believe-rV in 2PL.ACC / 2SG.ACC / 3PL.ACC
Intended: "Eze believes in you(pl)."

Note that focus fronting of personal pronouns is fine in Igbo, as shown in (38) (with DO-focus and thus a gap). And we saw above that RPs can in principle have a feature specification other than 3sg in the language (with topics and lexical N foci as antecedents).The mismatch in (36) can thus not be related to independent restrictions on the shape of RPs or on focus fronting of pronouns.

(38) Gí kà Ézé hụ̀-rụ̀ __
2SG.ACC FOC Eze see-rV
"Eze saw YOU(SG)." *2sg focus, gap*

Further complications arise in &Ps: Focus fronting of a coordinated DP always requires a fully matching RP, regardless of whether the conjuncts are all nouns, all pronouns, or a mix of nouns and pronouns. Thus, even if two pronouns are coordinated, the RP that resumes the &P must be fully matching – although RPs that refer to simple pronoun antecedents have to mismatch, see (37). Full matching with coordinated antecedents actually means "resolved matching" in

[26] The majority of nouns in Igbo does not have a morphological sg/pl-distinction. However, the number marking of an RP that resumes such a noun always reflects the intended semantics. Thus, if the syntactic/pragmatic context suggests a plural interpretation of the (morphologically sg) noun, the RP has to be plural, a morphological mismatch is excluded.

Igbo (cf. resolved agreement, Corbett 2006: ch.8.1), i.e., the RP matches the resolved phi-features of the coordination: the RP is always plural (number resolution) and its person feature is determined by the person scale 1 ≻ 2 ≻ 3 (the RP matches the more prominent person value). For instance, a coordination of a 2sg and a 3sg conjunct results in a 2pl RP; it is not possible to use an RP that (a) fully or partially mismatches the &P's resolved features, or that (b) fully matches only one of the conjuncts. (39) illustrates a few combinations. The coordination facts constitute a novel observation for Igbo and more generally also for languages with phi-mismatches in resumption.

(39) Phi-matching under focus fronting of an &P:

a. Ḿ nà Àdá kà Ézé kwèrè [PP nà ànyị́ / *ḿ / *há / *yá]
1SG.ACC and Ada FOC Eze believe P 1PL.ACC / 1SG.ACC / 3PL.ACC / 3SG.ACC
"Eze believes in ME AND ADA."

b. Gị́ nà Àdá kà Ézé kwèrè [PP nà ụ́nụ̀ / *gị́ / *há / *ya]
2SG.ACC and Ada FOC Eze believe P 2PL.ACC / 2SG.ACC / 3PL.ACC / 3SG.ACC
"Eze believes in YOU(SG.) AND ADA."

c. Ḿ nà gị́ kà Ézé kwèrè [PP nà ànyị́ / *ḿ / *há / *yá]
1SG.ACC and 2SG.ACC FOC Eze believe P 1PL.ACC / 1SG.ACC / 3PL.ACC / 3SG.ACC
"Eze believes in ME AND YOU(SG.)."

d. Yá nà Àdá kà Ézé kwèrè [PP nà há / *yá]
3SG.ACC and Ada FOC Eze believe P 3PL.ACC / 3SG.ACC
"Eze believes in HIM/HER AND ADA."

To summarize, there is obligatory phi-matching between the antecedent (base-generated or moved) and its RP, *unless* the antecedent is a simple (i.e., uncoordinated) pronoun and heads a movement chain. Coordinated antecedents require resolved matching on the RP. Table 3 gives an overview of the pattern with an RP in the ACC-form (viz., in CompP, Conj, or FSP-XP position). The only difference in Poss-position is that the RP surfaces in the GEN-form.

Table 3: Summary of phi-(mis)matches on RPs in Igbo

Antecedent_{acc}	RP_{acc}	
pronoun:		
1sg	yá	3sg
2sg	yá	3sg
3sg	yá	3sg
1pl	yá	3sg
2pl	yá	3sg
3pl	yá	3sg
lexical N:		
3sg	yá	3sg
3pl	há	3pl

Antecedent_{acc}	RP_{acc}	
&P (number value of conjuncts irrelevant)		
1&2	ànyị́	1pl
1&3	ànyị́	1pl
2&3	ụ́nụ̀	2pl
3&3	há	3pl

The phi-(mis)match pattern in Igbo provides further evidence for the co-existence of the two types of RPs that we have argued for in the preceding sections: Phi-mismatches are only possible for movement-derived RPs, but not for RPs in base-generation dependencies. The mismatch must thus also reflect the different derivational histories of the RPs. In what follows, we pursue an account of the Igbo pattern that restricts phi-mismatches to movement chains.

6.2 Phi-mismatches in resumption: state of the art

Phi-mismatches between an XP and a doubling element such as a clitic or an RP in movement dependencies are well-attested in the literature, see Poletto (2000); Boeckx (2003); Adger (2011); Rouveret (2011); van Urk (2018) for overviews. There are, however, only a few proposals in the literature that try to account for morphological mismatches between several overt chain links. One type of account is designed to model mismatches where the moved element is morphologically less complex than the element it is copied from, see among others van Craenenbroeck and van Koppen (2008); Barbiers et al. (2010); Boef (2012) on partial copying in wh-chains and subject clitic doubling, respectively. These approaches cannot be applied to Igbo since Igbo exhibits the opposite pattern: it is the lower copy that is morphologically less complex (RP) than the moved element. The first explicit proposal of this type of mismatch in movement-derived resumption is presented in van Urk (2018) for pronoun copying in Dinka; his approach is extended to Swahili in Scott (2020) (see fn. 29) as well as to Asante Twi and Cantonese in Yip and Ahenkorah (2021).[27] Before we discuss this approach, we will summarize cross-linguistic generalizations on phi-mismatches in resumption from the literature so that we can evaluate how (un)usual the Igbo mismatch pattern is.

First, phi-mismatches are attested both in base-generation dependencies (Adger 2011) and in movement dependencies (van Urk 2018). In the few languages that have been shown to have RPs in both types of dependencies (see Section 4.2), we may ask whether mismatches can affect RPs in both contexts: This has been addressed in Scott (2020) for Swahili and in Yip and Ahenkorah (2021) for Asante Twi (subject RPs) and Cantonese: These authors report that phi-mismatches are only possible with RPs in Ā-movement chains. Igbo shares this distribution. Second, regarding the degree of mismatching, the following patterns are (*not) attested for the features person and number:

(40) Degree of mismatching (for person+number; van Urk 2018; Adger 2011)
   a. no mismatch (full matching in person and number)
   b. person-only mismatch (matching in number)
   c. mismatch in person and number
   d. *number-only mismatch (matching in person, van Urk 2018: 967)

The Igbo mismatch with pronominal antecedents in movement chains corresponds to mismatch pattern (40-c). In this respect, the Igbo pattern is not exceptional. What is remarkable, though,

[27] Alexandre (2012) also sketches an account of non-agreeing RPs in Cape Verdean Creole in which the RPs spell-out parts of a lower copy. However, rather than using partial copy deletion to eliminate phi-features on copies, as van Urk (2018) does, she erases several features in the feature set of lower copies (resulting in a 'defective copy'), among them phi-features. It remains somewhat unclear, though, why the phi-features have to be deleted. The general idea seems to be based on economy (cf. Pesetsky 1998): if a lower copy is pronounced, the morphological element must be minimal in the sense that it should only contain feature to satisfy the selectional requirements of the selecting head; but the details are not worked out.

is the language-internal variation, viz., the fact that some antecedents (lexical Ns) exhibit full matching (or a person-only mismatch – ambiguous because lexical Ns are always 3rd person), while others (pronouns) require a mismatch in person and number. Such variation has not been described for any of the other languages with phi-mismatches in resumption in the literature – apart from cases of optionality between two patterns with the *same* type of antecedent, see, e.g., Scott 2020; Yip and Ahenkorah 2021). The patterns in (40-a) were established based on *cross*-linguistic variation. That a split between between lexical N and pronominal antecedents has not been reported so far is also due to the fact that (i) many mismatches reported in the literature are person-only mismatches, but we cannot detect a potential person mismatch with lexical N antecedents, which are always 3rd person; and (ii) personal pronoun antecedents are often not tested at all. In the cases where lexical N and pronominal antecedents have been considered, no split is reported (e.g., Scott 2020; Yip and Ahenkorah 2021). Moreover, resumption with coordinated antecedents has not been addressed in languages with phi-mismatches (though it has for some cases of clitic-doubling). The complex pattern of Igbo may thus be more widespread cross-linguistically, this has just not been thoroughly investigated.

The first explicit account of the patterns in (40) is presented in van Urk (2018). His analysis also offers an understanding why phi-mismatches in some languages only affect movement-derived RPs, but not those in base-generation dependencies (as, e.g., in Swahili and Igbo). The account crucially relies on partial copy deletion. In this subsection, we will briefly summarize van Urk's basic ideas in order to understand why, in our view, his account favors a partial copy deletion approach over a BigDP-approach to resumption in Igbo. We will discuss the details of van Urk's phi-mismatch analysis in Section 6.3.

Recall from section 5.1 that under the partial copy deletion approach to resumption, RPs are the realization of the remnants of a DP-copy that remain when a subpart of the DP-copy is deleted. In that section, we illustrated the idea with a very simple DP-structure [$_{DP}$ D NP]; when NP undergoes partial deletion, the surviving D-head is realized as a pronoun, see (29). Crucially, van Urk assumes – following developments in the literature on the internal structure of nominals – that phi-features in the DP are encoded on a separate projection between D and N, see the simplified representation in (41):

(41) [$_{\text{DP}}$ D [$_{\text{PhiP}}$ Phi NP]]]

In a nutshell, van Urk proposes that partial copy deletion may affect nodes between NP and DP such as PhiP in (41). If partial deletion targets phi-hosting projections, the RP that realizes the remaining structure cannot express phi-features anymore and must be a default from; the result is a phi-mismatch between the antecedent and the corresponding RP. Crucially, the trigger for the mismatch is partial copy deletion. Since this operation only affects *copies*, which are only created in movement dependencies, phi-mismatches are not expected under base-generation (see also Scott 2020 for this point). This is the distribution we find in Igbo and Swahili. We believe that BigDP/stranding-approaches, which also derive RPs via movement, are less well-suited to capture this: In a BigDP, where the antecedent (XP) and the RP start out as one constituent [$_{DP}$ D XP], it remains unclear why subextraction of the XP should result in a phi-mismatch on the stranded pronoun; the pronoun is neither affected by movement nor by copy deletion. For this reason, we favored a copy deletion over a BigDP approach to resumption in Igbo in Section 5.1.[28]

[28]It may not be impossible to implement phi-mismatches in a BigDP-approach, e.g., by an investigation of the

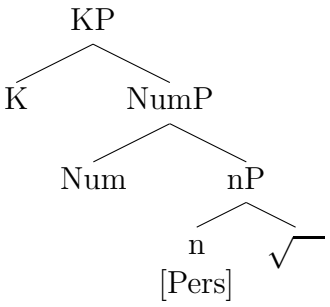
6.3 Previous accounts of phi-mismatches & challenges posed by Igbo

The first detailed account of phi-mismatches in movement-derived RPs is presented in van Urk (2018). He is concerned with a person-only mismatch (pattern (40-b)) in Dinka: Movement of plural nominals (lexical Ns and pronouns) triggers a plural pronoun at crossed vP-edges; this pronoun must be 3rd person, also with local person antecedents. Van Urk makes the following assumptions about the structure of nominals and copy deletion to derive this pattern:

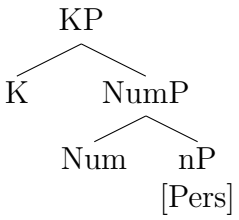
(42) a. The syntax of nominals – see (43) and (44) (van Urk 2018: 966):
   (i) Lexical nouns and pronouns have basically the same structure (they are K(ase)Ps), the only difference is the presence of a lexical root in nouns (following ideas in Moskal 2015*b*).
   (ii) Phi-features are located on functional projections above the root (see, e.g., Ritter 1991; Déchaine and Wiltschko 2002).
   (iii) Person and Number are on separate heads, with the number projection dominating the person projection (nP) (see Harbour 2016)

b. Restrictions on copy deletion / phasehood:
   (i) Only phases undergo copy deletion (van Urk 2018: 968, ex. (68)).
   (ii) The highest XP in the nominal's extended projection is a phase.
   (iii) nP is a phase in lexical nouns (no cross-linguistic variation), nP *can* be a phase in pronouns (subject to cross-linguistic variation).

(43) Structure of lexical nouns:



(44) Structure of pronouns:



The Dinka person mismatch is derived as follows: The economy constraint Econ in competition-based spell-out approaches (see Section 5.1) demands full copy deletion, viz., deletion of the highest phase. This is the node KP, the topmost node in the nominal's extended projection; the result is a gap. If a higher ranked Rec-constraint blocks full deletion, deletion can target the next lower phase, viz., nP (= partial deletion). Partial deletion is always possible for copies of lexical Ns since, by (42-b-iii), nP in lexical Ns is always a phase. Dinka is assumed to be a language in which nP is also a phase in pronouns, thus partial deletion can also affect nP there. As a result of nP-deletion, we create a structure that has no more person information (since Person is located on n, see (42-a-iii)). With lexical N copies, the resulting structure is furthermore pronoun-like in the sense that it lacks a lexical root (since the root is dominated by nP); recall that the presence of the root is the only difference between nouns and pronouns (see (42-a-i)). The remnants of lexical N and of a pronominal copy can thus only be realized by

processes that lead to phi-Agree between the pronoun and the associated XP (an issue rarely considered in the BigDP literature). But one certainly has to make additional assumptions to derive the patterns, unlike in the partial copy approach, where the indispensable copy deletion process creates the mismatch for free.

an RP that does not express person features. This gives rise to a person-only mismatch with pronominal copies (pattern (40-b)). Given that lexical Ns are 3rd person anyway and that the default RP used in mismatching configurations is 3rd person (in Dinka and other languages), the result for lexical N copies is ambiguous between a person mismatch and full matching (pattern (40-a)). This derives the Dinka facts.[29]

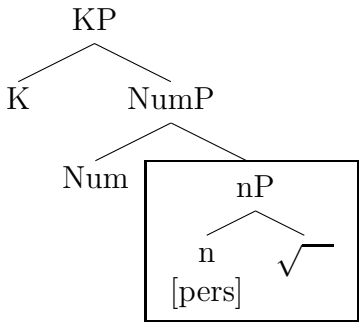
Van Urk further discusses some cross-linguistic variation in phi-mismatches. In languages in which nP is not a phase in pronouns partial deletion cannot apply, since there is no lower phase present in the structure, and deletion can only target phases (see (42-b-i)). Hence, nothing is deleted from the pronominal copy at all and we get a fully matching RP (pattern (40-a)).[30] Finally, the hitherto unattested pattern in (40-d), i.e., a number-only mismatch, is ruled out in his system since deletion of a projection containing number (if possible at all given (42-b)) would always lead to a deletion of the projection that hosts person, since NumP dominates nP (see (42-a-iii)).

This is an elegant system that also provides a handle for cross-linguistic variation. However, when we try to apply it to Igbo, in which several patterns co-exist, some problems arise. Recall that in Igbo movement chains, lexical N antecedents require number-matching RPs. Just like in Dinka, this is ambiguous between full matching (pattern (40-a)) and a person mismatch (pattern (40-b)) since nouns are 3rd person. The facts can be derived in van Urk's system if we treat them as a person mismatch induced by deletion of nP (always a phase in lexical Ns), see (45) (deleted structure is boxed). Pronominal antecedents, on the other hand, require an RP that mismatches in person and number in Igbo (pattern (40-c)). This would require deletion of a projection that contains both person and number information, e.g., of NumP, see (46), which is not a phase, though, according to van Urk.

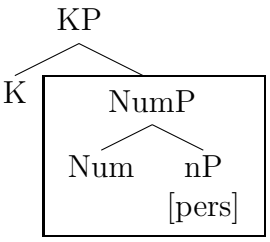
[29] Scott (2020: 15ff.) extends van Urk's approach to Swahili, in which pronouns additionally inflect for gender. RPs can mismatch in person, but not in number and gender. To derive this, Scott postulates a gender projection in between NumP and PersP. The person-only mismatch arises since her partial deletion algorithm (see below for details) targets PersP.

[30] van Urk (2018: 982f.) suggests that the phase status of nP in pronouns, which he assumes to be variable across languages, can be independently determined by suppletion patterns in pronominal paradigms, following insights in Moskal (2015*a*;*b*). Moskal proposes that the presence of the phase head n in the extended projection of a nominal restricts the visibility of heads above the phase as triggers for suppletion at the root. For concreteness, she finds that lexical Ns and pronouns can supplete for number, but only pronouns can also supplete for K(ase). In her analysis, this is the case because the phase head n in lexical Ns makes K invisible as a suppletion trigger, while n is absent in the structure of pronouns she proposes. van Urk (2018) states that since there are also languages in which pronouns do not supplete for case, we can also postulate n in pronouns and attribute variation in pronominal case suppletion to the phase status of n. In the languages in which n in pronouns is a phase head, there can be no suppletion for case; in those languages where n is not a phase head, K can trigger suppletion. By this test, nP in Dinka is correctly predicted to be a phase in pronouns (and thus to undergo partial deletion, resulting in a person mismatch): pronouns do not exhibit case allomorphy in the language. This test cannot be used to determine the phase status of n in Igbo, however, since there may be (if at all) only one abstract case in the language (see Section 7); the surface variation is a purely morpho-phonological effect. We thus do not expect to see root suppletion triggered by different abstract cases.

(45) Igbo lexical Ns – nP-deletion:



(46) Igbo pronouns – NumP-deletion:



What is problematic for an extension of van Urk's approach to Igbo is thus the person-number-mismatch with pronominal antecedents (pattern (40-c)). In fact, he does not discuss this pattern. To derive it, NumP would have to be turned into a phase (given (42-b-i)). Various technical options come to mind to achieve this: (a) phase extension from nP to NumP through a unification of n and Num (e.g., via head-movement of n to Num à la den Dikken 2007 or merger of n and Num), or (b) postulation of a single head that hosts both person and number features from the beginning, rather than starting with two separate heads. These solutions work from a technical point of view. The major problem, however, is the language-internal variation in Igbo: Whatever mechanism one adopts to make NumP a phase in pronominal copies in Igbo must not apply to copies of lexical Ns, where we still want to delete nP, and not NumP, since lexical N RPs do match in number. We would thus add another difference between lexical Ns and pronouns on top of the structural one introduced in (43) – (44): a difference in which nodes are/become phases, viz., nP in lexical Ns vs. NumP in pronouns (i.e., the mechanism only applies in pronominal but not in lexical N structures). This is certainly not desirable.

Alternatively, we can try to apply slightly different partial deletion algorithms proposed in work that extends van Urk's approach to other languages: Scott (2020) and Yip and Ahenkorah (2021) assume that partial copy deletion does not target phases but is rather subject to Max-Elide, i.e., it deletes the largest constituent possible. For Scott (2020) this is a constituent such that the remaining structure can still be realized by a VI (see fn. 33 for details). For Yip and Ahenkorah (2021) this constraint enforces deletion of everything but the label of the entire nominal constituent; since this constituent is a DP for Yip and Ahenkorah (not a KP as for van Urk), only the D-head remains after partial deletion. These algorithms run into similar problems with respect to language-internal variation in Igbo as van Urk's proposal: While they can derive the occurrence of the invariable, most reduced form (the 3sg pronoun *yá*) as an RP with pronominal antecedents in Igbo (if this RP realizes the topmost head D, as we will assume), we would expect these MaxElide-based deletion algorithms to have the same output in lexical N copies. But this is not the case in Igbo: number information remains in those copies, unlike in pronominal ones. The split between lexical Ns and pronouns in Igbo thus forces us to revise the algorithm that determines how much structure partial deletion affects. The alternative, but undesirable, move would be to stipulate that the partial deletion domains simply differ from language to language – and even within a language to derive the Igbo-internal split. In the following subsection, we present a version of van Urk's analysis that is solely based on structural differences between lexical Ns and pronouns, while the deletion rule will be constant across languages. The crucial innovation that will bring about deletion domains of different sizes within and across languages is that the deletion rule is dynamic (context-sensitive) rather than static.

On top of the questions posed by the split between lexical Ns and pronouns, we also have to integrate coordinated antecedents in Igbo. Recall that full (resolved) matching obtains regardless of whether the conjuncts are nouns or pronouns, this distinction in uncoordinated antecedents is neutralized. It is, in fact, a challenge for all spell-out approaches to resumption to explain how (the copy of) a complex structure like a coordination is reduced to a simple pronoun under partial deletion rather than to a coordination of pronouns. A lot more structure seems to be deleted in copies of coordinations than in simple (pro)nouns. The dynamic deletion approach is able to derive this pattern, too.

6.4 Towards a solution: a dynamic deletion domain approach

The task is to provide an account of the split in phi-mismatching between lexical N and pronominal copies in Igbo that, ideally, does not require differences other than structural ones between these types of nominals. We want to avoid, for example, to simply restate the observation that the nodes that are deleted in lexical Ns differ from those deleted in pronouns in the deletion rule (and which concrete nodes these are). In addition, we need to answer the question how a coordination is reduced to a simple pronoun in resumption contexts in Igbo, while the phi-information from all conjuncts is preserved on the RP (resolved matching). Furthermore, the account should be able to derive the attested cross-linguistic variation. In particular, we want to cover the following attested patterns of phi-mismatches in movement-derived resumption with different kinds of antecedents, see Table 4.

Table 4: Variation in person/number-(mis)matching in movement-derived resumption

language	mismatch pattern		source
	lexical N	pronoun	
Dinka Swahili	person-only mismatch		van Urk (2018) Scott (2020)
Akan (SU RP) Cantonese	mismatch in person +number		Yip & Ahenkorah (2021)
?$_1$	no mismatch		
Igbo	person-only mismatch/ no mismatch	mismatch in person+number	present paper
?$_2$	mismatch in person+number	person-only mismatch	
?$_3$		no mismatch	

First, there are languages in which all nominals trigger the same phi-(mis)match on an RP under Ā-movement. For these we can expect the three (mis)match patterns listed in (40): (i) The RP exhibits a person-only mismatch, while it inflects for number – this is the case in Dinka and Swahili (in the latter the RP also reflects for gender, see fn. 33). (ii) the RP mismatches in person and number, i.e., we get an invariable default RP – this is the pattern in Akan (for subject resumptives) and Cantonese. (iii) There is no mismatch, viz., the RP fully reflects the phi-features of its antecedent (gray line ?$_1$ in Table 4); we are not aware of convincing cases of pattern (iii) in the literature, mainly because the behavior of pronominal antecedents has not been checked, and/or because it is not clear whether the dependency that leaves these RPs actually involves movement (no/not enough tests applied, contradictory results from different tests),

see Salzmann (2017: ch. 3.1).[31] Second, there are languages in which the RPs associated with a lexical N and pronominal antecedent, respectively, exhibit different (mis)match patterns. Igbo is the first language for which we have found such a split; in this language lexical N antecedents relate to fully matching (ambiguous with person-only mismatching) RPs, while pronominal antecedents leave RPs that mismatch in person and number. Other lexical N/pronoun splits are logically conceivable, but only two of them will give rise to a morphological distinction between RPs related to lexical Ns vs. pronouns (considering only inflection for person and number, see the gray lines $?_2$ and $?_3$ in Table 4): these would be languages in which RPs with lexical N antecedents mismatch in number and person (though person is not morphologically visible for nouns) and we thus get a phi-invariant default RP, while RPs associated with pronominal antecedents mismatch either in person only (still inflecting for number) or fully match in person and number. It remains to be seen whether such languages exist. We will come back to this typology in Section 6.4.2 and discuss which of the so far unattested patterns is expected (not) to exist under our revised partial deletion algorithm.

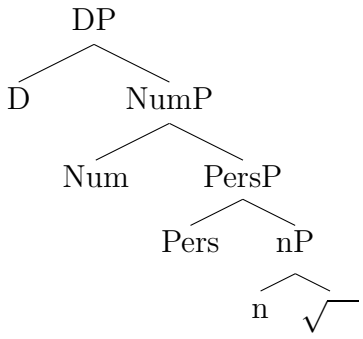
6.4.1 Deriving the split between lexical Ns and pronouns in Igbo

We adopt van Urk's basic idea that phi-mismatches in movement-derived resumption arise when partial copy deletion targets nodes that host phi-information. We diverge, however, in (a) the presence of n in pronouns, (b) details regarding the location of phi-features, and most crucially (c) in the definition of partial deletion domains to account for the Igbo data. As for (a), we follow the proposal about the structural difference between nouns and pronouns in Moskal (2015*a*;*b*) more closely. She proposes that nouns contain a lexical root and the nominalizing head n (plus other functional heads in the extended projection), while pronouns lack the lexical root + the n-shell. Thus, there is no n in pronouns. As for (b), we assume that the phi-feature person is not located on the root-categorizing head n in lexical nouns, as proposed in van Urk (2018); rather person is represented on a separate head (above n), just like number. Furthermore, rather than seeing nominals as projections of K, we follow the view that they are D-elements, viz., the topmost projection is DP (see Abney 1987, and Adger 2011; Scott 2020; Yip and Ahenkorah

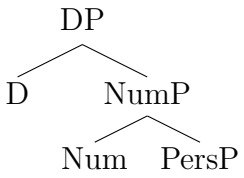
[31] van Urk (2018) mentions three cases of fully matching RPs with pronominal antecedents from the literature: optional full matching between a subject DP and a doubling pronoun in Colloquial Finnish, RPs that arise when the subject is involved in a long Ā-dependency in Yoruba, and pronoun copying at CP-edges in Seerer. However, for Colloquial Finnish and Yoruba it is not clear whether the dependency that hosts mismatching RPs involves movement. Holmberg and Nikanne (2008), van Urk's source for the Colloquial Finnish data, do not provide any movement tests of the type we applied in Section 4. The only argument in favor of a movement account, according to van Urk, is that the pronoun may match the doubled subject in case. The facts reported in Holmberg and Nikanne (2008: 6ff.) are more complicated, though. For example, they report that not all speakers allow doubling of subjects with non-structural case, and those that do do not require case matching (rather, the doubling pronoun occurs in the, presumably default, nominative). Moreover, in Colloquial Finnish the pronoun is in a structurally higher position than the DP it doubles; such a pattern should rather be handled by the partial copying approach to pronoun doubling in van Craenenbroeck and van Koppen (2008) rather than by lower copy spell-out. Regarding Yoruba, standard movement tests have also not been applied in the literature. In fact, Adesola (2010: 65, fn.3) only mentions in a footnote that both fully matching and non-matching RPs (which are also attested in the language) can occur inside islands, which makes a movement analysis at least questionable. As for Seereer, it is not controversial that the dependencies in question involve movement. However, the crucial data point with a pronominal antecedent under long focus fronting that van Urk (2018: (981, ex.(92))) cites from Nico Baier's (unpublished) work on Seereer long-distance dependencies is not available in any of the subsequently published papers on the topic (Baier 2016; 2018. In fact, long focus movement is not addressed in these papers; we thus cannot verify van Urk's claim.

2021 on the structure of nominals that are reduced to RPs). (Whether a K-head is present in the structure as well is irrelevant; we will show in Section 7 that it is not clear whether Igbo actually has (different) abstract case(s) at all.) Nothing in the analysis of phi-mismatches hinges on replacing KP by DP. But it allows us to represent the idea that pronouns realize D-heads in a DP with an elided subdomain, alluded to in the description of the partial copy deletion approach in Section 5.1, more directly. The basic structure of lexical Ns and pronouns that emerges from these assumptions is illustrated in (47):

(47) Structure of lexical nouns:

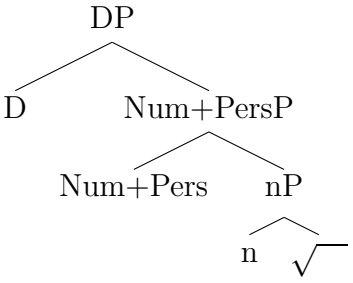


(48) Structure of pronouns:

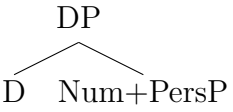


To account for the cross-linguistic variation in 4, we assume that the heads in the extended nominal projection in (47) and (48) can be bundled in some languages, i.e., instead of having a number of separate heads, e.g., of H_1 and H_2 (and their projections), there can also be only a single head that bears the features of these individual heads (H_{1+2}, projecting $H_{1+2}P$). Whether and how many heads are bundled is language-specific, but the bundling affects the heads in all nominals (lexical N and pronouns) alike in a given language. We will illustrate the range of bundling possibilities and the resulting mismatch patterns in Section 6.4.2. To generate the Igbo pattern, we need to assume that the Person and the Number head are bundled, as shown in (49) and (50).[32]

(49) Structure of lexical Ns: Igbo



(50) Structure of pronouns: Igbo



Turning to the morphological side of resumption in Igbo, we take RPs realize the functional head D. Given that phi-information is not hosted on D in the structures in (49) and (50), we assume that the pronouns do not (primarily) express person and number features; rather, these features, locally available on the structurally adjacent Num+Pers-projection, serve as context restrictions on the realization of D (secondary exponence). The phi-mismatch with local person/plural pronominal antecedents, which results in the presence of the 3sg pronoun as RP, suggests that

[32]That languages may not represent all phi-features on a single head but that split phi (with different phi-features on different heads) is a possibility has also been argued for in the verbal/clausal domain. See, among others, Béjar (2003); Merchant (2006); Sigurðsson and Holmberg (2008); Preminger (2014) on split phi.

this 3sg pronoun is the default pronoun, which is neither sensitive to person nor to number features. It can thus also be used when no phi-information is locally available. Using a 3sg pronoun may thus reflect the absence of phi-feature information in the underlying structure. (51) provides a list of RP-exponents (in the ACC-form) that reflects these assumptions. Note that we will add two exponents to this in list Section 7, but the specification of the exponents listed here will not change.

(51) Vocabulary items for RPs in Igbo (to be extended):

a. /ḿ/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 1sg]
b. /gí/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 2sg]
c. /yá/ ↔ [D]
d. /ànyị́/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 1pl]
e. /ụ́nụ̀/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 2pl]
f. /há/ ↔ [D] / __ [$_{\text{Num+Pers}}$ pl]

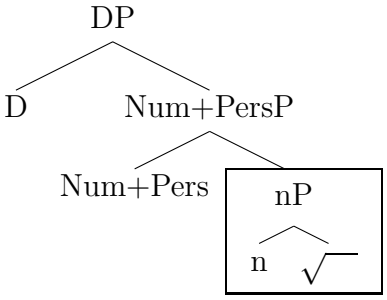
We adopt a realizational model of morphology, for concreteness Distributed Morphology (Halle and Marantz 1993; 1994), in which exponents (or vocabulary items, VIs) pair abstract morpho-syntactic features with phonological information in the post-syntactic component; i.e., there are no phonological features present on terminals in the syntax. On the PF-branch, a head H is paired with the most specific VI that has a subset of the morpho-syntactic features of H (Specificity Principle). We assume that context specifications count for the calculation of specificity. Thus, if two VIs are the primary exponents of the same features, it is the VI with more matching context features that wins the competition. Given the phi-insensitivity of the exponent /yá/ in (51), this VI is compatible with all person-number combinations on Num+Pers but it is usually blocked by the more specific VIs with context phi-specifications. Only if phi-features are not available, e.g., due to deletion under partial copy deletion, can /yá/ surface.

We now turn to the major innovation of our proposal: point (c), the question how much structure is deleted under partial deletion. We saw that previous proposal where partial deletion targets a fixed set of nodes (e.g., phases) or operate on the basis of MaxElide are difficult to reconcile with the split between lexical and pronominal antecedents in Igbo, since they seem to require the deletion of different XPs in these nominals. We propose to replace van Urk's (2018) *static* definition of the deletion domain with a *dynamic* definition. Thus, it is not pre-determined which node is affected by partial deletion (always KP or nP / always everything but the topmost head). Rather, the size of the deletion domain depends on the structural context. We propose the partial deletion rule in (52) for nominal projections:

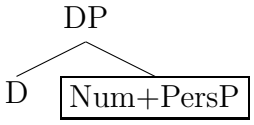
(52) Dynamic partial deletion (DPD):
Partial deletion applied to the copy of an XP deletes the lowest functional projection in the extended projection of XP.

When applied to the structures of lexical Ns (49) and pronouns (50) adopted for Igbo, we get the following results (the deleted domain appears in a box):

(53) Structure of lexical Ns: Igbo



(54) Structure of pronouns: Igbo



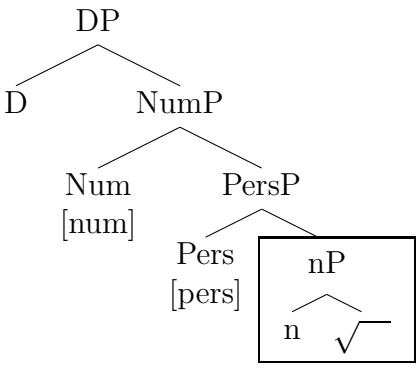
The lowest functional projection in the extended projection of a lexical N-DP is nP, while it is Num+PersP in a pronominal DP. Thus, phi-information in Num+Pers remains available for VI-insertion in lexical N copies in Igbo, whereas it is absent in pronominal copies. As a consequence, the VIs with phi-specifications in their context cannot be inserted into the remnants of a pronominal DP; the only VI that fits is the default one, viz., /yá/. This is why pronominal antecedents in movement chains must be resumed by a 3sg RP in Igbo, regardless of the phi-features of the antecedent. The result is a mismatch in person and number when the antecedent is local person and/or plural (pattern (40-c)). Since Num+PersP in lexical N copies survives partial deletion, we are – descriptively speaking – dealing with a fully matching RP in this context (pattern (40-a), though the 3rd person VIs are not specified for person features). Dynamic deletion thus successfully derives the split between lexical N and pronominal antecedents in Igbo resumption.[33]

6.4.2 Deriving (the limits of) variation in phi-mismatches

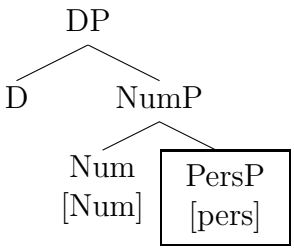
In this subsection, we address the question how well the DPD-approach can account for the cross-linguistically attested (and expected) variation as summarized in Table 4. We will show that it can in fact derive all attested patterns with the same DPD-rule, the different patterns being only due to structural differences related to the bundling of heads in the nominal spine. At the same time, the approach excludes the so far unattested patterns (all other things being equal). Recall that we assumed that languages vary in whether heads in the nominal extended projection are separate, as in (47) and (48), or whether they are bundle. For Igbo we proposed that PersP and NumP are bundled. If they remain separate and we apply the DPD-rule in (52), we derive the Dinka/Swahili pattern, see (55) and (56) (deleted structure occurs in a box):

[33] In Scott's (2020) approach to phi-mismatches in Swahili, partial deletion is also defined dynamically to some extent. Her algorithm is governed by MaxElide "which deletes the largest constituent such that what remains is able to be spelled out [...]" by a vocabulary item (Scott 2020: 18). How much structure is deleted is thus language- and construction-specific. "The output of MaxElide will be phonological material of the most structurally reduced form" (ibid). This approach allows for variable deletion domains, too, since the deletion domain depends on the inventory of VIs, not on structural considerations. However, the deletion domains can still only vary across languages, since the inventory of VIs does not vary within a language. The Igbo-internal mismatch thus cannot be derived by Scott's partial deletion rule either. The structurally most reduced VI in Igbo is /yá/; this VI would thus be expected to occur with all types of antecedents in Scott's system.

(55) Structure of lexical Ns: Dinka



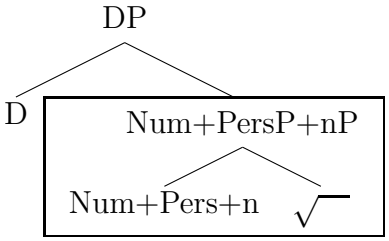
(56) Structure of pronouns: Dinka



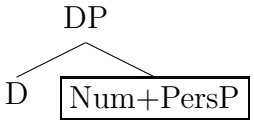
The DPD-rule deletes nP in lexical N copies and PersP in pronominal copies, while the number projection remains in both. This results in RPs that can morphologically express number but not person. Lexical N copies still have a person projection after partial deletion, but since they are always 3rd person, the morphological result is indistinguishable from a person-only mismatch.[34]

Another logically possibility is to involve the n-head in bundling. Suppose that all heads (except the topmost one, D) are bundled in a given language. This will give rise to the structures in (57) and (58): Num, Pers and n are encoded on a single head in lexical Ns, and Num and Pers are bundled in pronouns (since there is no n in pronouns to begin with). When we apply the DPD-rule in (52) to these structures, it deletes a projection that both person and number features in both types of nominals. As a result, the RP that realizes the remaining structure is a default VI that does not reflect phi-features.

(57) Structure of lexical Ns: Akan, Cantonese



(58) Structure of pronouns: Akan, Cantonese



This completes the derivation of the three attested patterns in Table 4. There are more bundling options, but they will not produce new patterns. If, for example, all heads in the extended nominal domain were bundled, incuding D (D+Num+Pers(+n)), the DPD-rule would delete the entire DP; the result would be indistinguishable from full copy deletion and would thus create gaps instead of RPs, hence, a language in which movement never leaves RP (unless these RPs are PF-expletives that are not realizations of subparts of the lower copy. And if only a subset of the upper heads are bundled such that the bundle does not include the lowest functional head in the nominal spine, the DPD-rule will not affect this bundle. This is what happens in Igbo lexical N copies, see (53); or of, for example D+Num were bundled in pronouns without Pers, we still derive a person-only mismatch, basically as in Dinka pronouns, see (56).

[34] Pronouns in Swahili additionally inflect for gender, but RPs in movement chains still only mismatch in person, but not in number and gen(der), see fn. 29. Scott (2020) assumes that the hierarchy of nominal projections in Swahili is D > Num > n(Gen) > Pers (split phi). The DPD rule in (52) also correctly predicts deletion of PersP, given this structure.

Let us now turn to the expected but so far unattested patterns in Table 4 (the lines in gray). Regarding line $?_1$, fully matching RPs for both lexical N and pronominal antecedents are unexpected in the present system. While this pattern can be derived for lexical Ns when n is not bundled with higher phi-bearing heads (as, e.g., in Igbo, see (53)), the DPD-rule will always delete at least the person projection in pronominal copies (and even more when Pers is bundled with other heads). Thus, an RP associated to a pronominal copy is predicted to exhibit at least a person mismatch in the current approach, a fully matching one is impossible (without further assumptions).[35] The hypothetical patterns in lines $?_2$ and $?_3$ in Table 4 can also not be derived: To derive a person and number mismatch in lexical N copies, n must be bundled with person and number (as, e.g., in Akan, see (57)). We postulated that bundling operations should affect all types of nominals alike.Thus, if person and number are bundled in lexical Ns in a language, they must be in pronouns (since n is not present in pronouns, it cannot participate in bundling, but Pers and Num can). But once bundling is adopted, the DPD-rule will delete both person and number information in pronominal copies, too (as, e.g., in Akan, see (58)). It is thus not possible with the restrictions in the current system to derive a full mismatch in RPs related to lexical N antecedents, while having no mismatch or only a person mismatch in RPs associated to pronominal antecedents. We thus predict that the hypothetical gray patterns in Table 4 should not be found – all other things being equal. Currently, the number of languages for which in-depth studies of the morpho-syntax of resumption are available is rather small. Future research will thus have to show whether further patterns are attested. During this process, features other than person and number will have to be integrated into the typology. Furthermore, it is important to keep in mind that the (mis)match patterns listed in Table 4 only refer to RPs in movement chains; we do not make any claims about mismatch patterns for RPs in base-generation dependencies. Finally, we also have to keep in mind that not everything that looks like a non-agreeing RP at first site is the result of (partial) copy spell-out. Such elements can also be expletives that are inserted into phonological EPP-positions (see Adesola 2010 on Yoruba) or realize functional elements external to the extraction site (see Abels 2012: ch.7 on extraction from PPs). The expletive analysis is relevant especially for phi-invariant RPs in embedded subject position, as they occur, e.g., in a number of Niger-Congo languages. An important question is thus how a mismatching (default) RP can be empirically distinguished from an expletives.[36]

While this is the first approach to phi-mismatches in movement-derived resumption that tries to accommodate the cross-linguistic variation as well as language-internal variation (as

[35]Interestingly, fully matching RPs with a pronominal antecedent are also unexpected (without further assumptions) in Nunes's (2004) approach to copy spell-out, though for very different reasons that are related to linearization. See fn. 31 on some instances of fully matching RPs from the literature and arguments why they are not convincing, though.

[36]Should one of the unexpected patterns be found, the task for the DPD-approach would be to look for independently motivated structural deviations in lexical Ns and pronouns (compared to the basic structures in (47) and (48)) to accommodate these patterns. For example, the presence of more functional structure below the phi-hosting projection(s) in pronouns would shield the phi-projection(s) from partial deletion and would thus produce a fully matching RP with pronominal antecedents (pattern $?_1$ in Table 4). This additional functional structure could be related to the strength of pronouns: it has been argued that clitic/weak/strong pronouns are structurally different such that the structure of the weaker forms is included in the structure of stronger forms, see Cardinaletti and Starke (1999); Déchaine and Wiltschko (2002).If the moved pronoun were a strong pronoun that contained a low function layer FP (not present in weaker forms), which is then targeted by the DPD-rule, the result would be an RP that fully matches its strong pronoun antecedent in phi-features but would be a phonologically weaker form. Complete morpho-phonological identity between the two pronouns would still be excluded (unless they happen to be syncretic).

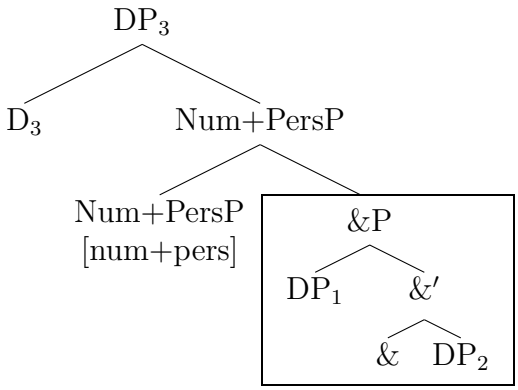
attested in Igbo) in a more or less uniform way, some questions remain open. For example, it would be desirable to be able to determine on the basis of independent evidence (other then phi-mismatch patterns in resumption) whether and how a language bundles the heads in the extended nominal projection. We have also not commented on whether all languages start out with the maximal extended structures in (47) and (48) and bundling applies in the course of the derivation (in syntax or in the early post-syntax, before the DPD-rule applies), or whether the bundled head is base-generated. Though we believe that nothing crucial in the analysis hinges on this latter issues. An anonymous reviewer wonders about the rationale behind the DPD-rule, especially since it seems to go against the Economy/maximality spirit commonly adopted for deletion operations (ECON in (27-a)) demands that as much as possible is deleted even under partial deletion). Apparently, ECON must be violable, otherwise all languages with phi-mismatches in resumption should use phi-invariant default RPs with all kinds of antecedents. Even in van Urk's (2018) approach partial deletion leaves more structure intact than just the topmost head/XP. And in a system in which the structure of nominals differ "at the bottom" (e.g., in the presence of n, a root, ...), while these differences are conflated under resumption (all are reduced to pronouns), it makes sense to apply the deletion rule at the bottom of the structures rather than at the top. From this perspective, one might say that the DPD-rule is also economic: it leads to a deletion rule that cuts as little structure as possible to achieve a pronominal structure across all kinds of nominal structures.

6.4.3 Coordinated antecedents

The final issue that we need to address is resumption with coordinated antecedents.[37] Recall that we find a fully matching RP in these contexts in Igbo (resolved matching), even if the conjuncts are pronouns (for which we otherwise get the default VI). Given the hierarchical structure of &P we adopted, see (32), we may expect partial deletion to target each of the nominal conjuncts individually, which would give rise to coordinated RPs, contrary to fact. The coordination pattern can be derived under the dynamic deletion domains approach proposed in Section 6.4.1, once we reconsider the structure of/above the coordination site. First, the coordinating conjunction *nà* is a functional element since it belongs to a closed class; it is also nominal in nature since it only coordinates nominal, but not verbal constituent in Igbo (see Emenanjo 2015: 332). Second, once we assume that nominal projections (lexical Ns, pronouns) have an elaborate extended projection (e.g., with a categorizing head n, phi-, and D- projections), this must also hold for the coordination of nominals, since such a coordination is nominal, too; for example, a coordination of nominals has the same syntactic distribution as simple nominals. Thus, there must be nominal functional structure above &P. Given our assumptions, there must be (at least) a D-shell and the person and number hosting projections, which are bundled in Igbo (Num+PersP); see also Sauerland (2004) on the presence of a ΦP above the &P. We assume that nP is not projected since there is no lexical root (the conjunction is a functional element), though its presence would not change the partial deletion domain anyway. The resulting structure of nominal coordination is depicted in (59):

[37] van Craenenbroeck and van Koppen (2008) discuss clitic doubling of a coordinated subject in Dutch dialects. They pursue a partial copy approach to clitic doubling whereby the clitic is the result of copying and moving a subpart of the doubled DP. For coordinated subjects, they propose to apply ATB-subextraction. As outlined above, such an approach is designed for cases where the moved element is morphologically smaller than the element copied from, which is the opposite of the Igbo pattern and thus not applicable.

(59)



If (59) is the lower copy in a movement chain to which the partial deletion applies, the dynamic rule in (52) demands deletion of &P (boxed in (59)): The copy of the moved phrase (= XP in (52)) is the entire DP_3. The lowest functional projection in the extended projection to which DP_3 belongs is &P; the conjuncts, DP_1 and DP_2, constitute their own, separate extended projections of different nominal cores. What remains after partial deletion are Num+PersP and DP_3. D_3 can be realized by one of the VIs in (51), including those that are sensitive to phi-features. We thus correctly derive the following: (a) we get a simple pronoun as RP instead of a coordination of RPs with coordinated antecedents since the entire &P is deleted; (b) the RP is fully matching (expresses person and number) since the Num+PersP is not part of the deletion domain; and (c) the difference between lexical Ns and pronouns with respect to phi-mismatches is neutralized when they are conjuncts since partial deletion does not affect the individual conjuncts, but a higher node. Regarding cross-linguistic variation, the DPD-account predicts that coordinated antecedents always result in RPs that match their antecedents in all phi-features. This is because regardless of whether the Pers- and Num-heads are bundled or not (and whether n is present, and if so, if it takes part in bundling or not), the lowest functional XP in coordinations targeted by the rule in (52) will always be &P, a projection below the phi-hosting projections.

For the sake of completeness, we will finally sketch an analysis of how we get *resolved* matching on an RP related to a coordinated antecedent – though this is orthogonal to the main point here, viz., how a simple pronoun can resume a coordinated nominal antecedent. We basically follow the standard modeling of resolved agreement from the literature: There is a functional head F that collects the phi-features from the conjuncts (more precisely, from their respective Num/Pers/n-projections) through the operation Agree (resulting in phi-agreement). The phi-feature sets on F are then reduced to a single phi-set in accordance with the resolution rules active in the language (Igbo: person – $1 \succ 2 \succ 3$, number – pl$\succ$sg). Usually, the Agree-triggering head F is taken to be & itself; see, e.g., the technical implementation in Murphy and Puškar (2019). Given the more elaborate extended projection in the &P adopted here, the resolved feature set has to reach the phi-hosting Num+Pers-head in the end. This can be done in two ways: either Num+Pers agrees with & to copy the features collected by &, or it is the Num+Pers-head in &P's extended projection that Agrees with the conjuncts in the first place via Multiple Agree (Num+Pers c-commands the phi-hosting projections of both conjuncts and neither of the conjunct-internal phi-projections c-command those in the other conjunct, so that none intervenes for Agree with the other).

To conclude this Section, we would like to highlight the similarities of our dynamic deletion domain approach to phi-mismatches in Igbo to the work on contextual allomorphy in Moskal (2015*b*;*a*). Moskal studies asymmetries in nouns and pronouns for root suppletion. The empirical

differences she finds in root suppletion triggers between pronouns (number- and case-driven) and lexical Ns (only number-driven) leads her to postulate the structural difference between pronouns and lexical Ns that we adopted for the noun type split in Igbo resumption: lexical Ns contain a root and a nominalizing head, pronouns lack these nodes. Furthermore, Moskal defines the accessible domain for suppletion triggers to the root dynamically (it is the category-defining node plus one node above it), as we did for partial copy deletion in Igbo. The Igbo phi-mismatches thus provide further support for a dynamic definition of domains to which postsyntactic operations apply. More generally, the present study adds to the growing body of literature on dynamic domains in morphosyntax, see, e.g., Bobaljik and Wurmbrand (2005); Harwood (2013); Bošković (2014) on a context-sensitive determination of phasehood.

7 'Case' mismatches and the morpho-syntax of case in Igbo

This section addresses a second morphological mismatch in resumption in Igbo: a 'case' mismatch, which surfaces in both movement and base-generation Ā-dependencies. We discuss it to complete the description of the morphological properties of resumption in Igbo, and also to show that the congruency between Ā-dependency types regarding this mismatch does not undermine the arguments for the different status of RPs in topicalization vs. focus fronting argued for in this paper. We show that the alternation in question is allomorphy and not related to abstract case, and that the mismatch results from the timing of the (post)syntactic operations involved and the tonal nature of GEN.

7.1 Introducing the case mismatch in Igbo

Recall from Section 2 that Igbo exhibits (a) a morphological distinction in the 2sg and 3sg personal pronouns for their usage in subject vs. (in)direct object function (while other pronouns and all nouns have only a single form, the base form), and (b) a special (tonal) form for both pronouns and nouns to express (e.g.) possession. We provisionally referred to this distinction as morphological case (in line with some of the literature) and used the labels NOM, ACC, GEN for the respective exponents, see the pronominal paradigm repeated in (60).

(60) Personal pronouns in Igbo:

	1sg	2sg	3sg	1pl	2pl	3pl
NOM	ḿ	í/ị́	ó/ọ́	ànyị́	ụ́nụ̀	há
ACC		gị́	yá			
GEN	ˡḿ	ˡgị́	ˡyá			ˡhá

RPs in Igbo are drawn from the personal pronoun paradigm and thus exhibit the same case distinctions. The RP always appears in the morphological case form that a personal pronoun has in the same position in a declarative. Declaratives with pronouns in the four positions CompP, Poss, Conj, and FSP-XP are shown in (61). A pronoun in Poss-position surfaces in the GEN-form, the three other contexts require the ACC-form of the pronoun. These morphological forms of personal pronouns are identical to the forms of the corresponding RPs, compare (61) with the focus fronting examples in (15) – (18).

(61) Declaratives with pronouns in CompP, Poss, Conj, FSP-XP:

a. Ézè kwè-rè [$_{PP}$ nà **yá**]
Eze believe P 3SG.ACC
"Eze believe-rV in her/him." *CompP*

b. Ézè hù̱-rù̱ [$_{DP}$ ńkı́ˈtá ˈ**yá**]
Eze see-rV dog 3SG.GEN
"Eze saw her dog." *Poss*

c. Ézè hù̱-rù̱ [$_{\&P}$ gı́ nà **yá**]
Eze see-rV 2SG.ACC and 3SG.ACC
"Eze saw you and him/her." *Conj*

d. Ézè hù̱-rù̱ [$_{DP}$ sò̱ó̱sò̱ **yá**]
Eze see-rV only 3SG.ACC
"Eze saw only her/him." *FSP-XP*

We now turn to case marking on the antecedent of an RP. Both Ā-moved (e.g., focused) XPs and base-generated (e.g., topicalized) XPs surface in their ACC-form (2sg/3sg pronoun) or their base form, respectively (all other nominals). (62) illustrates the ACC-form with a 2sg and 3sg antecedent, respectively. A different case form on the fronted XP results in ungrammaticality.

(62) ACC on Ā-moved (focus) XPs:

a. **Yá** kà Ézé hù̱-rù̱ __
3SG.ACC FOC Eze see-rV
"Eze saw HER/HIM."

b. **Gı́** kà Ézé hù̱-rù̱ __
3SG.ACC FOC Eze see-rV
"Eze saw YOU(sg)."

(63) ACC on base-gen. (topic) XPs:

a. **Yá**, Ézè hù̱-rù̱ yá
3SG.ACC Eze see-rV 3SG.ACC
"As for him, Eze saw him."

b. **Gı́**, Ézè hù̱-rù̱ gı́
3SG.ACC Eze see-rV 3SG.ACC
"As for you, Eze saw you."

In contexts in which the RP is in a position that requires ACC, we thus get case matching between the antecedent and the RP; see (63) for topicalization examples and (37) for examples with focus fronted pronouns. If, however, the RP is in a position associated with a different case, e.g., GEN in Poss-position, a case mismatch arises: The RP bears the case required in its surface position (the bottom of the Ā-dependency), while the antecedent is ACC, see the examples with topicalization (64-a) and focus fronting (64-b,c) of Poss. (64-c) also shows that the phi- and the case mismatch co-occur when a local person (or plural) pronoun undergoes focus fronting from a GEN-position (recall that phi-mismatches do not arise under base-generation, see (63-b)).

(64) a. **Yá**, Ézè hù̱-rù̱ [$_{DP}$ ńkı́ˈtá ˈ**yá**]
3SG.ACC Eze see-rV dog 3SG.GEN
"As for hers, Eze saw her dog." *3sg Poss topic*

b. **Yá** kà Ézé hù̱-rù̱ [$_{DP}$ ńkı́ˈtá ˈ**yá**]
3SG.ACC FOC Eze see-rV dog 3SG.GEN
"Eze saw HER dog." *3sg Poss focus*

c. **Gı́** kà Ézé hù̱-rù̱ [$_{DP}$ ńkı́ˈtá ˈ**yá**]
2SG.ACC FOC Eze see-rV dog 3SG.GEN
"Eze saw YOUR dog." *2sg Poss focus*

To the best of our knowledge, this case mismatch has not been described or analyzed so far in the literature on Igbo. The mismatch seems particularly unexpected in Ā-movement chains: Usually, the case assigned to an element in its base-position is preserved under Ā-movement, since case assignment (an A-relation) happens before Ā-relations are established. In what follows, we will show that the mismatch receives a simple timing explanation once we have identified the nature of the morphological alternation that we have been calling 'case' so far and take into account the suprasegmental nature of GEN.

7.2 The nature of the morpho-phonological 'case' alternation

The labels NOM, ACC and GEN have been used throughout this paper to refer to case exponents, viz., to morphological case. In what follows, we will show that these exponents do not reflect distinct abstract cases, but are rather context-dependent (NOM vs. ACC) and composed of several exponents (GEN). This will be the basis for an explanation of the mismatch.

The crucial insights about the case exponents are the following: (a) the ACC-form (or the base form for nominals that have no distinct ACC-form) is the default among the (up to) three different 'case' forms of nominals in Igbo, (b) NOM is an allomorph of ACC, and (c) GEN is just ACC affected by an adjacent high tone in phonetics. That ACC is the default form is supported by the observation that it also surfaces on DPs to which no case has been assigned (cf. Schütze 2001; McFadden 2007), e.g., on base-generated topics or fragment answers to subject questions, see Amaechi (2020), Emenanjo (2015: 304). There is also no separable morpheme (e.g., an affix) that expones ACC, neither for nouns nor for pronouns. As for NOM, recall that only the 2sg and 3sg pronoun have a distinct NOM-form (see (60)), used for subjects. We have identified more constraints on the use of the NOM-forms, though: It can only be used if the subject is a bare personal pronoun. As soon as something is attached to this pronoun, e.g., an FSP, an apposition or a relative clause, it must surface in its ACC-form, even as the subject of the clause, see (65-a-c).[38] A 2sg/3sg subject pronoun must also occur in its ACC-form if it is embedded in the subject DP, e.g., when it is a conjunct, see (65-d). See also Eze (1995) for a list of environments that require the ACC-form. The NOM-form is thus an exception rather than the rule for subjects in Igbo. To capture this, we treat the NOM-form as an allomorph of the ACC-form.[39]

(65) Contexts that require the ACC-form of the 2sg/3sg subject pronoun:

a. [$_{DP}$ sọ̀ọ́sọ̀ yá/*ó] rì-rì jí
only 3SG.ACC/3SG.NOM eat-rV yam
"Only she/he ate yam." *FSP-XP*

b. Yá/*ọ́ ꜜhú-ꜜrú Àdá dì ḿmꜜá
3SG.ACC/3SG.NOM see-rV Ada COP good
"He, who saw Ada, is good." *RC attached*

c. Yá/*ó ónyénkúꜜzí dì ḿmꜜá
3SG.ACC/3SG.NOM teacher COP good
"He, a teacher, is good." *apposition attached*

[38] The tones on the verb in (65-b) are a consequence of subject relativization: whenever the subject is relativized in Igbo, the verb in the clause in which that subject originates surfaces with downstep. See Amaechi (2020: ch. 4.3.) for an analysis of this reflex of movement.

[39] This intuition about NOM is also formulated in the subject cliticization rule in Goldsmith (1976: 80f); it can only apply if nothing intervenes between the clitic and the verb.

d. [$_{\&P}$ gị́/*í nà yá/*ó] hụ̀-rụ̀ Àdá
2SG.ACC/2SG.NOM and 3SG.ACC/3SG.NOM see-rV Ada
"You and s/he saw Ada." *Conj*

We now turn to GEN, the case we find, e.g., on the second noun (Poss) in the associative construction. It is well-established in the phonological literature on Igbo that GEN is the combination of the ACC-form of a pronoun (or of the base form of nominals that lack a NOM/ACC-distinction) plus the phonetic effects of an adjacent floating high tone H (Welmers 1970; Goldsmith 1976; Williams 1976; Williamson 1986; Clark 1990; Manfredi 1993; Déchaine and Manfredi 1998).[40] This can easily be detected in the monosyllabic pronouns (1sg, 2sg, 3sg, 3pl) in (60). The GEN-forms of these pronouns have the segmental shape of ACC and differ from it only in tone: ACC has a high tone, GEN a downstep. Clark (1990) argues that the downstep in Igbo is the phonetic realization (pitch drop) of a configuration in which two high tones associated with different TBUs are adjacent. Thus, when the element to which H is adjacent bears an H-tone, as the ACC-/base forms of these pronouns do, two adjacent H-tones are created and result in a downstep of the second H-tone in the sequence in the phonetics. This leads to the GEN-form of monosyllabic pronouns, see the illustration for the 3sg pronoun in (66).

(66) *phonology* *phonetics*
H H ⟹ !H
| |
ya ya

(67) [$_{DP}$ DP_1 [$_{PP}$ P DP_2]]
H H
|
ya

Note that H does not always result in a downstep on its host; the resulting tones depend on the underlying tones (tone class) of the host, the morpho-phonological environment, and the interaction of the association rule with other phonological rules of the language. Sometimes the tones of the host do not change at all, as e.g. with the 1pl and 2pl pronouns.[41] We will not reproduce the complex rules here and refer the interested reader to Goldsmith (1976); Williamson (1986); Clark (1990). It is sufficient to know that these rules are well understood and general (they also hold outside in other construction where floating high tones arise, e.g., in certain aspects such as the imperfective). We can thus generate the GEN-form of a (pro)nominal from its ACC-/base form with the help of these rules. This means that GEN is not the realization of an abstract genitive case. Rather, the second (pro)noun in the associative construction is also realized in its ACC-/base form, viz., by the default case marker. The surface GEN-form arises when a floating H is adjacent to this default case form. The question that remains is what H realizes. According to the literature on tone in Igbo, H originates in between the two nominals in the associative construction (Goldsmith 1976; Clark 1990; Manfredi 1993), i.e., it is the realization of the P-head that links the two DPs, see the structures in (31) and (67) (with a 3sg Poss), and the VI in (68).

(68) H ↔ P / DP __ DP

[40] We use the term floating tone for the H-tone that creates the GEN-form somewhat loosely here. In fact, Clark (1990) argues it is not just a floating tone; rather, the P-head in the associative construction is realized by a high-toned V-position whose tonal content cliticizes to the complement of P (at least by default).

[41] The special behavior of the local person plural pronouns has to do with the fact that they are of nominal origin and behave like nouns rather than pronouns in several respects (e.g., syllable structure), see Goldsmith (1976: 79f.), Déchaine and Manfredi (1998: 76).

To conclude, NOM, ACC and GEN do not realize different abstract case features but are either allomorphs (NOM/ACC) or combinations of the ACC-form with a floating tone (that realizes a distinct element, viz., the P-head in the associative construction). We thus do not have reason – at least not on the basis of the morphological NOM/ACC/GEN-alternation – to postulate distinct abstract cases in Igbo. It is sufficient to postulate one abstract case feature. Since ACC is the default realization of this feature, we will call it *acc(usative)* in what follows (in lowercase + italics vs. the morphological uppercase ACC).

To formalize these insights, we adopt an Agree-based view of abstract case (Chomsky 2000; 2001), whereby a head with a valued case feature [c:*value*] assigns its case value to the closest DP in its c-command domain that lacks a case value [c:___]. Case assignment thus involves valuation (though a checking approach would also work). All case-assigning heads assign [c:*acc*], since we do not have evidence for different abstract cases in the language. This also holds for the four positions that require an RP under Ā-movement (see the structures in (30) – (33): the heads P and FSP assign [c:*acc*] to their complement (which covers CompP/Poss and FSP-XP); the case of conjuncts is assigned by an external head to the entire coordination DP and then spreads to all DP-internal elements, including the conjuncts, through concord.[42] The question is how the abstract case [c:*acc*] on a DP is phonologically realized in the postsyntax. Since we have argued that the ACC-/base forms are the default forms, we assume that no VI realizes or is sensitive to the feature [c:*acc*]. The ACC-/base-form VIs are simply underspecified for abstract case features. In (69-a-f) we repeat the VIs for the RPs postulated in Section 6.4.1, example (51) (which do not realize case), and add the NOM-allomorphs in (69-g,h).

(69) Vocabulary items for RPs in Igbo (final version):

a. /ḿ/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 1sg]
b. /gí/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 2sg]
c. /yá/ ↔ [D]
d. /ànyị́/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 1pl]
e. /ụ́nụ̀/ ↔ [D] / __ [$_{\text{Num+Pers}}$ 2pl]
f. /há/ ↔ [D] / __ [$_{\text{Num+Pers}}$ pl]
g. /í ↔ [D] / TP ... [$_{\text{DP}}$ __ [$_{\text{Num+Pers}}$ 2sg]]
h. /ó/ ↔ [D] / TP ... [$_{\text{DP}}$ __ [$_{\text{Num+Pers}}$ 3sg]]

Since we argued that the NOM-forms as contextual allomorphs of the ACC-forms, the former also do not realize abstract case features. Recall that NOM can only surface on bare 2sg and 3sg subject pronouns. Considering the contexts in which NOM is blocked (see (65)), the following generalization emerges: The NOM-form of a pronoun can only be used if the mother node of the D-head is the sister of TP. We can model this as a context-restriction on NOM-VIs, see (70-g,h) (where '...' indicates the sisterhood relation). This context is destroyed when the subject pronoun is more deeply embedded because an XP (a relative clause, an apposition) or a X^0 (an FSP, P-head in the associative construction, &-head in a coordination) attaches to the pronoun because the DP is then not a sister of TP anymore. The only VIs that can then be used are the default VIs that are underspecified for case and the structural context. For all other pronouns and for all lexical Ns there is simply no allomorph with a structural context restriction, and hence no morphological NOM/ACC-contrast. Regarding GEN, we adopted the

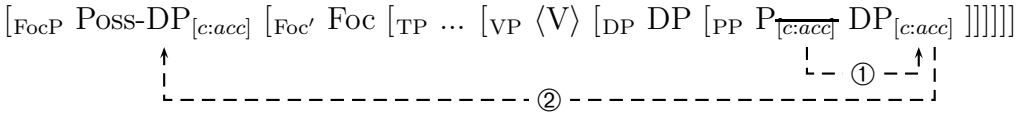
[42] An alternative for &P is to have the &-head assign case to each of its arguments, a strategy available in some languages, see Johannessen (1998); Stassen (2000); Weisser (2020).

insight that DPs in positions with GEN are actually also realized by the default ACC-/base form VIs. The GEN-form results in the phonetics when there is an adjacent floating tone H, as in the associative construction (see (66)).[43] With this background on the morphosyntax of case, we can now analyze the case mismatch in resumption.

7.3 Explaining the 'case' mismatch

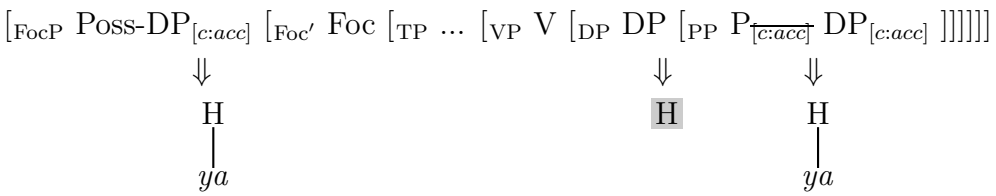
Recall that Ā-antecedents in Igbo always surface in their default form (ACC for 2sg/3sg pronouns, the base form for all other nominals), while RPs bear the case assigned to the position they occur in; this results in a mismatch if the RP is in a GEN-position. Consider the syntactic configuration in (70): Poss (the complement of a P in the associative construction, see (31)) undergoes focus fronting from inside the complement DP of the verb. Poss (like any other argument DP) is assigned abstract [c:*acc*] by its selecting head P; Poss carries along this abstract case value when it later moves to SpecFoc.

(70) Syntax: case assigned to Poss and subsequent focus fronting:



In the postsyntactic component, the Poss-DP in SpecFoc is realized by the default VIs that do not expone case features, since there is no VI that realizes [c:*acc*]. These are the ACC-forms (2sg/3sg) or the base forms, respectively. The copy of the Poss-DP in its base position undergoes partial deletion and the remaining D-shell is realized by a pronoun, see the VIs in (69). The pronominal VIs that can be used are again the default forms; the NOM-allomorphs cannot be chosen since their context is not met (the Poss-DP is not a sister of TP). The surface mismatch arises because the P-head in the associative construction is realized by a floating high tone H, see (68). After VI-insertion, H is adjacent to the high toned RP in CompP. This adjacency of two H-tones associated with different TBUs results in a downstep in the phonetics (see (66)). (71) shows the exponents in the relevant positions with a 3sg focus fronted Poss-pronoun:

(71) Postsyntax: realization of case exponents:



[43] In this analysis [c:*acc*] remains morphologically completely unrealized. We still postulate it because we assume that arguments need abstract case (Case Filter, Chomsky 1981). But it would also be possible – at least for the purpose of explaining the mismatch under discussion – to postulate no abstract case at all in Igbo. Another alternative would be to assume a more standard system in which there are (at least) two abstract cases, with T and v assigning different case values, as usually assumed for ergative-absolutive and nominative-accusative case systems (see Déchaine and Manfredi 1998 for the claim that Igbo has an underlying ergative-absolutive case pattern). If none of the nominal VIs makes reference to this distinction, the result is the same as the one proposed here with one abstract case. Our point is simply that is not *necessary* to postulate more than one abstract case to capture the distribution of NOM, ACC, and GEN in Igbo, though it is possible.

The reason behind the mismatch between the form of the antecedent and its RP under Ā-movement from a GEN-position (i.e., from Poss) is thus the timing of operations: GEN results in the phonetics when an H-toned exponent in its ACC-/base form, here the 3sg pronoun *yá*, is adjacent to H (which realizes P). Ā-movement is a syntactic operation that removes the focused DP from the position in which it would be adjacent to H in the postsyntax. Ā-movement thus bleeds the emergence of the GEN-form on the antecedent. In base-generation dependencies (topicalization), the base-generated XP in the C-domain has never been in the position where the associated RP surfaces; the antecedent can thus not be affected by H, and hence does not surface in the GEN-form. The associated RP is the argument of P in the associative construction. It is thus assigned [c:*acc*] by P, which is realized by the default VIs. Since it does not move anywhere, it will end up adjacent to H in the postsyntax, which produces a downstep (viz., then GEN-form) in the phonetics. The only difference to a movement-derived RP is that a the RP in a base-generation dependency is not subject to partial deletion (since it does not spell out a lower copy), and hence, an additional phi-mismatch is excluded.

8 Conclusion

In this paper we have investigated the syntax and morphology of resumption in Igbo. In the first part, we have described the distribution of RPs in Ā-dependencies. We have argued that there are two types of RPs: RPs that terminate base-generation dependencies (topicalization), and RPs that occur at the bottom of Ā-movement dependencies (focus/wh-fronting, relativization). While similar splits have been reported for other languages, Igbo is the first language for which we have comprehensive evidence for the co-existence of these types two RPs in a single language from all major movement tests, including *pg*-licensing and cyclicity effects, as well as from language-specific tests. Movement-derived RPs are restricted to four positions in Igbo: CompP, Poss, Conj, FSP-XP. We pursued a spell-out approach to resumption, where lower copies in these positions undergo partial rather than full deletion, and the remaining D-head is realized by a pronoun.

In the second part of the paper we have addressed mismatches in phi-features and in 'case' between the antecedent and its RP. The phi-mismatch is important because it provides morphological support for the distinction between two types of RPs: only movement-derived RPs can exhibit a phi-mismatch. Moreover, the phi-mismatch in Igbo is more complex than those reported so far in the resumption literature since it depends on the type of antecedent (noun vs. pronouns, coordination). To capture the phi-mismatch pattern, we have adopted van Urk's (2018) insight that phi-mismatches result when partial deletion targets phi-projections in copies, coupled with a dynamic (rather than a static) definition of deletion domains. The differences in phi-(mis)matching between the antecedent types is then a consequence of structural differences between the noun types. We have shown that this system can also capture the so far attested cross-linguistic variation in mismatch patterns with the same deletion rule (though more research is needed to determine the variation space in this area). The account of phi-mismatches further supports the role of dynamic domains in which postsyntactic operations apply; it is reminiscent in this respect of the work by Moskal (2015*b*;*a*) on suppletion domains. Finally, we have reanalyzed the apparent 'case' alternation as allomorphy. The 'case' mismatch, which affects all Ā-dependencies, is the result of the timing of operations and the fact that the GEN-form is triggered by an adjacent H-tone in the phonetics (downstep). Syntactic movement removes an XP from this adjacent position and thus bleeds the phonetic effects of the H-tone on the antecedent, though not on the RP realized in XP's base position.

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A Movement tests applied to focus fronting of Poss, Conj, FSP-XP

1. sensitivity to CNP-islands (relative clauses):

(72) Focus fronting of Poss:

a. Úchè pụ̀-rụ̀ [mgbè Ézè hụ̀-rụ̀ [$_{DP}$ ńkị́ˈtá Àdá]]
Uche leave-rV time Eze see-rV dog Ada.GEN
"Uche left before Eze saw Ada's dog."

b. *Àdá kà Úché pụ̀-rụ̀ [mgbè Ézé hụ̀-rụ̀ [$_{DP}$ ńkị́ˈtá ˈyá]]
Ada FOC Uche leave-rV time Eze see-rV dog 3SG.GEN
"Uche left before Eze saw ADA'S dog."

(73) Focus fronting of Conj:

a. Úchè pụ̀-rụ̀ [mgbè Ézè hụ̀-rụ̀ [$_{\&P}$ Àdá nà Òbí]]
Uche leave-rV time Eze see-rV Ada and Obi
"Uche left before Eze saw Ada and Obi."

b. *Àdá kà Úché pụ̀-rụ̀ [mgbè Ézé hụ̀-rụ̀ [$_{\&P}$ yá nà Òbí]]
Ada FOC Uche leave-rV time Eze see-rV 3SG.ACC and Obi
"Uche left before Eze saw ADA and Obi."

(74) Focus fronting of FSP-XP:

a. Úchè pụ̀-rụ̀ [mgbè Ézè hụ̀-rụ̀ [$_{DP}$ sọ̀ọ́sọ̀ Àdá]]
Uche leave-rV time Eze see-rV only Ada
"Uche left before Eze saw only Ada."

b. *Àdá kà Úché pụ̀-rụ̀ [mgbè Ézé hụ̀-rụ̀ [$_{DP}$ sọ̀ọ́sọ̀ yá]]
Ada FOC Uche leave-rV time Eze see-rV only 3SG.ACC
"Uche left before Eze saw only ADA."

2. strong cross-over effect:

(75) Focus fronting of Poss:

a. Ó chè-rè [$_{CP}$ nà Ézè hụ̀-rụ̀ [$_{DP}$ ńkị́ˈtá Àdá]]
3SG.NOM think-rV that Eze see-rV dog Ada.GEN
"S/he$_i$ thinks that Eze$_j$/$_{*i}$ saw Ada's dog."

b. Àdá kà ó chè-rè [$_{CP}$ nà **Ézé** hụ̀-rụ̀ [$_{DP}$ ńkị́ˈtá ˈyá]]
Ada FOC 3SG.NOM think-rV that Eze see-rV dog 3SG.GEN
it is x such that *x/✓y thinks that Eze saw x's dog

(76) Focus fronting of Conj:

a. Ó chè-rè [$_{CP}$ nà Ézè hụ̀-rụ̀ [$_{\&P}$ Àdá nà Òbí]]
3SG.NOM think-rV that Eze see-rV Ada and Obi
"S/he$_i$ thinks that Eze$_j$/$_{*i}$ saw Ada and Obi."

b. Àdá kà ó chè-rè [$_{CP}$ nà **Ézé** hụ̀-rụ̀ [$_{\&P}$ yá nà Òbí]]
Ada FOC 3SG.NOM think-rV that Eze see-rV 3SG.ACC and Obi
it is x such that *x/✓y thinks that Eze saw x and Obi

(77) Focus fronting of FSP-XP:

a. Ó chè-rè [$_{CP}$ nà Ézè hụ̀-rụ̀ [$_{DP}$ sọ́ọ́sọ̀ Àdá]]
3SG.NOM think-rV that Eze see-rV only Ada
"S/he$_i$ thinks that Eze$_j$/$_{*i}$ saw only Ada."

b. Àdá kà ó chè-rè [$_{CP}$ nà **Ézé** hụ̀-rụ̀ [$_{DP}$ sọ́ọ́sọ̀ yá]]
Ada FOC 3SG.NOM think-rV that Eze see-rV only 3SG.ACC
it is x such that *x/✓y thinks that Eze saw only x

3. reconstruction for variable binding:

(78) Focus fronting of Poss:

a. Úchè chè-rè nà ńné ọ̀bụ́là hụ̀-rụ̀ [$_{DP}$ ńkị́ꜜtá nwá ꜜyá]
Uche think-rV that mother every see-rV dog child 3SG.GEN
"Uche thinks that every mother saw her child's dog."

b. Nwá ꜜyá kà **Úché** chè-rè nà ńné **ọ̀bụ́lá** hụ̀-rụ̀ [$_{DP}$ ńkị́ꜜtá ꜜyá]
child 3SG.GEN FOC Uche think-rV that mother every see-rV dog 3SG.GEN
"Uche thinks that every mother saw HER CHILD'S dog."

(79) Focus fronting of Conj:

a. Úchè chè-rè nà ńné ọ̀bụ́là hụ̀-rụ̀ [$_{\&P}$ nwá ꜜyá nà Òbí]
Uche think-rV that mother every see-rV child 3SG.GEN and Obi
"Uche thinks that every mother saw her child and Obi."

b. Nwá ꜜyá kà **Úché** chè-rè nà ńné **ọ̀bụ́lá** hụ̀-rụ̀ [$_{\&P}$ yá nà Òbí]
child 3SG.GEN FOC Uche think-rV that mother every see-rV 3SG.ACC and Obi
"Uche thinks that every mother saw HER CHILD and Obi."

(80) Focus fronting of FSP-XP:

a. Úchè chè-rè nà ńné ọ̀bụ́là hụ̀-rụ̀ [$_{DP}$ sọ́ọ́sọ̀ nwá ꜜyá]
Uche think-rV that mother every see-rV only child 3SG.GEN
"Uche thinks that every mother saw only her child."

b. Nwá ꜜyá kà **Úché** chèrè nà ńné **ọ̀bụ́lá** hụ̀rụ̀ [$_{DP}$ sọ́ọ́sọ̀ yá]
child 3SG.GEN FOC Uche thinks that mother every saw only 3SG.ACC
"Uche thinks that every mother saw only HER CHILD."

4. *pg*-licensing:

(81) Focus fronting of Poss:

a. Ézè nù-rù òlú Àdá [$_{CP}$ ná à-hụ̀-ghí yá/*Ø]
Eze hear-rV voice Ada.GEN PRT PFX-see-NEG 3SG.ACC
"Eze heard Ada's voice without seeing her."

b. Àdá kà **Ézé** nù-rù òlú ꜜyá [$_{CP}$ ná à-hụ̀-ghí *pg*]
Ada foc Eze hear-rV voice 3SG.GEN PRT PFX-see-NEG
"Eze heard ADA'S voice without seeing her."

(82) Focus fronting of Conj:

a. Ézè nù-rù òlú [$_{\&P}$ Àdá nà Òbí] [$_{CP}$ ná à-hù̱-ghí̱ há/*Ø]
Eze hear-rV voice Ada and Obi PRT PFX-see-NEG 3PL.ACC
"Eze heard Ada and Obi without seeing him/her."

b. Àdá kà **Ézé** nù-rù òlú [$_{\&P}$ yá nà Òbí] [$_{CP}$ ná à-hù̱-ghí̱ *pg*]
Ada FOC Eze hear-rV voice 3SG.ACC and Obi PRT PFX-see-NEG
"Eze heard ADA and Obi without seeing her."

(83) Focus fronting of FSP-XP:

a. Ézè nù-rù òlú [$_{DP}$ sò̱ó̱sò̱ Àdá] [$_{CP}$ ná à-hù̱-ghí̱ yá/*Ø]
Eze hear-rV voice only Ada PRT PFX-see-NEG 3SG.ACC
"Eze heard only Ada without seeing her."

b. Àdá kà **Ézé** nù-rù òlú [$_{DP}$ sò̱ó̱sò̱ yá] [$_{CP}$ ná à-hù̱-ghí̱ *pg*]
Ada FOC Eze hear-rV voice only 3SG.ACC PRT PFX-see-NEG
"Eze heard only ADA without seeing her."

5. tonal reflex of movement: The final H-tone on crossed over subjects is visible in all b-examples in Appendix A (bold-faced), except in (i) the *ná*-particle examples (recall that this particle and the H-tone are in complementary distribution, see fn. 12).

6. ban on extraction from perfective clauses:

(84) Focus fronting of Poss:

a. Ézè à-hú̱-lá [$_{NP}$ ńkí̱ꜜtá Àdá]
Eze NMLZ-see-PFV dog Ada
"Eze saw Ada's dog"

b. *Àdá kà **Ézé** à-hú̱-lá [$_{NP}$ ńkí̱ꜜtá ꜜyá]
Ada FOC Eze NMLZ-see-PFV dog 3SG.GEN
"Eze saw ADA'S dog."

(85) Focus fronting of Conj:

a. Ézè à-hú̱-lá [$_{\&P}$ Àdá nà Òbí]
Eze NMLZ-see-PFV Ada and Obi
"Eze saw Ada and Obi."

b. *Àdá kà **Ézé** à-hú̱-lá [$_{\&P}$ yá nà Òbí]
Ada FOC Eze NMLZ-see-PFV 3SG.ACC and Obi
"Ézè has seen ADA and Obi."

(86) Focus fronting of FSP-XP:

a. Ézè à-hú̱-lá [$_{NP}$ sò̱ó̱sò̱ Àdá]
Eze NMLZ-see-PFV only Ada
"Eze saw only Ada."

b. *Àdá kà **Ézé** à-hú̱-lá [$_{NP}$ sò̱ó̱sò̱ yá]
Ada FOC Eze NMLZ-see-PFV only 3SG.ACC
"Eze saw only ADA."

7. Ná-particle in negated clauses:

(87) Focus fronting of Poss:

a. Ézè á-ꜜhù̱-ghḭ́ [DP ńkḭ́ꜜtá Àdá]
Eze PFX-see-NEG dog Ada.GEN
"Eze did not see Ada's dog."

b. Àdá kà Ézè ná á-ꜜhù̱-ghḭ́ [DP ńkḭ́ꜜtá ꜜyá]
Ada FOC Eze PRT PFX-see-NEG dog 3SG.GEN
"Eze did not see ADA'S dog."

(88) Focus fronting of Conj:

a. Ézè á-ꜜhù̱-ghḭ́ [&P Àdá nà Òbí]
Eze PFX-see-NEG Ada and Obi
"Eze did not see Ada and Obi."

b. Àdá kà Ézè ná á-ꜜhù̱-ghḭ́ [&P yá nà Òbí]
Ada FOC Eze PRT PFX-see-NEG 3SG.ACC and Obi
"Eze did not see ADA and Obi."

(89) Focus fronting of FSP-XP:

a. Ézè á-ꜜhù̱-ghḭ́ [DP sọ̀ọ́sọ̀ Àdá]
Eze PFX-see-NEG only Ada
"Eze did not see only Ada."

b. Àdá kà Ézè ná á-ꜜhù̱-ghḭ́ [DP sọ̀ọ́sọ̀ yá]
Ada FOC Eze PRT PFX-see-NEG only 3SG.ACC
"Eze did not see only ADA."

B Triggers for the partial realization of the lowest copy

In this appendix, we discuss how well previous accounts of the occurrence RPs in typical resumption contexts such as CompP and Poss can explain the distribution of movement-related RPs in Igbo. Note that these constitute ideas that are often not worked out in much detail in the respective literature (e.g., the oblique case approach).

We start with minimal word requirements as a trigger for resumptions: Scott (2020) finds evidence for a two-unit (disyllabic/bimoraic) word requirement in Swahili that also causes resumption in CompP: If a gap would leave a monosyllabic P, an RP must be realized in this position. To the best of our knowledge, there are no such requirements in Igbo; there are many monosyllabic (phonological and grammatical) words in the language. The selecting heads in the RP-requiring contexts can be monosyllabic (Ps, nominal &, some FSPs), but also polysyllabic (e.g., *màkà* 'about', *sọ́ọ́sọ́* 'only'); in both cases an RP is necessary.

Nunes (2004); Landau (2006) argue that the reason for the (partial) realization of lower copies can be the need for a host for an adjacent affix/enclitic. But the RP-adjacent elements in the four relevant contexts in Igbo are neither affixes nor clitics, at least not all of them. There is usually vowel harmony and/or tone spreading between affixes/clitics and their host in the language (see Emenanjo 2015: 266); but at least FSPs do not change their phonological shape in order to harmonize in tone or vowel quality with their complement/associated XP; P and the coordinator *nà* only do so in rapid speech). As for Poss, recall from section 5.3 that possession is expressed in the associative construction with two adjacent nominals. This construction has been analyzed to involve a P-head H which is realized by a floating high tone H. This tone cliticizes either to the complement of P (default association), which is where Poss originates, or with the initial DP on its left, and can induces tone changes on them. But these changes are not harmonizing in the sense that they do would lead to identical tones on the initial and the second DP.

A related idea is brought up by an anonymous reviewer: Given that the floating tone H in the associative construction floats to the right (viz., to Poss) by default, the presence of the RP in the Poss-context may be triggered by the need to provide a host for H. This hypothesis is falsified by the following observations: First, if the RP only occured to provide a host for the rightward-floating H, a gap should be possible in the Poss-extraction site if another host for H were available on the right, i.e., if a constituent followed the Poss-extraction site. This can be tested with ditransitive verbs, where Poss is part of an indirect object (IO), which in turn precedes the direct object (DO). However, such examples with Poss-extraction leaving a gap are out even if H induces a tone change on the following DO, see the paradigm in (90): In Igbo declaratives both the IO and the DO surface in the base form (nouns, see (90-a)) or in the ACC (pronouns), respectively, there is no dative case in the language. Extraction of Poss with the expected ACC/base form of the following DO is only possible with an RP, a gap is out (see (90-b)). Realizing GEN on the DO (= *ǹ!rí* with a downstep on the final TBU, independently attested, e.g., when this nouns functions as Poss), which may allegedly be triggered by the floating H originating in the associative construction, does not license a gap in Poss-position under Poss-extraction, see (90-c).[44]

[44] (Some) tones can float across XP-boundaries in Igbo, some even across clause-boundaries (see Amaechi 2020: ch.4 for examples); some tones only seem to care about linear adjacency. We thus expect it to be in principle possible for the floating tone that originates inside the IO-associative DP to float to a DP-external constituent such as the DO in (i-b).

(90) a. Ézè nyè-rè ńkı̣́ˡtá Àdá ńrí
Eze give-rV dog Ada food
"Eze gave Ada's dog food." *declarative*

b. Àdá kà Ézé nyè-rè ńkı̣́ˡtá ˡyá / *___ ńrí
Ada FOC Eze give-rV dog 3SG.GEN food
"Eze gave ADA's dog food." *Poss-focus, DO: base form*

c. *Àdá kà Ézé nyè-rè ńkı̣́ˡtá ___ ńˡrí
Ada FOC Eze give-rV dog food.GEN
"Eze gave ADA's dog food." *Poss-focus, DO: GEN-form*

Second, there are two attested repairs (unrelated to Ā-extraction) in Igbo that can apply when H does not find a host in the complement of H: (i) H does not surface at all (it presumably remains unassociated); (ii) H can float to the left (to N1). (i) can be observed in context where the equivalent of the associative tone H floats to a position, e.g., a direct object, that leaves a gap under Ā-movement.[45] (ii) Depending on the underlying tones of the two Ns in the associative construction, default floating to the right is sometimes blocked, and H floats to the left instead, attaching to N1 (the possessum); see Clark (1990: ch.7), Emenanjo (2015: 117) for examples.[46] The point is that it is unclear why the insertion of an RP should be used as a repair to provide a host for H under Ā-extraction given that the language already has two other repair strategies available that would in principle also be applicable in the extraction contexts. The reviewer's hypothesis can thus be refuted.

Next we discuss an approach that takes obligatory RPs to surface in positions to which oblique case is assigned (see Broihier 1995; Pesetsky 1998; Vogel and Steinbach 1998; Bayer et al. 2001; Bianchi 2004). The idea is that oblique case must be phonologically realized (the actual reasons are not well understood, though) and hence oblique case positions cannot be null. The first question is what 'oblique' case means. This could be inherent case, assigned to DPs with certain thematic roles, or lexical case, assigned by specific lexical items (heads) to their arguments. How plausible is it that the four RP-requiring contexts in Igbo bear lexical or inherent case? Inherent case is not an option for Poss since the second DP in the associative construction can have a variety of thematic associations to the initial DP (basically as in the English equivalent of the construction), see (91). This favors a treatment of GEN in the DP as structural case. It is not clear what thematic roles are associated with the arguments of P and &. As for FSPs, it

[45] This can happen in certain aspects such as the imperfective, in which the DO of a transitive verb has to surface in GEN-form instead of the usual ACC, see (i-a). GEN is tonal and attributed to the presence of a silent head in this aspect that hosts a floating tone, see, e.g., Goldsmith (1976). The association rules for this tone are the same as for the floating GEN-tone in the associative construction (see Goldsmith 1976; Clark 1990). When the DO in the imperfective undergoes Ā-extraction, we find a gap in the extraction site, see (i-b), just as with ACC-DOs. The floating tone is not realized anywhere in this context.

(i) GEN (triggered by H) on DO in the imperfective:

a. Àdá nà-é-rí ˡjɪ
Ada PROG-NMLZ-eat yam.GEN
"Ada is eating yam."

b. jí kà Àdá nà-é-rí ___ / *ˡyá
yam FOC Ada PROG-NMLZ-eat 3SG.GEN
"Ada is eating YAM."

[46] In fact, the same pattern, viz., default rightward floating and exceptional leftward association of a floating tone is also found in another areas of Igbo grammar: Amaechi (2020) shows that this also happens with a tone that originates in C under Ā-extraction, see fn. 10.

is debated whether they constitute adjuncts or heads (see Section 5.3); only in the latter case would they potentially be capable of assigning case. For the sake of the discussion, we will assume that FSPs can be heads (and thus case assigners), which take associated DP as their complement; as with P and &, the thematic role involved is unclear, though. We thus have counter-evidence for Poss bearing inherent case, and there are at least some questions that arise for the three other RP-positions.

(91) Ézè hụ̀-rụ̀ fòtó Àdá
Eze see-rV picture Ada.GEN
"Eze saw the picture of Ada."; possible interpretations: Ada took the picture. (agent) / Ada is in the picture. (theme) / Ada possesses the picture. (Poss), ...)

We now turn to lexical case. As mentioned above, Poss presumably bears structural case. The other RP-requiring contexts seem to be more promising: Cross-linguistically, adpositions are known to determine the case of their complements (in languages with morphological case); this covers the CompP-context. As for coordinations, the &-head can potentially be a case assigner, see fn. 42. FSPs are not known to determine the case of their associated XP, but let us assume for the sake of the present discussion that it is possible for them to assign case if they are heads. However, we do not have any supporting evidence for the lexical case hypothesis for CompP, Conj, FSP-XP from morphological co-variation: These positions *always* surface in ACC in Igbo, regardless of the concrete lexical item that selects them. For example, it is not the case (unlike in languages with true lexical case in these positions) that different Ps assign different cases to their complements, and the same goes for & and FSPs. This may, however, be due to the very low number of these items in the language: There are only two Ps (*nà* and *màkà*), one nominal coordination (*nà*) and the number of FSPs is also small. But the fact remains that there is no supporting evidence from co-variation of case with the chosen lexical item. There may, at first sight, be some independent evidence from case invariance for a treatment of the positions in question as lexical case positions: In all previous examples in the main text of this paper, the constituent from which subextraction takes place is the direct object of the verb. It thus comes as no surprise that CompP, FSP-XP and Conj surface with ACC in these contexts – this could just be the structural accusative assigned by a transitive verb to its direct object. However, CompP, FSP-XP and Conj *always* surface with ACC, and POSS always with GEN, regardless of the grammatical function of the containing XP. This is illustrated in (92) for an FSP-XP and a &P in subject position (PPs cannot be subjects). This follows if the respective cases were assigned by a DP-internal head. Given bottom-up structure building, DP-internal case is assigned first and cannot be overwritten when the containing constituent is later merged as an argument of the verb.

(92) a. [DP sọ̀ọ́sọ̀ yá/*ó] rì-rì jí
only 3SG.ACC/3SG.NOM eat-rV yam
"Only she/he ate yam." *FSP-XP*

b. [&P gí/*í nà yá/*ó] hụ̀-rụ̀ Àdá
2SG.ACC/2SG.NOM and 3SG.ACC/3SG.NOM see-rV Ada
"You and s/he saw Ada." *Conj*

This could imply that we have structural as well as lexical ACC and GEN in Igbo, which are syncretic: structural ACC on DOs (e.g., in -*rV*-tense/aspect) and structural GEN on DOs (e.g.,

in the imperfective) leave gaps under extraction (see (i) for such an example with structural GEN on a DO), while their lexical counterparts require spell-out (resumption). However, as argued in section 7.2, there is reason to believe that ACC is the default morphological case in Igbo; NOM has a very limited distribution, it is an allomorph of ACC, and would not be expected to appear on CONJ and FSP-XP in (92) anyway, basically because these XPs are too deeply embedded in the subject DP to trigger NOM-allomorphy. Thus, the case invariance in (92) has a purely morphological source that has nothing to do with abstract (structural vs. oblique) case assignment. The morphological case invariance argument for lexical case in the RP-requiring positions thus loses its force. What remains is to apply syntactic tests that distinguish between structural and lexical case: lexical case on an XP persists if the XP undergoes A-movement, while structural case can change, e.g., in the passive. If GEN and ACC in the four RP-requiring contexts in Igbo were lexical cases, this case should be unaffected when the respective XPs are A-moved. However, this can only be tested with long A-movement because the use of an RP under local A-movement would give rise to a Principle B violation (which is presumably the reason for the fact that cross-linguistically, extraction-related resumption does not arise under A-movement, see Salzmann 2017). In fact, the only (local) construction involving A-movement in Igbo, viz., subject-object reversal, cannot be applied to subparts such as CompP, Poss, Conj, FSP-XP of the subject/object (regardless of the use of an RP or a gap); and there is no passive transformation in the language.[47] On the other hand, Igbo has a construction that could potentially involve long A-movement, viz., copy raising as in (93), where the subject of an embedded finite clause seems to move to (non-thematic) SpecT in the matrix clause.

(93) Copy raising in Igbo (Ura 1998: 68):

a. Ọ́ dị̀ m̀ kà Ézè hù-rù Àdá
EXPL seem me that Eze see-rV Ada
"It seems to me to that Eze saw Ada."

b. Ézè dị̀ m̀ kà ọ̀ hù-rù Àdá
Eze seem me that 3SG.NOM see-rV Ada
"Eze seems to me that he saw Ada."

However, applying the standard and Igbo-internal movement tests to this construction, we do not find evidence for movement of the embedded subject in (93-a) to the matrix position in (93-b): The dependency is not island-sensitive, and it does not exhibit the typical cyclicity effects of Igbo movement dependencies; for example, it is possible to have perfective morphology in the embedded clause, and there is no tonal reflex of movement in the embedded clause (which would surface as a downstep on the embedded verb in this context, since the subject itself would undergo movement).[48] To conclude the discussion of the oblique case approach, we can say that it certainly does not cover all four RP-requiring positions in Igbo, at least POSS does not receive oblique case; and for the other positions that may potentially be covered there is at least no supporting evidence for oblique case assignment in Igbo.

[47] Subject object reversal (see Amaechi 2018) is a construction in which any of the two arguments of subclass of transitive psych-verbs can move to SpecT (the other argument stays in the postverbal position) without a change in meaning (i.e., thematic roles). However, it is not possible to EPP-move a subpart of an XP (such as CompP or Conj). This is probably due to minimality: the containing XP is a closer goal to the EPP-feature on T, unlike in the Ā-movement cases we have considered in this paper, where only a subpart of XP is focused.

[48] Ura (1998) only presents evidence from idiom reconstruction for his claim that copy raising in Igbo involves movement. All the other tests in the paper only show that *Ézè* in (93-b) occupies an A-position, but they are not movement tests. The idiom reconstruction facts seem to contradict the results of the structural tests; but note that Ura only uses one idiom, that this idiom is semantically rather transparent, and that there is generally a lot of variation among speakers in the judgments on (im)possible idiom reconstruction. Other idioms and other reconstruction effects should be considered before we can draw conclusions about the reconstruction potential in the copy raising construction in Igbo.

We now turn to a a structure-based approach to obligatory resumption: Grohmann (2003) proposes that lower copies in a movement chain can (and, in fact, must) be pronounced in a reduced form, e.g., as a pronominal element, to remedy anti-local movement in the syntax. Anti-locality is a constraint that requires movement to span a minimum distance.[49] Whether a movement step is too local depends on the size of the locality domains; there are various definitions of such domains proposed in the literature (see e.g. Erlewine 2016 for a brief overview). What we want to derive in Igbo is that (a) Ā-movement of a subject and an (in)direct object leaves a gap, i.e., does not involve too local movement steps, and (b) that movement from the four contexts CompP, Conj, Poss, FSP-XP contains a too local movement step – this must be the very first step – to create an RP in the extraction site. Given the domain proposals in the literature, an approach that seems to make the right cut at least for most of these contexts is one that prohibits movement of the complement of a head H to the specifier of the same head, as e.g. proposed in Abels (2012); Erlewine (2016), coupled with phase theory. Assume, following Abels (2012) and many others, that vP, CP, PP and DP constitute phases. According to the Phase Impenetrability Condition (PIC, Chomsky 2000), any XP-movement out of a phase must proceed via its specifier. Extraction of CompP (including also Poss-extraction given that Poss is assumed to be the complement of a silent P, see Clark 1990, (31)) and potentially of FSP-XP (if FSP is a head that takes the associated XP as its complement, as we have assumed above) will thus involve a too local movement step of the complement of P/FSP to its edge, enforced by the PIC. If this can be repaired by resumption in the extraction site, as Grohmann suggests, we may have an explanation for the occurrence of RPs in the contexts CompP, Poss, and FSP-XP. Furthermore, the extraction of core arguments of the verb does not involve any too local movement steps and is thus correctly predicted not to require resumption: In the verbal domain the phase in vP; (agentive) subjects are base-merged in Specv and are thus already at the edge of the vP-phase, an additional PIC-induced movement step to Specv is thus not necessary. As for (in)direct objects, they are base-merged inside a phrase dominated by vP, viz., the VP (direct objects in CompV and potentially indirect objects in SpecV) or ApplP (for indirect objects); thus, PIC-driven movement of objects to Specv crosses an XP-boundary other than vP and hence does not constitute a too local movement step. The only problematic context for this approach to resumption is Conj. Since we have only considered coordinations of (pro)nominal constituents, the &P qualifies as a DP and thus as a phase. However, given the asymmetric structure of &P assumed in (32), the anti-locality approach would wrongly predict the occurrence of an RP when the second conjunct is extracted (because it is the complement of the &-head) and a gap for extraction of the first conjunct (since this conjunct is already at the edge of the phase). In fact, we find an RP when the first conjunct is extracted and extraction of the second conjunct seems to be degraded, regardless of the use of a gap or an RP, see fn. 16. Note that we also do not predict the attested pattern if we used a flat &P-structure: in this

[49] Grohmann's (2003) definition of Domain Exclusivity that has the effect of pronouncing lower copies in contexts of too local movement reads as follows:

(i) Condition on Domain Exclusivity (CDE, Grohmann 2003: 78):
For a given Prolific Domain ΠΔ an object O in the phrase marker must receive an exclusive interpretation at the interfaces, unless duplicity of O yields a drastic effect on the output of that ΠΔ.

He continues with the following explanation (ibid.): "A multiple occurrence of O is more than one *non-distinct* copy of O. In other words, if a multiple occurrence of O involves two *phonetically distinct* copies of O, the CDE is not violated."

structure, all conjuncts would be sisters to & (and should thus require an RP). Thus, while the approach seems promising for Igbo, RPs in Conj-position cannot be derived. More generally, Grohmann's (2003) view of anti-locality raises questions about the architecture of grammar given the T/Y-model: How can a syntactic violation (too local movement) be repaired by a decision made at PF (viz., whether to pronounce parts of a lower copy)? In other work on anti-locality (e.g., Abels 2012; Erlewine 2016) too local movement steps are just impossible in the syntax.[50]

An alternative structural approach to the gap/RP-choice is proposed by an anonymous reviewer: S/he suggests that gaps arise if extraction takes place from the complement of a finite verb, while RPs surface in all other extraction sites. Empirical evidence against this alternative comes from ditransitives: Extraction of the indirect object (IO, goal argument) leaves a gap, see (94). Crucially, IOs are generated in specifier positions (of V or of an applicative head). Evidence comes from Principle A: The goal (which linearly precedes the theme in Igbo ditransitives) can bind a reflexive in theme position, but not vice-versa, see (95). This means that the goal c-commands the theme; the goal must thus be in a specifier position. See Saah and Eze (1997) for further arguments for this conclusion.

(94) a. Ézè nyè-rè Àdá àkwá
Eze give-rV Ada egg
"Eze gave Ada an egg."

b. Àdá kà Ézé nyè-rè ___ / *yá àkwá
Ada FOC Eze give-rV 3SG.ACC egg
"Eze gave ADA an egg."

(95) a. Ézè gòsì-rì Àdá$_i$ [ònwé ¹yá]$_i$
Eze show-rV Ada REFL
"Eze showed Ada herself."

b. *Ézè gòsì-rì [ònwé ¹yá]$_i$ Àdá$_i$
Eze show-rV REFL Ada
Lit.: "Eze showed herself Ada."

Finally, we consider an approach based on pronunciation requirements for certain structural positions; the requirement is that such positions cannot be null but must be phonetically overt in some way, e.g., in the form of a pronoun (as the minimal from of a nominal). A prominent notion in this discussion is that of a "phonological EPP" (Landau 2007; Richards 2016; van Urk 2018), since it is usually specifier positions (SpecC, SpecT, Specv) for which such requirements have been claimed to hold. If we adopted this idea for Igbo, the notion of a "phonological EPP" would have to be generalized to selected positions, since apart from Conj (the first conjunct in an &P, located in Spec&P) complement positions are made overt by resumption (CompP, FSP-XP). For the complement cases, this requirement basically amounts to a ban on stranding P and FSP at PF in Igbo; similar bans on PF-stranding have been proposed for other languages, see, among others, Meinunger (2001) on German. The question is why these positions have to be phonetically overt. Common explanations for the overtness of Specv/T/P in the literature (the need for an affix/clitic host, filling of "V2-positions") do not apply to Igbo, also because the RP-requiring positions are different ones. In fact, there is an explanation that unifies all four RP-contexts in Igbo and is related to pronunciation: It has been independently proposed (for other languages) that the positions in question have to be occupied by a prosodically prominent element. Obviously, an element can only be prosodically prominent if it is overt, i.e., unpronounced lower copies in movement chains do not fulfill this requirement. Furthermore, prosodically weak elements are excluded in these positions. The first piece of evidence comes from languages with several pronoun series (weak vs. strong). In these, it is usually the strong form of the pronoun

[50]The locality domains proposed in Grohmann (2003) et seq. would not make the right cut for Igbo. In particular, all other things (i.e, phases), being equal, movement of subjects and (in)direct objects would involve too local movement steps inside the Θ-domain (= the vP) and should thus lead to an RP, contrary to fact.

that must be used in CompP (which comprises Poss in Igbo given the structure of the associative construction in (31)), FSP-XP, Conj, see, e.g., Cardinaletti and Starke (1996) on pronouns in Romance and Germanic. Moreover, regarding FSP-XPs, Beaver and Clark (2008) show for a number of Indo-European languages that Ā-movement of an FSP-XP (leaving a gap) that strands the corresponding FSP (e.g., an exclusive FSP, see the Igbo equivalent in (18)) bleeds conventional association with focus. Put differently, the FSP cannot associate with a trace/silent copy, or, the fronted FSP-XP does not reconstruct for association with focus. Beaver and Clark relate this to prosodic prominence: it has been claimed that the focus associate of a focus sensitive expression must be prosodically prominent, but gaps, being silent, do not fulfill this condition. Turning to Conj, more evidence for the claim that this position cannot be null comes from two observations: First, *pro*-drop languages do not seem to allow *pro*-drop of a pronominal conjunct, even when the syntactic and pragmatic conditions for *pro*-drop are met. Consider the Italian examples in (96). (96-a) shows that *pro*-drop in subject position is possible (when the referent of the pronoun is known from discourse). *pro*-drop is prohibited, however, when the pronoun is a conjunct of an &P in subject position, regardless of which conjunct is *pro* (Irene Amato, pc., see also Cardinaletti and Starke 1996):

(96) No subject *pro*-drop in Italian for Conj:‘

a. *pro* ha preparato la cena
has prepared the dinner
“S/he prepared dinner.”

b.*[$_{\&P}$ *pro* e Gianni] hanno preparato la cena
and Gianni have prepared the dinner
“S/he and Gianni prepared dinner.”

In a small survey with native speakers of various *pro*-drop languages we found that the same ban on *pro*-drop of conjuncts holds in Armenian, Greek, Spanish, Portuguese, Romanian, Bosnian-Serbo-Croatian, Polish, Czech, Hungarian, Kipsigis, and Mandarin. Second, there are a number of languages in which extraction of an element E from a certain position X can or must leave a gap, but as soon as E is a conjunct in a coordination occupying X, extraction of E requires an RP. For instance, DO-relativization in Swiss German leaves gaps and prohibits RPs; but when a conjunct is extracted from a DO-&P, an RP is mandatory (Salzmann 2017: 337,354). The same holds for Czech (Toman 1998), Slovene (Hladnik 2015), Irish (McCloskey 1990), Polish (Bondaruk 1995). That conjuncts cannot be null is presumably also related to their prosodic prominence: (Nominal) &Ps as well as the contained conjuncts have been analyzed as prosodic phrases; &Ps thus involve recursion of prosodic units (see Wagner (2010); Féry and Kentner (2013)). The &-head is thus an element that selects two (or more) prosodic phrases. If a conjunct is extracted and leaves a gap, this prosodic selection requirement of & is no longer met, since gaps remain unpronounced.[51]

To summarize, we have compared several approaches to obligatory, movement-derived resumption regarding their coverage of the RP-requiring contexts in Igbo. Apart from the prosodic

[51] On a more general level, this view suggests that the first part of the Coordinate Structure Constraint (CSC, Ross 1967) which prohibits extraction of conjuncts, is not a syntactic restriction but rather due to a PF-restriction on pronunciation. In fact, the second part of the CSC, viz., the prohibition of subextraction from a conjunct, does hold in Igbo (with gap or RP, see Georgi and Amaechi 2020 to appear for data). Igbo thus provides further support for the hypothesis that the two parts of the CSC have to be separated, see Grosu (1973); Postal (1993); Oda (2017); Bošković (to appear), and fns. 16 and 22 for further discussion of Conj-extraction. Furthermore, it has been argued that the second part of the CSC is semantic in nature, viz., the conjuncts must have the same semantic type, see, e.g., Munn (1993); Reich (2007). If we adopt this view and the idea that the first part of the CSC holds because of a prosodic requirement, the CSC is not a syntactic constraint anymore.

prominence approach, none of the accounts can cover all four contexts where RPs must occur under Ā-extraction in Igbo. Even if there is no counter-evidence for (some) positions, there is also no supporting empirical evidence for one of these accounts. We thus favor the final approach that postulates pronunciation requirements in the respective positions due to their prosodic strength, which gains some support from cross-linguistic considerations. A proof of this position would require an in-depth study of the prosody of Igbo, which is beyond the scope of this paper, but it strikes us to be the least problematic analysis. Otherwise, we would probably have to postulate a non-uniform explanation with several of the above accounts active in Igbo, each of which covers a different position.[52]

[52] An anonymous reviewer points out that the prosodic approach may not be so uniform after all since the reasons for the prosodic prominence can differ between the four RP-requiring positions. For example, their prosodic strength could be related to the need to indicate focus (for FSP-XP), to a parallelism requirement (for ConjP) or to the need to mark pitch accent at a domain edge. While this is true, the REC-constraint that triggers partial deletion (which in turn leads to resumption) could simply refer to positions associated with prosodic prominence without mentioning the reasons behind the prominence.