Quirks of subject (non-)extraction in Igbo

Abstract In this paper we present new data on a subject / non-subject extraction asymmetry in Igbo constituent questions. We provide evidence that the superficially morphological phenomenon reflects a deeper syntactic asymmetry: unlike wh-non-subjects, wh-subjects cannot undergo local Ā-movement to the left periphery (SpecFoc); rather, they have to stay in their canonical position SpecT. The same constraint also leads to the that-trace effect (absence of the complementizer) in the embedded clause of long subject wh-movement. We argue that what is responsible for the special status of wh-subjects is their high structural position. We provide an optimality-theoretic analysis of the asymmetry that is based on anti-locality: local subject Ā-movement is excluded because it is too short. Moreover, we address the nature of apparent wh-in-situ in Igbo.

Keywords: extraction asymmetries; wh-movement; wh-in-situ; anti-locality; *that*-trace effect

1   Introduction

Igbo (Benue-Kwa, Nigeria, Blench 1989) exhibits a subject (SU) / non-subject (non-SU) extraction asymmetry in constituent questions with a wh-constituent in the clause-initial position, illustrated in (1-b-d) for a transitive predicate and in (1-e) for a ditransitive predicate. (1-a) provides the baseline declarative sentence. In (1-c,d,e) we can see that the clause-initial question word representing a non-SU (direct object, adjunct, and indirect object, respectively) must be followed by the morpheme *kà*, glossed as a focus marker (to be motivated below). However, if the subject is questioned, the morpheme *kà* must be absent.[1]

(1)   Constituent questions, V_{trans}:

    a.   Òbí hụ̀rụ̀ Àdá n'-áhíá
         Obi saw Ada P-market
         "Òbí saw Àdá at the market."   *declarative*

    b.   Ònyé (*kà) hụ̀rụ̀ Àdá n'-áhíá
         who FOC saw Ada P-market
         "Who saw Àdá at the market?"   *SU question*

    c.   Ònyé *(**kà**) Òbí hụ̀rụ̀ n'-áhíá
         who FOC   Obi saw P-market
         "Who did Òbí see at the market?"   *DO question*

    d.   Èbéē *(**kà**) Òbí hụ̀rụ̀ Àdá
         where FOC   Obi saw Ada
         "Where did Òbí see Àdá?"   *ADJ question*

    e.   Ònyé *(**kà**) Òbí nyèrè ___ égō
         who FOC   Obi gave   money
         "Who did Òbí give money to?"   *IO question*

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[1]Unless indicated otherwise, the Igbo data in this paper are provided by AUTHOR, who is a native speaker of the language. We would like to thank Jeremiah Nwankwegu, Gerald Nweya, Basil Ovu, Chioma Eweama and Francis Umunnakwe for verification of the Igbo data. The following glosses and abbreviations are used throughout this paper: 1/2/3 = 1st/2nd/3rd person, ACC = accusative, AUX = auxiliary, COP = copula, DEM = demonstrative, FOC = focus marker, GEN = genitive, NOM = nominative, ORD = ordinal number, P = preposition, PROG = progressive, PST = past, SG = singular, WH = question particle, < > = trace/lower copy; foc- = focused, pg = parasitic gap, wh- = questioned; ADJ = adjunct, CNPC = complex noun phrase constraint, DO = direct object, IO = indirect object, RC = relative clause, SCO = strong cross-over, SU = subject; *(X) = X must be present for the sentence to be grammatical, (*X) = X must not be present for the sentence to be grammatical.

Hence, Igbo displays a SU vs. non-SU asymmetry. The same asymmetry is found in focus constructions (expressing new information or contrastive focus, see AUTHOR (to appear) for empirical evidence) with the focus XP in clause-initial position. Since the conditions on the presence or absence of the morpheme *kà* in sentences with a focused constituent are identical to those in constituent questions, we will only consider interrogative clauses in this paper. The basic facts, i.e. the (apparently) grammatical function-driven distribution of *kà* in constituent questions, have been outlined in the mostly descriptive literature on Igbo before, see Goldsmith (1981); Ikekeonwu (1987); Uwalaka (1991); Ogbulogo (1995); Mmaduagwu (2012); Nwankwegu (2015). However, there is no study on the source of the asymmetry. The present paper aims to fill this gap and thereby to contribute to our understanding of extraction asymmetries in general.

On the surface, the asymmetry in Igbo manifests itself as a morphological phenomenon, viz. the presence vs. absence of the morpheme *kà*. However, in this paper, we argue that this morphological asymmetry reflects a deeper syntactic asymmetry between SU and non-SU questions: While wh-non-SUs can undergo Ā-movement to a position in the left periphery (to be identified as SpecFoc), wh-SUs cannot move to this position and must stay in their canonical position SpecT. The morphological asymmetry arises because *kà* realizes the head (Foc^0) of the left peripheral projection only if an overt XP occupies its specifier. Since wh-SUs do not reach this position, *kà* is absent in SU-questions. The result is similar to the *that*-trace effect in that a head of the (extended) C-system must be absent under in SU-Ā-dependencies. Indeed, Igbo also exhibits the classic *that*-trace effect under long-distance SU-extraction. Furthermore, we provide evidence that the possibility for extraction of wh-SUs depends on the structural position of SUs and not on their features like case, θ-role etc. We develop an optimality-theoretic analysis that is based on the concept of Spec-to-Spec anti-locality (Erlewine 2016) and the variable size of clauses (the projection of the left-peripheral heads Foc and Force is subject to optimization, cf. Grimshaw 1997). In a nutshell, wh-SUs in SpecT do not undergo movement to the specifier of the immediately dominating projection because this movement step is too short and the constraint that militates against too short movement is high-ranked. In matrix SU-questions, this leads to the absence of the Foc-projection (which usually hosts wh-XPs) and consequently also to the absence of the focus marker. In long SU-questions, the anti-locality constraint leads to an absence of the Force-projection (that would usually provide an intermediate landing site for long wh-movement) and, as a result, to the absence of the embedding complementizer (that-trace effect). Wh-non-SU movement does not have any of these effects since movement of wh-non-SUs is not too short as they start from a lower structural position than SUs; FocP and ForceP can thus be projected as they do not interfere with anti-locality in non-SU questions. Apart from novel insights into the extraction asymmetry in Igbo, our study will also shed light on the nature of apparent wh-in-situ in the language, which behaves like overt syntactic movement in simple questions.

The paper is structured as follows. Section 2 provides some background on the language and the construction under discussion. In section 3 we conduct various tests to explore the syntactic structure of non-SU questions and the nature of the morpheme *kà*. In section 4 we investigate SU-questions and argue that wh–SUs do not undergo local Ā-movement; furthermore, we provide evidence for a structure-dependent approach to the SU/non-SU asymmetry and introduce the *that*-trace effect in Igbo. Section 5 explores the nature of wh-in-situ. These insights are incorporated into an anti-locality-based analysis in section 6. Section 7 concludes.

2 Background

Igbo is spoken in Southern Nigeria by about 30 million people (grammars: Green and Igwe 1963; Carrel 1970; Manfredi 1991; Mbah 2006; Emenanjo 2015). Igbo is a tone language with three distinctive tones: low ($\grave{a}$), high ($\acute{a}$) and a downstep ($\bar{a}$) that indicate lexical and grammatical distinctions ((Nwachukwu 1995)). The languages distinguishes between [+ATR] vowels (i,u.o,e) and [−ATR] vowels (ị, ụ, ọ, a); within a phonological word, ATR-harmony applies. Igbo has rich verbal morphology indicating tense and aspect as well as derivational operations (see (Uwalaka 1988) for an overview). There is, however, no verb–argument agreement in the language. Case distinctions (nominative-accusative alignment) can only be detected in the personal pronoun paradigm for 2nd and 3rd person singular, see (2).

(2)   Personal pronouns in Igbo:[2]

	1sg	2sg	3sg	1pl	2pl	3pl
Nom	$\acute{m}$	í / ị́	ó / ọ́	ànyị́	únụ̀	há
Acc		**gí**	**yá**			

The basic word order in an information-structurally neutral sentence is subject (SU) – verb (V) – indirect object (IO) – direct object (DO) – adjuncts (ADJ), see (3). This word order is strict, there is no scrambling-like operation within TP and adjuncts are confined to the clause-final position. The order can only be changed to express information-structural categories.

(3)   Òbí nyèrè Àdá égō   nà ḿgbèdè
       Obi gave Àdá money P evening
       "Òbí gave Àdá money in the evening."

Following the syntactic literature on Igbo, we assume the clause structure in (4) for a declarative sentence with a transitive predicate (leaving adjuncts aside); traces are represented in < >:

(4)   [$_{CP}$ C [$_{TP}$ DP$_{ext}$ [$_{T'}$ V+v+Asp+T [$_{AspP}$ <Asp> [$_{vP}$ <DP$_{ext}$> [$_{v'}$ <v> [$_{VP}$ <V> DP$_{int}$]]]]]]]

The verbal projections are head-initial with specifiers linearized to the left of the selecting predicate. The external argument DP$_{ext}$ obligatorily undergoes EPP-movement to SpecT. EPP-movement is motivated by the observation that the subject in Igbo precedes aspectual/temporal auxiliaries like *gà* in (5-b), and the fact that there are no subjectless clauses in the language; SpecT has to be occupied by an expletive if no XP moves there from within the vP. We assume that the structurally highest verb, i.e. an aspectual auxiliary or – in its absence – the main verb, cyclically moves to T because it precedes sentential negation, see (6).

(5)   The position of the subject:

    a.   Àdá hụ̀rụ̀ Òbí
       Ada saw Obi
       "Àdá sees Òbí."

    b.   Àdá gà-àhú Òbí
       Ada FUT-see Obi
       "Àdá will see Òbí."

(6)   Verb movement across Neg:[3]

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[2]Nouns display a case distinction between a base and a possessive form, but we do not address possession in this paper. In (2), the Nom-variants separated by a slash differ in the [±ATR]-value of their vowels. The 2sg and 3sg forms are clitics (Eze 1995; Anyanwu 2012) that form a phonological word with the verb and undergo stem-driven ATR-harmony, while the plural exponents in (2) are independent pronouns and do not participate in ATR-harmony. The Acc-forms of the 2sg and 3sg pronouns also serve as emphatic (focused) forms; in this usage, there are no morphological case distinctions, i.e. the accusative form is also used for focused subject pronouns.

[3]The function of the verbal prefix *a-* in (6) is not clear; Déchaine (1992) calls it tense agreement, Emenanjo (1978) a participle marker, but none of these proposals is without problems. It seems to us to be a linker-like element since it must be used when another affix (e.g. aspect, negation) is attached to the verb stem.

a. Àdá à-hú-ghī Òbí
Ada PFX-see-NEG Obi
"Àdá does not see Òbí."

b. Àdá á-gā-ghī àhú Òbí
Ada PFX-FUT-NEG see Obi
"Àdá will not see Òbí."

With this background on Igbo syntax, we now come back to the *kà*–marking SU / non-SU asymmetry. The asymmetry is found in constituent questions with simple wh-pronouns, as illustrated above, but also in sentences with D-linked wh-phrases introduced by the element *òléē* (though the appearance of *kà* there is subject to dialectal variation). Thus, *kà* can also follow non-SU wh-phrases:

(7) Òléē ónyé kà Àdá hừrừ n'-áhíá
which person FOC Ada saw P-market
"Which person did Àdá see at the market?"

kà-marking is only possible with clause-initial (ex-situ) wh-non-SUs. Wh-fronting in Igbo is optional, wh-XPs can also stay in-situ. But if they are in-situ, they cannot combine with *kà*:

(8) In-situ non-SU questions:

a. Òbí hừrừ Àdá n'-Àbá
Obi saw Ada P-Aba
"Òbí saw Àdá in Àbá." *declarative*

b. Òbí hừrừ ònyé (*kà) n'-Àbá
Obi saw who (FOC) P-Aba
"Who did Òbí see in Àbá?" *in-situ wh-DO*

c. Òbí hừrừ Àdá n'-èbéē (*kà)
Obi saw Ada P-where (FOC)
"Where did Òbí saw Àdá?" *in-situ wh-ADJ*

In what follows, we will illustrate the patterns with the help of sentences that include simple wh-SU and wh-DO pronouns. Furthermore, we will use only matrix questions because Igbo does not have embedded questions; syntactically, the content is expressed in relative clauses and we never find *kà*-marking in relative clauses in the first place.[4].

3 The syntax of wh/foc-constructions in Igbo

In this section we investigate the morphosyntactic properties of the wh-construction that exhibits the *kà*-marking asymmetry. We address the question whether these dependencies involve movement or base-generation and what kind of element the morpheme *kà* is.

3.1 Movement or base-generation?

Given Igbo's basic SVO order in declarative sentences, it is clear that clause-initial wh-non-SU elements occur outside of their canonical post-verbal position. For wh-SUs the issue is more difficult since the basic word order does not change in SU-questions; we postpone the discussion of the position of wh-SUs to section 4. The question that we will address here is whether ex-situ wh-constituents (wh-non-SUs and long-distance-displaced wh-SUs) undergo movement to their surface position or whether they are base-generated there. Evidence from

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[4]There is another way to form questions in Igbo: the *kèdú*-construction (Ikekeonwu; Ndimele; Nwankwegu; Ogbulogo 1987; 1991; 2015; 1995:). All of the wh-examples in this paper could also be posed with the help of this construction. In *kèdú*-questions, *ká*-marking is generally impossible. This and other differences are due to the fact that *kèdú*-questions are based on relative clauses (cf. Goldsmith 1981)

classic movement tests (island-sensitivity, reconstruction effects, strong cross-over) leads us to conclude that the dependencies involve movement (see Adger and Ramchand 2005; Torrence 2013 for an overview of movement tests). We start with island tests. As illustrated for adjunct and complex noun phrase (CNPC) islands in (9) and (10), the wh-dependencies in Igbo are island-sensitive (cf. Uwalaka 1991 on CNPC-islands in Igbo). Note that the examples are ungrammatical regardless of whether the wh-constituent is followed by *kà* or not in each case:

(9)　Ex-situ wh-elements, adjunct island:

   a.　Úchè pùrù túpú　Òbí àhụ́ Àdá n'-áhíá
      Uche left　before Obi saw Ada P-market
      "Úchè left before Òbí saw Àdá at the market."　　　　　　　　　*declarative*

   b.　*Ònyé kà　Úchè pùrù túpú　___ àhụ́ Àdá n'-áhíá
      who FOC Úchè left　before　　saw Àdá P-market?
      Lit.: "Who did Úchè leave before saw Ada at the market?"　　　*SU question*

   c.　*Ònyé kà　Úchè pùrù túpú　Òbí àhụ́ ___ n'-áhíá
      who FOC Úchè left　before Òbí saw　　P-market?
      Lit.: "Who did Úchè leave before Obi saw at the market?"　　*DO question*

(10)　Ex-situ wh-elements, CNPC-island:

   a.　Úchè mà　　nwókē Àdá hụ̀rụ̀ ___ n'-áhíá
      Uche knows man　Ada saw　　P-market
      "Úchè knows the man who Àdá saw at the market."　　　　　　　*DO-RC*

   b.　*Ònyé kà Úchè mà　　nwókē ___ hūrū n'-áhíá
      who foc Uche knows man　　　saw　　　　P-market
      "Who does Úchè know the man who saw at the market?"　*SU question from DO-RC*

   c.　Úchè mà　　nwókē àhụ́ hūrū Àdá n'-áhíá
      Uche know man　DEM saw　Àdá P-market
      "Úchè knows the man who saw Ada at the market."　　　　　　*SU-RC*

   d.　*Ònyé kà　Úchè mà　　nwókē àhụ́ hūrū ___ n'-áhíá
      who FOC Uche know man　DEM saw　　P-market
      Lit.: "Who does Úchè know the man who saw at the market?"　*DO qu. from SU-RC*

Crucially, long-distance SU- and non-SU questions are possible in Igbo, see (11) and (12) (we will discuss long SU-questions in more detail in section 4.2). Hence, the ungrammaticality of the island examples above cannot be attributed to the distance spanned by the dependency.

(11)　Long-distance questions:

   a.　Úchè chèrè　nà　Òbí hụ̀rụ̀ Àdá n'-áhíá
      Uche thinks that Obi saw　Ada P-market
      "Úchè thinks that Òbí saw Àdá at the market."　　　　　　　　*declarative*

   b.　Ònyé *(**kà**) Úchè chèrè　___ hūrū Àdá n'-áhíá
      who FOC　Uche thinks　　saw　Ada P-market
      "Who does Úchè think saw Àdá at the market?"　　　　　　　*long SU question*

   c.　Ònyé *(**kà**) Úchè chèrè　nà　Òbí hụ̀rụ̀ ___ n'-áhíá
      who FOC　Uche thinks that Obi saw　　P-market
      "Who does Úchè think that Òbí saw at the market?"　　　　　*long DO question*

Igbo exhibits reconstruction effects for Prinicple A, variable binding and scope. As for Principle A (12) shows an example in which the ex-situ wh-non-SU constituent contains the anaphoric

element [*ònwé* + pronoun] that can be bound by the subject of the clause.[5]

(12)   Ex-situ wh-non-SUs, Principle A:

[Òléē   fótó   [ònwé yā   ]$_i$] kà   Òbí$_i$ hụ̀rụ̀ ___

which picture SELF 3SG.ACC   FOC Obi saw

"Which picture of himself$_i$ did Òbí$_i$ see?"   *DO question*

(13) illustrates reconstruction effects for variable binding (note that the verb 'like' is expressed by an inherent complement verb construction that literally means 'see with the eye'):

(13) a.Òlée baby yā Úchè si nà   nwátà ọ̀bụ́là hụ̀rụ̀ n'ányá kárị́chá?

which toy 3SG Uche say that child every see P-eye exceed.all

"Which of his toys does Úchè say that every child likes best?"

b.Úchè si nà   Àdá hụ̀rụ̀ bọ́llụ̀ yá n'ányá kárị́chá,   Òbí hụ̀rụ̀ ńkítā yā n'ányá

Uche say that Ada see   ball   3sg P-eye exceed.all, Obi see   dog   3sg P-eye

kárị́chá,   mà Ézè hụ̀rụ̀ bússù yā n'ányá kárị́chá

exceed.all and Eze see cat   3sg P-eye exceed.all

"Úchè says that Àdá likes her ball best, Òbí likes his dog best, and Ézè likes his cat best."

(13-a) can receive a pair-list answer as in (13-b), meaning that the variable contained in the ex-situ wh-object is bound by the universal quantifier in subject position of the embedded clause, viz. the wh-element is reconstructed. An alternative analysis according to which variable binding is the result of QR of the universal quantifier above the wh-expression is ruled out because this would involve long-distance QR, but QR is (usually) clause-bound (see a.o. (May 1985; Farkas and Giannakidou 1996; Fox 2003; Szabolcsi 2010)). There is also reconstruction for scope, as illustrated by the availability of the reconstructed reading (in (14-b)) of the long-distance moved wh-word below the embedded universal quantifier subject in (14-a):[6]

(14) a.Gị́nị̀ kà í   chèrè nà   ónyé ọ̀bụ́là gà-éwètá nà m̀mèmé?

what FOC 2SG think that person every FUT-bring P party

"What do you think that everybody will bring to the party?"

b.ḿ chèrè nà   Àdá gà-éwètá òsíkápá, Òbí gà-éwètá ánū, mà Úchè gà-éwètá ḿmányá

I think that Ada FUT-bring rice,   Obi FUT-bring meat and Uche FUT-bring wine

"I think that Àdá will bring rice, Òbí will bring meat and Úchè will bring wine."

A final argument for wh-movement comes from the existence of strong cross-over (SCO) effects in Igbo: if a question word crosses a c-commanding coreferent noun, as illustrated in (15) for long wh-SU and wh-non-SU extraction, the bound reading of the pronoun is lost.[7]

(15)   Ex-situ wh-word, SCO:

a. Ó   chèrè nà   Òbí hụ̀rụ̀ Àdá

3SG.NOM think that Obi saw Ada

"He thinks that Obi saw Ada."   *declarative*

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[5]Reflexives in Igbo consist of the reflexive element *ònwé* 'self' followed by the accusative form of the personal pronoun that is coreferent with the antecedent.

[6]We thank an anonymous reviewer for pointing out to us the relevance of long-distance extraction examples for reconstruction tests to rule out the alternative QR-analysis.

[7]Igbo does not exhibit weak cross-over (WCO) effects (cf. Wasow 1979 on SCO vs. WCO). WCO is also absent in a number of other African languages, cf. Aboh (2004); Adesola (2006); Torrence (2013;?). Adesola (2006) notes that the absence of WCO co-occurs with the absence of superiority effects in Yoruba (the same holds for Wolof) and he proposes to attribute the lack of these effects to the same source, viz. the cleft nature of wh-dependencies which involve null operator movement. Indeed, questions in Yoruba and Wolof (Torrence 2013) have been argued to be clefts (but see Martinović 2017 for a different view on Wolof). However, this is not the case for the wh-constructions under discussion in Igbo; the wh-sentences do not pattern with clefts in the language.

b. Ònyé kà   ó   chèrè nà Òbí hùrù __
   who FOC 3SG.NOM think that Obi saw
   *for which x, x thinks that Obi saw x
   ✓for which x, y thinks that Obi saw x   *DO question*
c. Ònyé kà   ó   chèrè ___ hùrù Àdá
   who FOC 3SG.NOM think   saw Ada
   *for which x, x thinks that x saw Ada
   ✓for which x, y thinks that x saw Ada   *SU question*

We take the result of these test to show that a clause-initial ex-situ question word in Igbo has undergone movement from its vP-internal base-position.

3.2   The nature of the morpheme *kà* and the Igbo left periphery

In this subsection we investigate the nature of the morpheme *kà*. We argue that it is a focus marker that realizes a low left peripheral head (viz. Foc^0) in Rizzi's (1997) split CP system.

The fact that *kà* occurs in questions and focus constructions but not in other Ā-dependencies like topicalization suggests that we are dealing with a morpheme that is related to focus; wh-words are often assumed to be intrinsically focused (see a.o. Rochemont 1986; Horvath 1986; Tuller 1986; Sabel 2000; Haida 2007). Indeed, morphemes identified as focus markers co-occur with focused and questioned constituents in many West African languages, see Fiedler et al. (2010); Kalinowski (2015) for an overview. Furthermore, the morpheme *kà* is syncretic with the disjunction in Igbo; this form identity is not surprising since both usages express alternatives (see Mitrović and Sauerland 2014 on similar syncretism patterns in other languages). There is evidence that *kà* is a focus marker and not a focus sensitive particle (see (Hartmann and Zimmermann 2007) for tests): First, as shown in the previous examples, *kà*-marking with ex-situ wh-non-SUs is obligatory, not optional. Second, *kà* cannot associate with the focused constituent at a distance, see (16):

(16)   *Ònyé Obi (kà)   hùrù (kà)   ___ nà m̀gbèdè (kà) n'-áhíá   (kà)
        who Obi (FOC) saw (FOC)   P evening (FOC) P-market (FOC)
        "Who did Òbí see in the evening at the market?"

Next, we argue that *kà* does not realize an inherent focus feature [Foc] of wh-XPs but rather a low functional head in the left periphery (such as Rizzi's (1997) Foc-head) that hosts Ā-moved XPs: *kà* must not co-occur with in-situ wh-elements, see (8), even though they bear [Foc] as well. Hence, *kà* realizes a left-peripheral head whose specifier hosts a [Foc]-XP. This is supported by the fact that *kà* cannot occur if nothing is focused in clause-initial position, see (17):

(17)   *ká Òbí hùrù Àdá
        foc Obi saw Ada
        "Òbí saw Àdá."

Further support comes from the position of *kà* with respect to complex phrases of which only a subconstituent bears [Foc]. The conversation in (18) shows that even though in the corrective statement in (18-c) only *áhíá* 'market' is focused, *kà* must attach to the whole phrase containing this noun; it cannot immediately follow the [Foc]-bearing noun.[8]

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[8]The reason why the whole PP in (18-c) has to undergo movement is that – as in many languages – PPs in Igbo are islands for extraction, see (i). Hence, the whole PP needs to be pied-piped.

(i)   *Èbéē   kà Òbí hùrù Àdá [PP nà ___]
        where FOC Obi saw Ada   P
        Lit.: "Where did Òbí see Àdá at?"

(18)   Corrective focus inside a PP:

    a.   question: 'What happened?'

    b.   answer: 'Òbí saw Àdá at the old farm.'

    c.   correction: [N'-áhíá   (*ká) ochie] **kà**   Òbí hừrừ Àdá

                     P-market (FOC) old   FOC Obi saw Ada

                   "Òbí saw Àdá at the old MARKET." (and not at the old farm)

This is expected if *kà* realizes a left-peripheral head H and follows the XP moved to SpecH. We identify this head H as the Focus head, henceforth Foc^0, in Rizzi's (1997) split CP system:

(19)   Heads in the split CP (Rizzi 1997:288): … Force … (Topic) … (Focus) … Fin IP

Our reasons for equating H with the Foc^0 are the following: First, this reflects the fact that *kà* is related to the expression of focus; and second, *kà* must be located above SpecT and below TopicP since it precedes subjects but follows topics that co-occur with an ex-situ wh-XP, see (20).[9]

(20)   Ákwúkwō àhú, ònyé kà Òbí nyèrè ___ yā

       book   DEM who FOC Obi gave   3SG.ACC

       "As for the book, who did Òbí give it to?"   *DO topic + IO question*

We do not have evidence for a head between Foc^0 and TP, though, and will assume that Foc^0 directly merges with TP. Finally, note that FocP can host only one ex-situ wh-XP: In multiple questions (cf. Nwankwegu 2015: ch.4) it is impossible to front more than one wh-element, see (21-c) (which is ungrammatical regardless of the order of the ex-situ wh-words, the number of occurrences and the position of *ká*); all other wh-elements have to stay in-situ. There are no superiority restrictions in Igbo, any of the wh-XPs can in principle move to SpecFoc, see (21-a/b).[10]

(21)   Multiple questions in Igbo – wh-DO + wh-ADJ:

    a.   Ònyé kà   Òbí hừrừ n'-èbéē

          whom FOC Obi saw P-where

          "Who did Òbí see where?"

    b.   N'-èbéē kà   Òbí hừrừ ònyé

          P-where FOC Obi saw whom

          "Who did Òbí see where?"

    c.   *Ònyé kà   n'-èbéē kà Òbí hừrừ

          whom FOC where FOC Obi saw

          "Who did Òbí see where?"

To summarize, *kà* is a focus marker that realizes the lowest head, viz. Foc^0, in the extended

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[9]In Igbo, topics (unlike ex-situ wh-phrases) are base-generated in the left periphery since they are not sensitive to islands, see (i-a) (adjunct island), and a resumptive pronoun must occur at the bottom of a topic-dependency.

(i)   Àdá, Úchè pừrừ túpú Òbí àhú *(**yā**)   n'-áhíá

       Ada Uche left before Obi saw 3SG.ACC P-market

       "As for Àdá, Úchè left before Òbí saw her at the market."   *topicalization from ADJ-island*

[10]In Igbo, unlike in other languages, superiority also does not re-emerge under long-distance wh-movement, see (i) for illustration and Bošković (2002) on cross-linguistic variation in this area.

(i)   **Gínī**$_i$ kà **ònyé** chèrè nà   Òbí nyèrè Àdá ___$_i$

       what FOC who   think that Obi gave Ada

       "What does who think that Òbí gave to Àdá?"

left periphery if an overt XP occupies SpecFoc.[11]

3.3 Interim summary: the structure of wh-ex-situ clauses

Summarizing our results so far, the structure of a matrix non-SU question with an ex-situ wh-XP is illustrated in (22). The wh-element bears the feature [Foc] since it is inherently focused. It has undergone movement from its vP-internal base position to SpecFoc.

(22)   The syntax of ex-situ non-SU questions:
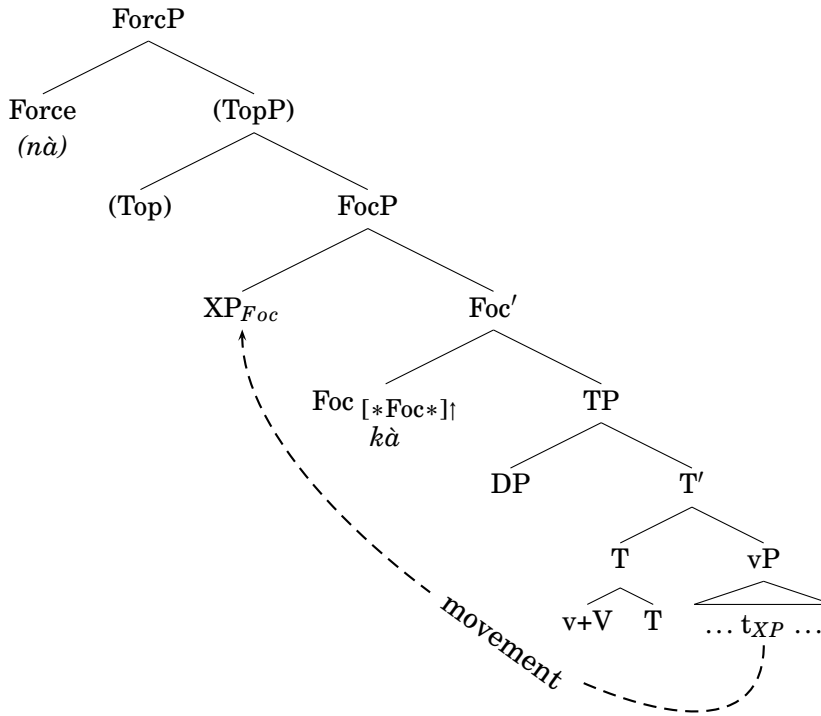
We model wh-movement in the Agree framework following Chomsky (2000; 2001); however we assume upward probing instead of downward probing for Igbo (see a.o. Koopman 2006; Baker 2008; Wurmbrand 2012; Zeijlstra 2012 on arguments for upward probing): The head Foc^0 bears a probe feature $[*Foc*]\uparrow$ that needs to be discharged; it is discharged if it is c-commanded by a goal XP with the matching feature [Foc] if this XP is included in the minimal phrase dominating the probing head. This means that we take upward Agree to have an upward bound, it can only involve Spec-head-Agree.[12] Upward probing by Foc^0 is indicated by the arrow $\uparrow$. A [Foc]-XP can in principle be moved to or base-generated in SpecFoc. The probe is deactivated upon the first successful Agree operation, hence, it cannot initiate multiple Agree operations. This implements the fact that only one wh-XP can move to SpecFoc in Igbo. The position

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[11]An anonymous reviewer asks whether interrogative clauses in Igbo are clefts. For reasons of space we cannot offer a detailed discussion of this issue here but see AUTHOR (in prep) for arguments against this view. Clefts have a number of different properties in Igbo than the clauses under consideration here.

[12]The restriction of upward Agree to Spec-head Agree can be understood as a consequence of strictly derivational bottom-up structure-building plus (a version of) the Strict Cycle Condition:

(i)   Strict Cycle Condition (see Georgi and Müller 2010: 13):
       Only the head of the present root can have features that trigger operations (viz. have [*F*]-features).

Thus, FocP can only be merged with a head (here: $Force^0$) if all operations Foc^0 can trigger have actually been triggered (though the triggered operations may not be successful; for example, Agree, i.e. seeking a goal, can be triggered, but the probe may fail to find a matching goal). When an operation applied (successfully or not), the corresponding operation-inducing feature is discharged; and given (i), all of these features need to be discharged before the projection of the head can be further embedded. Thus, the only position that an upward-looking probe on a head H can access is SpecH.

SpecTop is occupied by a base-generated topic-XP (if one is present) and $Force^0$ is realized as the complementizer *ná* in embedded declarative clauses. The head Foc^0 is realized as *kà* if a phonologically overt XP occupies its specifier, otherwise Foc^0 remains silent. The reference to overtness of the XP in SpecFoc is necessary because, as we will argue in section 5, an (apparent) in-situ XP also undergoes movement to SpecFoc in the syntax but is pronounced in its base position. Recall that wh-in-situ is incompatible with *kà*-marking, so having an unpronounced copy in SpecFoc is not sufficient for *kà* to surface.[13] Adopting a postsyntactic model of morphology with late insertion of exponents (e.g. Distributed Morphology, Halle and Marantz 1993; 1994), we can formalize the realization rules for Foc^0 as in (23):

(23)   Realization rule (vocabulary item) for Foc^0:

    a.   /kà/ $\leftrightarrow$ [Foc^0] / [$_{FocP}$ X [Foc' ___ ...]]   (where X $\neq$ Ø)

    b.   /Ø/ $\leftrightarrow$ [Foc^0]

The Elsewhere Principle regulates the choice of exponents: (23-a) is preferred (since it is the most specific exponent) if its context is met; otherwise, (23-b) will be inserted.

4   The position of wh-subjects

Now that we know how how non-SU questions are constructed, we can explore the structural position of wh-SUs. Due to Igbo's strict SVO word order, SU wh-movement to SpecFoc would be string-vacuous. We thus need to apply syntactic tests to explore whether wh-SUs actually undergo Ā-movement or not. The tests suggest that wh-SUs cannot undergo (local) Ā-movement to SpecFoc but have to stay in SpecT. Since Foc^0 can only be realized as *kà* if an overt XP occupies its specifier, this also explains the absence of the focus marker in SU-questions. Evidence for the claim comes from a tonal reflex of Ā-movement and from ATB-movement. Further evidence against a purely morphological account of the absence of *kà* in SU-question is provided in section 4.2 based on long-distance SU-movement and island repair by resumption. In subsection 4.3 we argue that the immobility of subjects is due to their high syntactic position and not to their features; we also highlight similarities between *kà*-marking and the *that*-trace effect.

4.1   Evidence against local SU-wh-movement

4.1.1   Reflexes of movement

A fact that we have not mentioned so far is that Igbo exhibits a tonal reflex of movement (Green and Igwe 1963; Goldsmith 1976; Tada 1995), a phenomenon that has been described for and used as a movement test in a number of other African languages (Clements et al. 1983; Tuller 1985; Green 1997; Zentz 2011; Korsah and Murphy 2017). The effect occurs in sentences with long SU-movement, see (24). (24-a) is the baseline with the verb in the embedded clause bearing low tones. In (24-b) where the wh-SU has left its base position in the embedded clause, the tones of the embedded verb become downstepped high(s) (indicated by a macron). As (24-c) illustrates for a wh-DO, this tone change must not occur with long-distance moved non-SUs.

(24)   Long questions:

    a.   Úchè chèrè nà   Òbí hụ̀rụ̀ / *hụ̄rụ̄ Àdá n'-áhíá
          Uche thinks that Obi saw   Ada P-market
          "Úchè thinks that Òbí saw   Àdá at the market."   *declarative*

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[13]A reviewer points out that our description of the Igbo facts (Foc^0 is overt only if SpecFoc is overt) is the reverse of the Doubly-Filled Comp Filter (DFCF, Chomsky and Lasnik 1977) and asks how they can be reconciled. We know that the DFCF is not universal and often holds only in standardized varieties of a language. We thus assume that languages differ in whether and in what form they put restrictions on co-occurrence of C-elements.

b. Ònyé kà Úchè chèrè ___ **hūrū** / *hùrù Àdá n'-áhíá
    who FOC Uche thinks   saw   Ada P-market
    "Who does Úchè think saw Àdá at the market?"   *long SU question*

c. Ònyé kà Úchè chèrè nà Òbí hùrù / *hūrū ___ n'-áhíá
    who FOC Uche thinks that Obi saw   P-market
    "Who does Úchè think that Òbí saw at the market?"   *long DO question*

Downstepping does not arise in Ā-dependencies that do not exhibit the hallmarks of movement like topicalization (see fn. 9). Hence, the tone change indeed tracks SU-movement.[14] Crucially for our purposes, in matrix SU-questions the tonal reflex must not occur, see (25).

(25)   Ònyé hùrù / *hūrū Àdá n'-áhíá
       who saw   Ada P-market
       "Who saw Àdá at the market?"   *SU question*

One could object that (25) only shows that the reflex tracks *long* Ā-movement, but not short movement; there are several cases of movement-induced morphological changes reported in the literature where the change is sensitive to the distance of the extraction (see e.g. Ouhalla 1993 on anti-agreement). However, this is not the case in Igbo: the tonal reflex can in principle occur in local subject Ā-dependencies, namely in SU-relative clauses (RCs), compare (26-a) with (26-b), a DO-RC. Note that Igbo neither has overt relative pronouns nor relative complementizers; we thus postulate an empty operator that moves to SpecForce (see section 6 for an analysis of SU-Ā-movement in relative clauses):

(26)   RCs in Igbo:
       a. Úchè ámà   ónyé OP **hūrū** /   *hùrù   Àdá n'-áhíá
           Uche knows person OP saw   Ada P-market
           "Úchè knows the person who saw Àdá at the market."   *SU-RC*
       b. Úchè ámà   ónyé OP Òbí hùrù / *hūrū ___ n'-áhíá
           Uche knows person OP Obi saw   P-market
           "Úchè knows the person who Òbí saw at the market."   *DO-RC*

The absence of the tonal reflex in SU-questions thus provides evidence that wh-SUs cannot undergo local Ā-movement and stay in SpecT. The morphological part of our analysis correctly predicts that Foc^0 remains silent in this context since no overt XP occupies SpecFoc, see (23).

4.1.2 ATB-movement

Further support for the impossibility of local wh-SU-movement to SpecFoc comes from asymmetric across-the-board movement, henceforth ATB-movement (see (Williams 1978; Gazdar 1981) for this test).[15] Igbo allows for classic symmetric ATB-wh-movement, where either the object or the subject of each conjunct is extracted, see (27) ('love' and 'hate' are inherent complement verbs in Igbo, viz. the verb is followed by a lexically fixed complement to express the relevant meaning: 'love' = 'see in the eye', 'hate' = roughly 'bear hatred'). Note that in the non-SU extraction case, the focus marker *kà* can only occur immediately after the fronted wh-element, but not at the edge of the second conjunct since we are conjoining TPs.

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[14]SU/non-SU or adjunct/argument splits in reflexes of movement are quite common, see Author (2014) for an overview of reflex patterns and asymmetries.

[15]We thank the editor Michael Y. Erlewine for suggesting the ATB-test to us, and David Pesetsky for drawing our attention to Anderson (1983).

(27) ATB-movement of wh-DOs and wh-SUs

    a.   Ònyé kà   [$_{\&P}$ [$_{TP}$ Úchè hùrù ___ n'ányá] mà [$_{TP}$ Àdá kpòrò ___ ásì   ]]
        who FOC   Uche see   P-eye and Ada bear   hatred
        "Who does Úchè love and Àdá hate?"   *DO-ATB*

    b.   Ònyé [$_{\&P}$ [hùrù Òbí n'ányá] maà [kpò Ézè ásì   ]]
        who   see Obi P-eye   and bear Eze hatred
        "Who loves Òbí and hates Ézè?"   *SU-ATB*

The wh-non-SU in (27-a) is ex-situ. As for (27-b), however, things are less clear. The shared wh-SU could be ex-situ (TP-coordination) or in-situ (T′-coordination). Now, if the wh-SU where ex-situ, it should be possible to create an ATB-example with mixed non-SU / SU-extraction, i.e. an example in which the non-SU of one conjunct and the SU of the other conjunct is questioned. In this case the conjuncts would be TPs and would have the same semantic type as both contain a gap. As (28) illustrates, this is impossible – regardless of whether the question word is followed by *kà* or not, and which conjunct contains the SU or the non-SU gap:

(28)   *Ònyé (kà) [$_{\&P}$ [Úchè hùù ___ n'ányá] mà [kpò Ézè ásì   ]]
        who FOC   Uche see   P-eye   and bear Eze hatred
        Intended: "Who does Uche like and hates Eze?"

The ungrammaticality of (28) can be explained if wh-SUs cannot undergo Ā-movement to Spec-Foc. What goes wrong in (28) is that the conjuncts do not have the same semantic type (cf. (Munn 1993; Fox 2000; Reich 2007) on the relevance of semantic type equality in coordination): both are TPs but one contains a gap (the first in (28)) while the other does not (since the wh-SU stays in SpecT). In English, asymmetric ATB as in (28) is also judged ungrammatical but it is disputed whether this shows that local SU-wh-movement is impossible. In fact, Anderson (1983) shows that asymmetric ATB-movement is possible in English after all in certain contexts. She concludes that the degradedness of many asymmetric ATB-structures in English is not due to the grammar proper (i.e. they are actually not ungrammatical) but rather results from the interaction of processing factors. In Igbo, however, even Anderson's asymmetric contexts that are acceptable in English are strongly degraded and do not differ in this respect from (28). This supports the conclusion that asymmetric structures in Igbo are indeed ruled out by the grammar, i.e by the fact that subjects cannot undergo local Ā-movement.

    The tonal reflex of movement and the asymmetric ATB-data suggest that wh-SUs cannot undergo Ā-movement to the minimal SpecFoc (in line with claims by Ndimele 1991, but contra Nwankwegu 2015). A number of other tests have been suggested in the literature to diagnose movement of wh-SUs in SVO languages (see a.o. George 1980; Chomsky 1986; Lasnik and Saito 1992; Agbayani 1997; Ishii 2004; Brillman and Hirsch 2015; Douglas 2017 on the Vacuous Movement Hypothesis for English). Unfortunately, most of these tests (echo interpretation, *the-hell*-questions, parasitic gap licensing, TP-adjoined elements, fragment answers/questions, topicalization, erection of wh-islands) cannot be applied to Igbo because the relevant contexts cannot be constructed or are uninformative for independent reasons.

4.2 Ex-situ subjects co-occur with *ká*

In this section we present indirect evidence for our claim that local wh-SUs do not combine with *ká* because they cannot move to SpecFoc. We do this by showing that as soon as wh-SUs are in the left periphery in certain specific contexts, they must co-occur with *ká* as well. Hence, the absence of the focus marker in matrix SU-questions cannot simply be due to inherent properties of wh-subjects that lead to *ká*-deletion. The contexts in which wh-SUs are ex-situ

involve long-distance movement and island repair by resumption. We start with long-distance SU-movement and repeat the relevant data from (11):

(29) Long-distance questions:
  a.   Ònyé *(**kà**) Úchè chèrè ___ hū̱rū̱ Àdá n'áhíá
   who   FOC   Uche thinks   saw   Ada P-market
   "Who does Úchè think saw Àdá at the market?"   *long SU question*
  b.   Ònyé *(**kà**) Úchè chèrè nà Òbí hù̱rù̱ ___ n'áhíá
   who   FOC   Uche thinks that Obi saw   P-market
   "Who does Úchè think that Òbí saw at the market?"   *long DO question*

Crucially, long-distance moved wh-SUs must be followed by *kà* in Igbo, just like local and long-distance moved wh-non-SUs, compare (29-a) and (29-b). Thus, long SU-movement patterns with non-SU-movement with respect to *kà*-marking. This is expected in our account: The word order in a long SU-question as in (29-b) clearly shows that the wh-SU is displaced, and since it precedes the matrix subject it must occupy a position in the left periphery, viz. matrix SpecFoc. As soon as SpecFoc is occupied by an overt XP, it is realized as *kà*, see (23).

  Another context in which (subparts of) wh-SUs occur ex-situ involves island repair by resumption. We have seen evidence in section 3.1 that wh-movement in Igbo is constrained by islands. Interestingly, some (but not all) islands in Igbo can be "repaired" by resumption, e.g. coordination and DP-islands. The examples in (30) show a coordinated direct object.[16] Each of the conjuncts can be replaced by a wh-word as long as they stay in-situ, see (30-a) where the 2nd conjunct is a wh-pronoun. Movement of a wh-conjunct to SpecC is impossible since coordinations are islands, see (30-b). Nevertheless, a conjunct can occur ex-situ if the position inside the &P in which it is interpreted is occupied by a resumptive pronoun (RP), see (30-c). Since we are dealing with a part of an ex-situ object, it must be followed by the focus marker.

(30) Coordinated object:
  a.   Ézè hù̱rù̱ [Àdá nà ònyé]
   Eze saw   Ada and who
   Lit.: "Ézè saw Àdá and who?"   *in-situ wh-conjunct 2*
  b.   *Ònyé kà   Ézè hù̱rù̱ [Àdá nà ___]
   who   FOC Eze saw   Ada and
   Lit.: "Who did Ézè see Àdá and?"   *ex-situ wh-conjunct 2*
  c.   Ònyé kà   Ézè hù̱rù̱ [Àdá nà yá   ]
   who   FOC Eze saw   Ada and 3SG.ACC
   Lit.: "Who did Ézè see Àdá and her/him?"   *ex-situ wh-conjunct 2 + RP*

Crucially, the same pattern is observed with a coordinated subject, see (31). An in situ wh-conjunct is fine, see (31-a), but extracting it from the &P subject is ungrammatical, regardless of whether *kà* is present or not, see (31-b). The ex-situ example becomes acceptable, however, if we add a resumptive inside the coordinated subject, see (31-c).[17]

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[16]That we are dealing with DP-coordination and not with vP/TP-coordination + ellipsis is supported by the observation that the coordination can occur as the sole argument of a collective predicate:

(i)   [Àdá nà Úchè] zùrù
   Ada and Uche met
   "Ada and Uche met each other."

[17]It does not matter which conjunct is replaced by a resumptive pronoun, the strategy is available for each con-

(31) Coordinated subject:

    a. [Ònyé nà Úchè] rìrì jí

       who and Uche ate yam

       Lit.: "Who and Úchè ate yam?"   *in-situ wh-conjunct 1*

    b. *Ònyé (kà) [___ nà Úchè] rìrì jí

       who FOC   and Uche ate yam

       Lit.: "Who and Úchè ate yam?"

    c. Ònyé *(kà) [yá   nà Úchè] rìrì jí

       who FOC 3SG.ACC and Uche ate yam

       Lit.: "Who s/he and Úchè ate yam?"   *ex-situ wh-conjunct 1 + RP*

We know that in (31-c) the wh-word is outside of the &P rather than moved to the left edge of &P: as shown in section 3.2, the focus marker *kà* attaches to the right of phrases in its specifier, but cannot go "inside" phrases; since a coordination phrase is an island that would have to move as a whole, *kà* could not attach to the wh-word inside the &P. Hence, the wh-word in (31-c) is in an ex-&P-position, viz. SpecFoc. And crucially, as predicted under our account, it must be followed by *kà* since an overt XP occupies SpecFoc. Since movement is island-sensitive, we assume that (30-c) and (31-c) involve base-generation of the wh-XP in SpecFoc; this wh-XP binds the RP that is merged inside the &P (a position selected by the conjunction). [18]

4.3 In favor of a structure-dependent approach to the asymmetry

The constraint on local subject Ā-movement in Igbo is not surprising in light of the fact that subject movement is restricted in many languages (e.g. in languages with the ban on ergative movement, the that-trace effect, anti-agreement, see Ouhalla 1993; Deal 2016; Pesetsky 2016). Two types of analyses have been proposed for extraction asymmetries: (i) structural and (ii) referential approaches. The latter attribute the special behavior of subjects to their (inherent) features like e.g. their case, category, etc. (see a.o. Cinque 1990; Falk 2006; Stiebels 2006; Deal 2016; Polinsky 2017); in the former, the restriction on subjects is due to their structural environment, i.e. their relation to other elements in the clause (see a.o. Aldridge 2004; Rizzi and Shlonsky 2004; Coon et al. 2015; McCloskey 1990; Assmann et al. 2015; Erlewine 2016). In this subsection we provide evidence that SU/non-SU extraction asymmetry in Igbo is structural in nature: What makes wh-SUs immobile is their high structural position SpecT.

    Arguments against the referential view of the Igbo extraction asymmetry come from long-distance SU wh-movement, see (11): The long-distance moved wh-SU bears the agent role and nominative case just like wh-SUs in our examples of matrix SU-questions. Hence, we cannot attribute the impossibility to move subjects to their thematic role or their case (nominative).

junct, and the &P-external wh-word must always be followed by *kà*. The resumptive in (30-d) must be accusative even though it is part of the nominative subject. Conjuncts in Igbo always bear accusative case, regardless of the grammatical function of the coordination. The accusative is probably assigned by the conjunction, a phenomenon also attested in other languages, see Zoerner (1995); Johannessen (1998).

[18]Ex-situ wh-SUs in local wh-dependencies are only possible in the aforementioned cases where &P- or DP-islands are repaired by resumption. Other (strong) islands such as CNPC or adjunct islands cannot be repaired in this way, so the split is not along the weak vs. strong island divide. A wh-SU that is not inside an island can also not optionally be "pushed" to a left-peripheral position by simply replacing SpecT with a resumptive pronoun, as e.g. in a simple SU-question:

(i)   *Ònyé kà ó   hùrù Àdá

      who FOC 3SG.NOM saw Ada

      Lit.: "Who s/he saw Àdá?" (intended: "Who saw Àdá?")

This makes it hard to maintain a purely morphological account of the asymmetry according to which wh-SU also undergo movement to the local SpecFoc, but *kà* is deleted after wh-SUs. Which features should the deletion rule be sensitive to if not case or thematic role, to distinguish SU from non-SUs? This leaves us with a structure-dependent approach to the Igbo extraction asymmetry. Supporting evidence comes from an inversion construction we will call *subject-object reversal*, see AUHTOR (to appear) for a detailed discussion. In this construction, available for some transitive experiencer verbs, the subject and the object can be reversed without a change in meaning (which is otherwise impossible), see (32-a) vs. (32-b):

(32)   Subject-object reversal in Igbo:

    a. Ụ́jọ̄ nà-àtụ́   gị̄
        fear PROG-grip 2SG.ACC
        "You are afraid." (Lit.: Fear is gripping you.)

    b. Ị́   nà-àtụ́   ụ́jọ̄
        2SG.NOM PROG-grip fear
        "You are afraid." (Lit.: You are gripped by fear.)

This reversal does not involve passivization in Igbo because there is no argument reduction. A number of facts suggest that the reversal arises because either of the two arguments of the verb can undergo EPP-movement to SpecT (note, for example, the change in case in (32): the preverbal element always bears nominative and the postverbal one accusative, regardless of their θ-roles). What is important for us is the behavior of the experiencer under wh-movement, see the examples in (33-a) and (33-b), which are based on (32-a) and (32-b), respectively:

(33)   Wh-experiencers in the reversal constructions:

    a. Ònyé ***(kà)** ụ́jọ̄ nà-àtụ́   ___
        who   FOC   fear PROG-grip
        "Who is afraid?" (Lit.: Who does the fear grip?)

    b. Ònyé **(*kà)** ___ nà-àtụ́   ụ́jọ̄
        who   PROG-grip fear
        "'Who is afraid?" (Lit.: Who is gripped by fear?)

In (33-b), where the experiencer starts out in the preverbal SpecT position, it behaves like any other subject considered so far in that it must not co-occur with *kà* when questioned; in (33-a) where the wh-experiencer starts out in the post-verbal position, it behaves like a non-SU in that it must be followed by *kà* when questioned. Thus, it is the structural position of the wh-XP prior to Ā-movement that is relevant for the SU/non-SU split: it is the XP in SpecT, the highest non-Ā-position, that cannot undergo Ā-movement to the local SpecFoc.

    The reader may have noticed that the *kà*-marking asymmetry is similar to another SU/ non-SU extraction asymmetry: the *that*-trace effect (see Pesetsky 2017). In languages with this effect, the complementizer must be absent when the SU is extracted; in English, this holds for the embedded complementizer (realising Force^0) under long SU-movement.[19] In Igbo, we see a similar effect, viz. the absence of a left-peripheral head (Foc^0) under local SU wh-movement. But in fact, Igbo also exhibits the classic *that*-trace effect under long-distance SU-movement: the embedding complementizer *nà*, which is otherwise obligatory, must be absent when the SU of the embedded clause undergoes long wh-movement, see (34):

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[19]If, following Koopman 1983, one considers T-to-C-movement realized by *do*-support in clauses with a main verb as a kind of *that*-trace effect, the that-trace effect also surfaces in clause bound Ā-dependencies in English: C is realized by *do* in non-SU matrix questions, while C must be silent must be absent in SU matrix questions. See Pesetsky and Torrego (2001) for a unified analysis of the *that*-trace effect and other SU/non-SU asymmetries.

(34) *That*-trace effect in Igbo (long-distance movement):

    a.   Úchè chèrè ***(nà)** Òbí hụ̀rụ̀ Àdá n'-áhíá
        Uche thinks that Obi saw Ada P-market
        "Úchè thinks that Òbí saw Àdá at the market."   *declarative*

    b.   Ònyé kà   Úchè chèrè **(*nà)** ___ hụ̄rụ̄ Àdá n'-áhíá
        who FOC Uche thinks (*that)   saw Ada P-market
        "Who does Úchè think saw Àdá at the market?"   *long wh-movement of SU*

    c.   Ònyé kà   Úchè chèrè ***(nà)** Òbí hụ̀rụ̀ ___ n'-áhíá
        who FOC Uche thinks that Obi saw   P-market
        "Who does Úchè think that Òbí saw at the market?"   *long wh-movement of DO*

Various repairs are available for the long SU-extraction context across varieties of Igbo: either C is deleted (see (34-b)), the special form *sí* replaces *nà* (reminiscent of the *que-qui*-alternation) or a resumptive pronoun is inserted in SpecT after the complementizer, see (35).

(35) Other repairs of the *that*-trace configuration in Igbo:

    a.   Ònyé kà   Úchè chèrè **sí**   ___ hụ̄rụ̄ Àdá n'-áhíá
        who FOC Uche thinks that.AGR   saw Ada P-market
        "Who does Uche think saw Ada at the market?'

    b.   Ònyé kà   Úchè chèrè **nà** **ò**   hụ̀rụ̀ Àdá n'-áhíá
        who FOC Uche thinks that 3SG.NOM saw Ada P-market
        "Who does Uche think s/he saw Ada at the market?"

Hence, we can say that Igbo exhibits a generalized *that*-trace effect: a left-peripheral head must be zero under short SU-movement (Foc^0) as well as under long SU-movement ($Force^0$).

5   On the nature of wh-in-situ

Before we present an analysis of the Igbo extraction asymmetry, we need to clarify the nature of wh-in-situ. As we have shown in section 2, non-SU wh-elements in Igbo can be in-situ or ex-situ. In this section we argue that wh-in-situ in simple questions is only apparent; real wh-in-situ only occurs in multiple questions. The status of wh-in-situ differs between languages (see Bayer and Cheng 2017 for an overview). Two basic types can be distinguished: In some languages, the in-situ wh-element does not undergo (overt) movement at all, while in others it seems moves in the syntax but the tail of the movement chain is pronounced. Igbo wh-in-situ seems to belong to the second type of languages. There are three reasons for this conclusion: wh-in-situ licenses parasitic gaps (*pg*s); wh-in-situ does not give rise to Beck intervention effects; and wh-in-situ is island-sensitive. (36) illustrates that wh-in-situ (with matrix question interpretation) can license *pg*s just like wh-ex-situ (see also Ogbulogo 1995: ch. 5.2. on *pg*s in Igbo); note that 'to price' is expressed by an inherent complement verb construction:

(36) *pg*-licensing in Igbo:

    a.   Gínī kà   Àdá kwèrè ọ́nū   túpú ọ̀   zúrú   ___
        what FOC Ada agree mouth before she bought *pg*

    b.   Àdá kwèrè *gínī* ọ́nū   túpú ọ̀   zúrú   ___
        Ada agree what mouth before she bought *pg*
        "What did Àdá price before buying?"

Since *pg*s can only be licensed by syntactic movement but not by LF-movement (Engdahl 1983),

the in-situ wh-word in (36-b) must have moved to SpecFoc (see also (Branan and Sulemana 2018) on *pg*-licensing by wh-in-situ in Bùlì). Next, consider intervention effects (cf. Beck 1996; 2006; Kotek 2017*b;a*): these effects arise when elements like e.g. negation intervene between the base position of the wh-element and its putative landing site in the left periphery at LF; movement across the intervener in the syntax obviates the intervention effect. As (37) shows, Igbo does not exhibit intervention effects when on the surface a wh-in-situ is in the c-command domain of negation (or a focus sensitive element like 'only'). Both the ex-situ and the in-situ question in (37) are grammatical, hence, the wh-element in (37-b) must have undergone syntactic movement across the intervener.

(37) a. Gínī̄ kà Àdá ágū̄-ghī̄
         what FOC Ada read-NEG
         "What did Àdá not read?"
      b. Àdá ágū̄-ghī̄   gínī̄
         Ada read-NEG what
         "What did Àdá not read?"

Finally, (38) illustrates the island-sensitivity of wh-in-situ: the non-SU in-situ wh-word cannot occur inside a relative clause or an adjunct island:

(38) a. *Àdá zùrù [nwááǹyì àhú zū̄rū̄   gínī̄]
         Ada met   woman   DEF bought what
         Lit.: "Àdá met the woman who bought what?"   *CNPC-island*
      b. *Àdá hùrù Òbí [túpú ọ̀   zúó   gínī̄ n'áhíá   ]
         Ada saw   Obi   before she bought what P-market
         Lit.: "Àdá saw Òbí before she bought what at the market?"   *adjunct island*

The reader may object that we have provided grammatical examples from NP-coordination islands and PP-islands in the previous sections in which wh-words did occur in-situ:

(39) Wh-in-situ inside a PP-island:
      a. Òbí hừrừ Àdá n'èbéē
         Obi saw Ada P-where
         "Where did Òbí see Àdá?"   *PP-island*
      b. Ézè hừrừ [Àdá nà ònyé]
         Eze saw   Ada and who
         Lit.: "Ézè saw Àdá and who?"   *&P-island*

How can this split between islands be explained? We propose the following: in those cases where wh-in-situ inside an island is grammatical (see (39)), the wh-element undergoes syntactic movement but pied-pipes the island it is contained in; then the lower copy of the moved phrase is pronounced. In the cases where wh-in-situ inside an island is ungrammatical (see (38)), pied-piping is impossible; and since the island blocks movement of the wh-element alone, ungrammaticality results. Independent evidence for this claim comes from the observation that overt pied-piping is possible with NP-coordination and PP-islands, but not with complex NP and adjunct islands, see (40-c-d) ((40-c-d) are grammatical under an echo question reading):

(40) Pied-piping of islands + content question interpretation:
      a. N'èbéē kà   Òbí hừrừ Àdá
         P-where FOC Obi saw Ada
         "Where did Òbí see Àdá?"   *PP-island*

b. [Àdá nà   ònyé] kà   Ézè hừrừ
    Ada and who   FOC Eze saw
    Lit.: "Àdá and who did Ézè see?"   *&P-island*

c. *[nwááṅyị̀ àhụ́ zừrụ̄   gị́nị̄   ] kà   Àdá zừrừ
    woman   DEF bought what   FOC Ada met
    "Àdá met the woman who bought what?"   *CNPC-island*

d. *[túpú   ọ̀   zúó   gị́nị̄ n'áhíá   ] kà   Àdá hừrừ Òbí
    before she bought what P-market   FOC Ada saw
    "Àdá saw Òbí before she bought what at the market?"   *adjunct island*

Since wh-in-situ inside an island that cannot be pied-piped is ungrammatical, we can conclude that one non-SU wh-element must undergo movement to SpecFoc in Igbo. It can, however, optionally be pronounced either in its landing site (leading to wh-ex-situ) or in its base position (in-situ), see Pesetsky 2000 for this kind of pronounciation rules for wh-XPs.[20] Hence, in simple questions with a single in-situ wh-non-SU ('Ada saw who?'), this wh-element has undergone syntactic movement to SpecFoc. Wh-SUs, on the other hand, do not have the option to move to SpecFoc. Hence, what looks like wh-in-situ in simple questions must syntactically be treated on a par with wh-ex-situ. In multiple questions, however, there must be real wh-in-situ elements: We know that Foc can host only a single specifier (see section 3.2), so all wh-elements but one indeed have to stay in their base position. We thus predict that a "real" in-situ wh-word in a multiple question should not be able to license a *pg*, for example. This prediction is borne out in (41) where we try to license one *pg* by the ex-situ wh-DO (in the sole SpecFoc position) and another one by the in-situ wh-IO, which is impossible:

(41)   *Gị́nị̄ kà   Àdá gòsìrì ònyé [túpừ   ọ̀   nyé pg_1 pg_2]?
       what FOC Ada show who   before she give
       Lit.: "What did Ada show whom before she gave?"

6   An anti-locality approach to the extraction asymmetry

The aim of this section is to provide a formal implementation of the morphosyntax of Igbo wh-movement. To summarize what we want to derive: In an interrogative sentence, exactly one wh-phrase has to move to the left periphery (SpecFoc); other wh-phrases, if present, need to stay in-situ. Since Igbo does not exhibit superiority effects, each of the wh-phrases in a multiple question can in principle undergo movement to SpecFoc. The wh-phrase that has moved to SpecFoc can be pronounced either in its landing site or in its base position. Wh-movement is possible for non-SUs, while local wh-movement of SUs is blocked. Morphologically, the head Foc^0 is realized as *kà* if a phonologically overt XP occupies SpecFoc, otherwise it remains silent. Furthermore, we need to account for two facts: (a) local Ā-movement of the SU is possible after all if it is an instance of relativization (movement of a relative operator), and (b) the absence of the embedded complementizer *nà* under long SU-movement (*that*-trace effect).

In what follows, we provide an analysis of these facts; however, we will not offer an explanation for the absence of superiority effects in Igbo (but see Bošković (2002) for relevant discussion) since this is orthogonal to the main questions. Our analysis is based on three core ingredients: (a) an anti-locality constraint on movement, (b) the violability of con-

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[20]In the Igbo equivalent of "Every boy read which book?" the in-situ wh-element can take wide scope. A reviewer suggests that this may constitute a further argument for the hypothesis that wh-in-situ involves syntactic movement in Igbo. However, this reading could also be the result of pure LF (post spell-out) movement of the wh-phrase, and is hence not necessarily indicative of pre-spell-out syntactic movement.

straints, and (c), the variable size of clauses (not all left-peripheral heads are always projected).[21] Anti-locality is a concept that has been used to derive a number of phenomena in which subject Ā-movement is restricted (see a.o. McCloskey 1990; Ouhalla 1993; Cheng 2006; Schneider-Zioga 2007; Bošković 2016; Brillman and Hirsch 2015; Erlewine 2016; 2017b; Douglas 2017; Sheehan et al. 2018; Deal to appear). The core idea of anti-locality is that there is not only an upper bound on movement, but also a lower bound: movement steps must not be too short, i.e. they need to cross a certain number of projections. We will adopt the definition of anti-locality from Erlewine (2016) in (42) according to which movement of an XP to the specifier of the immediately dominating projection is too short (for other definitions see Abels 2003; Grohmann 2003):

(42)   Spec-to-Spec Anti-Locality (SSAL) (Erlewine 2016:431): Ā-movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.

This constraint rules out local SU-wh-movement since SUs in Igbo occupy SpecT and would have to move to SpecFoc to check the probe $[*Foc*]\uparrow$ on Foc^0. However, since Foc^0 and TP are sisters (see (22)), this movement step qualifies as too short by (42) and is thus blocked.

Our second central assumption is that syntactic constraints are violable. In Igbo, neither SSAL nor a constraint we will introduce below, viz. the Focus Criterion, are fulfilled in every clause. SSAL is violated in relative clauses where local SU-movement of the relative operator is possible even though it is too short (see also Erlewine 2016 on the violability of SSAL); and the Focus Criterion, which demands [Foc]-XPs to occupy SpecFoc (Rizzi 2006) is violated in multiple questions in Igbo where only one of the wh-phrases can move to this position. Still, these sentences are grammatical, so constraints must be violable without immediately causing the crash of the derivation. A framework in which constraints are violable is optimality-theory (OT, Prince and Smolensky 1993), which we will adopt in what follows. In particular, we will assume a cyclic optimization procedure (see Heck and Müller 2000 et seq. on this concept in syntax) in which every clause is subject to optimization, from the most deeply embedded clause upwards. Technically, we assume that the numeration N that hosts all the elements that can be used in the derivation is structured into subnumerations SN, one subnumeration per clause. In a sentence with one level of embedding, the numeration would contain two subnumerations, one for the matrix clause and one for the embedded clause: $[_N \{ _{SN1} ... \}, \{ _{SN2} ... \}]$

The third ingredient of the analysis is the variable size of clauses. We adopt the idea from Grimshaw (1997) that functional heads, especially of the C-domain (Foc^0, $Force^0$), are not necessarily projected; whether they are present in the structure or not is subject to optimization. Diverging somewhat from Grimshaw, we assume that all the heads of the split-C domain are – in addition to the other material used in the clause – present in the subnumeration for that clause, and the evaluation component will tell us whether they are projected

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[21]A number of approaches to extraction asymmetries have been proposed in the post-ECP era to model the lack of (local) subject extraction, among them anti-locality (see the text for references), criterial freezing (Rizzi and Shlonsky 2004; Rizzi 2006), the OP-Spec approach (Grimshaw 1997), CT-feature bundling (Martinović 2015; Erlewine 2017a and references cited there) and locality+economy (Agbayani 1997; Ishii 2004; Pesetsky and Torrego 2001). We cannot do justice to all of these proposals here. Our account will in fact make use of some ingredients of several of these approaches, among them anti-locality (AL). It should be noted, however, that we cannot provide any positive evidence along the lines of Erlewine (2016) in support of AL (SU-extraction becomes possible under multiple Ā-fronting and with adverbs intervening between TP and the left periphery) since Igbo does not allow for these constructions in the first place. An approach that we think cannot be pursued for Igbo is a C-T-bundling/locality+economy approach because it wrongly predicts that no wh-non-SU can move to SpecFoc in a multiple question that also contains a wh-SU: the wh-SU in SpecT or the bundled SpecCT should be able to discharge the probe feature of Foc^0 that attracts a wh-XP; further instances of wh-movement to SpecC(T) should thus be precluded, contrary to fact.

or not. There is one restriction on the presence of heads in subnumerations in Igbo, though: recall that Igbo does not have embedded questions; thus, in general, the Foc-projection cannot be present in such clauses, there should not even be a Foc-head in the subnumeration. We can model this by saying that a [–root] Force-head in Igbo cannot select FocP, just TP; as a consequence, the generator cannot produce a candidate that includes FocP. Alternatively, we could postulate a negative coocurrence restriction between [–root] Force^0 and Foc^0 in the same subnumeration. We adopt the view advocated in Grimshaw (1997) that the input consists of predicate-argument-structures plus tense/aspect specifications, while higher functional heads (here: those that make up the split C-domain) can be added freely by the generator (apart from the Foc-head which must be absent from the subnumeration of an embedded clause, see the discussion above). To summarize, the candidates in our competitions will, among other things, differ in whether Force^0 and Foc^0 are projected. Thus, clauses can be bare TPs or ForcePs that either contain or do not contain FocP. In the OT-system we develop below, a matrix SU-question will not contain FocP, while a non-SU-question and multiple questions will include FocP. This will explain their diverging properties concerning wh-movement and focus marking in Igbo.

(43)   The structure of the left periphery in matrix wh-clauses:
    a.   of a simple SU-question: [$_{ForceP}$ Force [$_{TP}$ XP$_{Foc}$ [$_{T'}$ T [$_{AspP}$ Asp [$_{vP}$ t$_{XP}$ [$_{v'…}$]]]]]]
    b.   of a simple non-SU-question:
        [$_{ForceP}$ Force [$_{FocP}$ XP$_{Foc}$ [$_{Foc'}$ [$_{TP}$ DP [$_{T'}$ T [$_{AspP}$ Asp [$_{vP}$ t$_{DP}$ [$_{v'…}$ t$_{XP}$ …]]]]]]]]]

We assume that the candidates that can compete must be based on the same subnumeration, i.e. on an identical set of lexical and functional elements. However, there is no requirement that all the (functional) elements of the subnumeration must be used in the derivation since this is subject to optimization, some left-peripheral heads may remain "unused" in the subnumeration. The following constraint are required for the analysis, see (44); most of them are general constraints on movement from the OT- and the non-OT-literature.

(44)   OT-constraints:
    a.   SSAL (Erlewine 2016: 458): Assign one violation per Ā-movement step which is too short as defined in (42).
    b.   STAY (see Grimshaw 1997): Assign a violation mark for the creation of a movement copy.
    c.   FOCUS CRITERION (FOC-CRIT, see Rizzi and Shlonsky 2004; Rizzi 2006): Assign a violation mark if a [Foc]-bearing element in the structure does not occupy SpecFoc.
    d.   CLAUSE-TYPING (C-TYPE, see Cheng 1997): Clause-type must be projected.
    e.   FEATURE CHECKING (FCH): Assign a violation mark for every operation-inducing feature that remains undischarged in the output representation.
    f.   LAST RESORT (LR, see Chomsky 1995): Assign a violation mark for every syntactic operation that does not result in discharge of an operation-inducing feature.

FOC-CRIT requires every [Foc]-XP to be in the criterial focus position SpecFoc and thus movement of [Foc]-XPs; indirectly, it thereby favors the projection of FocP; C-TYPE requires the encoding of clause-type, and since this feature is hosted by Force^0, the projection of ForceP. The other constraints concern movement: STAY prohibits movement (antagonist of FOC-CRIT), LR prohibits movement that does not result in feature discharge and SSAL militates against too local movement steps as defined in (42). FCH is a constraints that enforces the discharge of operation-inducing features such as the probe feature [∗Foc∗]↑ on Foc^0, which needs to be c-commanded by a [Foc]-XP. The ranking in (45) produces the Igbo wh-movement pattern:

(45)   SSAL > C-TYPE > FCH, LR > FOC-CRIT > STAY

In short, the ranking favors the projection of ForceP and FocP in a sentence with a wh-XP as well as movement of wh-elements (which bear the feature [Foc]) to SpecFoc to minimize violation of FOC-CRIT. However, this movement is blocked if it involves a too local or untriggered movement steps. Let us see how the system works in the relevant contexts. We start with a simple matrix SU-question (the wh-XP is represented as $DP_{[Foc]}$ in what follows). The input contains material for the TP (with the subject in SpecT due to Igbo's EPP-property) as well as the heads $Foc_{[*Foc*]\uparrow}$ and Force. The question is whether these two heads are projected or not.[22] (46) illustrates the competition: C1 is the candidate that neither projects FocP nor ForceP and C2 projects only ForceP; C3 contains only FocP but does not move the wh-SU to SpecFoc; C4 is like C3 but projects ForceP in addition; in C5 (without ForceP) and C6 (with ForceP) the wh-SU does move to SpecFoc. "t" is a mnemonic device for lower copies in a movement chain; a discharged probe feature is indicated by a strike-through:

(46)   Competition for a simple matrix SU-question:

$Force, Foc_{[*Foc*]\uparrow}, [_{TP} DP_{[Foc]} [_{T'} T [_{AspP} Asp [_{vP} t_{DP_{[Foc]}} [_{v'} v [_{VP} V DP]]]]]]$	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
C1: $[_{TP} DP_{[Foc]} [_{T'} T ... [_{VP} V DP]]]$		*!			*	
☞ C2: $[_{ForceP} Force [_{TP} DP_{[Foc]} [_{T'} T ... [_{VP} V DP]]]]$					*	
C3: $[_{FocP} Foc_{[*Foc*]\uparrow} [_{TP} DP_{[Foc]} [_{T'} T ... [_{VP} V DP]]]]$		*!	*		*	
C4: $[_{ForceP} Force [_{FocP} Foc_{[*Foc*]\uparrow} [_{TP} DP_{[Foc]} [_{T'} T ... [_{VP} V DP]]]]]$				*!	*	
C5: $[_{FocP} DP_{[Foc]} [_{Foc'} Foc_{\overline{[*Foc*]}\uparrow} [_{TP} t'_{DP_{[Foc]}} [_{T'} T ... [_{VP} V DP]]]]]$	*!	*				*
C6: $[_{ForceP} Force [_{FocP} DP_{[Foc]} [_{Foc'} Foc_{\overline{[*Foc*]}\uparrow} [_{TP} t'_{DP_{[Foc]}} [_{T'} T ...]]]]]$	*!					*

All the candidates that do not project ForceP incur a violation of C-TYPE and are thus harmonically bound by the candidates that differ only in the presence of ForceP. Hence, we will ignore candidates that do not project ForceP in the following tableaux for matrix questions. If FocP is not projected, the wh-SU violates FOC-CRIT since it cannot be in SpecFoc in the output. To avoid a violation of FOC-CRIT, FocP must be projected. If it is projected but the wh-SU does not move to SpecFoc (C3, C4), the probe feature on Foc^0 cannot be checked, which leads to a violation of FCH. This is avoided if the wh-XP moves to SpecFoc (C5,C6) where it can discharge the probe feature on the Foc-head. However, in the case of a matrix wh-SU, movement of the wh-XP to SpecFoc is blocked because it is too local and thus fatally violates SSAL. As a consequence, the best option in this situation is to not project FocP at all and to leave the wh-SU in SpecT, even though this violates the low-ranked FOC-CRIT. Thus, local wh-movement to SpecFoc is excluded in this system, wh-SUs stay in SpecT – and this is exactly what we have argued for in this paper. Furthermore, since FocP is absent in C2, there is also no host (Foc^0) for the focus marker *kà*, which thus cannot surface (see the VIs in (23)).

Next we consider a simple matrix non-SU-question, exemplified by a wh-DO. The candidates are by and large the same as before (but we leave out those variants that do not project ForceP for the reasons outlined above): either FocP is not projected or, if it is, the wh-XP moves

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[22]Of course, the structure of the TP is also built in accordance with the proposed constraints within the same cycle (the clause, viz. ForceP) as the left-periphery of the clause; however, in order to keep the tableaux readable and the discussion as short as possible, we ignore the details of how the TP is built and simply put the finished TP-structure into the input. Various movements inside the TP also cause additional violation of STAY, but these are never fatal, so we leave them out in the tableaux and concentrate on what happens in the left-periphery.

to SpecFoc or stays in-situ, see (47):

(47)   Competition for a simple matrix DO-question:

Force, Foc$_{[*Foc*]\uparrow}$, [$_{TP}$ DP [$_{T'}$ T [$_{AspP}$ Asp [$_{vP}$ t$_{DP}$ [$_{v'}$ v [$_{VP}$ V DP$_{[Foc]}$]]]]]]	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
C1: [$_{ForceP}$ Force [$_{TP}$ DP [$_{T'}$ T ... [$_{VP}$ V DP$_{[Foc]}$]]]]					*!	
C2: [$_{ForceP}$ Force [$_{FocP}$ Foc$_{[*Foc*]\uparrow}$ [$_{TP}$ DP [$_{T'}$ T ... [$_{VP}$ V DP$_{[Foc]}$]]]]]			*!		*	
☞ C3: [$_{ForceP}$ Force [$_{FocP}$ DP$_{[Foc]}$ [$_{Foc'}$ Foc$_{\overline{[*Foc*]}\uparrow}$ [$_{TP}$ DP [$_{T'}$ T ... t$_{DP_{[Foc]}}$]]]]]						*

The optimal candidate projects both ForceP and FocP and moves the wh-DO to SpecFoc. The crucial difference to the competition with a wh-SU is that this movement step of the wh-DO, which avoids a violation of FOC-CRIT, is not too local as the wh-DO starts out from a lower position than SpecT. Since FocP is projected, Foc^0 can be realized by the focus marker *kà*. Given the VIs in (23), *kà* surfaces if the moved wh-XP is pronounced in its landing site SpecFoc (wh-ex-situ); if the lowest copy is pronounced (wh-in-situ), Foc^0 remains silent.

In multiple questions, represented here with a wh-SU and a wh-DO, projection of FocP (and ForceP) plus movement of the wh-non-SU to SpecFoc is optimal, see (48) (for reasons of space, Force is represented as 'F'). C1 does not project FocP and hence violates FOC-CRIT twice, once for each wh-pronoun. Projecting FocP without moving a wh-XP there (C2) additionally incurs a violation of FCH for the unchecked probe feature of Foc^0. To avoid violations of FOC-CRIT, the wh-XPs should move to SpecFoc. In C3 the wh-non-SU moves, while in C4 the wh-SU moves. This reduces the violations of FOC-CRIT by one in each case, the movement step discharges the probe feature on Foc (no violation of LR or FCH). However, movement of the wh-SU is too local and fatally violates SSAL, as in a simple SU-question. This also holds for C5 in which both wh-XPs undergo movement. Hence, the best candidate is the one that moves a non-SU-wh-XP to SpecFoc and leaves the other wh-XP (here: wh-SU) in-situ. In a multiple question without a wh-SU, any of the wh-non-SUs can move to SpecFoc due to the absence of superiority in Igbo; movement of more than one wh-non-SU to SpecFoc is still excluded even though none of the movements violates SSAL: what is fatal here is that all but the first instance of wh-movement violate LR since they do not lead to feature-discharge: the probe feature of Foc^0 is discharged by the first wh-XP moved to SpecFoc.

(48)   Competition for a multiple matrix question (wh-SU, wh-ADJ):

Force, Foc$_{[*Foc*]\uparrow}$, [$_{TP}$ DP1$_{[Foc]}$ [$_{T'}$ ... [$_{vP}$ t$_{DP1_{[Foc]}}$ [$_{v'}$ v [$_{VP}$ V DP2$_{[Foc]}$]]]]]]	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
C1: [$_{FP}$ F [$_{TP}$ DP1$_{[Foc]}$ [$_{T'}$ T ... DP2$_{[Foc]}$]]]					**	
C2: [$_{FP}$ F [$_{FocP}$ Foc$_{[*Foc*]\uparrow}$ [$_{TP}$ DP1$_{[Foc]}$ [$_{T'}$ T ... DP2$_{[Foc]}$]]]]			*!		**	
☞ C3: [$_{FP}$ F [$_{FocP}$ DP2$_{[Foc]}$ [$_{Foc'}$ Foc$_{\overline{[*Foc*]}}$ [$_{TP}$ DP1$_{[Foc]}$ [$_{T'}$ T ... t$_{DP2_{[Foc]}}$]]]]]					*	*
C4: [$_{FP}$ F [$_{FocP}$ DP1$_{[Foc]}$ [$_{Foc'}$ Foc$_{\overline{[*Foc*]}}$ [$_{TP}$ t$_{DP1_{[Foc]}}$ [$_{T'}$ T ... DP2$_{[Foc]}$]]]]]	*!				*	*
C5: [$_{FP}$ F [$_{FocP}$ DP2$_{[Foc]}$ [$_{Foc'}$ DP1$_{[Foc]}$ [$_{Foc'}$ Foc$_{\overline{[*Foc*]}}$ [$_{TP}$ t$_{DP1}$ ... t$_{DP2}$]]]]]	*!			*		**

Since FocP is projected in a multiple question, the Foc-head will be realized by *kà* if the non-SU-XP in SpecFoc is pronounced in this position, see the VIs in (23). Note that Force^0 which is always projected in matrix clauses (to fulfill C-TYPE) is not pronounced; it surfaces as *nà* only in embedded declarative clauses, but never in main clauses. We can model this by saying that

nà spells out declarative Force$_{[-root]}$.

So far we have implemented the fact that in local SU-questions wh-movement is impossible and the focus marker must be absent. However, recall that local SU-movement is possible after all in relative clauses as indicated by the tonal reflex of movement there, see (26-a). We also need to clarify why *kà* is absent in relative clauses in general in Igbo. Let us first consider the structure of relative clauses: Research on relativization in the split-CP system has come to the conclusion that relative operators (RelOPs, XP$_{[OP]}$) target SpecForce and not SpecFoc, relativization is not an instance of focus movement, see a.o. Rizzi (1997; 2006); Douglas (2017). In fact, we said at the beginning of the section that Foc is absent in embedded clauses in Igbo (Force$_{[--root]}$ does not cooccur with Foc^0 in the same subnumeration). Thus, the structure of a (SU) relative clause looks as in (49):

(49)   Left-periphery of a SU-relative clauses: [$_{\text{ForceP}}$ DP$_{[OP]}$ [$_{\text{Force}'}$ Force [$_{\text{TP}}$ t$_{DP_{[OP]}}$ [$_{\text{T}'}$ ...]]]]

If RelOPs target SpecForce, this movement must be triggered by a feature. To achieve this, we postulate that Force^0 in relative clauses bears a probe feature [∗OP∗]↑ that is discharged when it is c-commanded by a RelOP, i.e. by a XP with the feature [OP] in its specifier (akin to the probe-feature [∗Foc∗]↑) on Foc^0). RelOP-movement to SpecForce takes place in order to discharge this feature and avoid a violation of FCH. However, given the subranking SSAL > FCH, this would still preclude movement of a SU-RelOP from SpecT to SpecForce as too local given the structure in (49), causing a violation of (42). Hence, we need a further constraint that enforces RelOP-movement and outranks SSAL. In parallel to FOC-CRIT, we postulate a "RelOP Criterion" (REL-CRIT) that demands RelOPs to occupy SpecForce, see (50).

(50)   a.   Rel-Criterion (REL-CRIT):
              Assign a violation mark if a [OP]-bearing element does not occupy SpecForce.
        b.   extended ranking: RELOP > SSAL > C-TYPE > FCH ...

Given this ranking, the projection of ForceP and movement of RelOP to SpecForce is enforced (to allow for the satisfaction of the high-ranked constraint REL-CRIT) even if it is too local. Again, candidates that project FocP can never become optimal as they cause an additional violation of FCH for their unchecked probe feature (there is no [Foc]-XP anywhere in the clause); they are thus harmonically bound by those candidates that do not project FocP. And for this reason, the focus marker *kà* that realizes Foc^0 is absent from relative clauses in Igbo.[23] One may say that this analysis of SU-RelOP-movement is just a technical implementation of the facts (RelOP-movement is obligatory in Igbo). However, we would like to point out that cross-linguistic research on Ā-dependencies (Dryer 2013; de Vries 2005; Šimík 2018) has revealed that RelOP-movement (in wh-relatives) is obligatory, i.e. there do not seem to be clear cases of an (overt) RelOP in-situ, while wh-movement is not obligatory (in the sense that many languages use wh-in-situ as the main or at least as one strategy for forming constituent questions, and even in those with wh-movement, wh-in-situ is an option used in certain contexts, e.g. in multiple questions). Put differently, wh-movement does not seem to be necessary to derive a question interpretation (see Hagstrom 2003 for an overview of non-movement-based interpretation algorithms for questions) and probably happens for independent reasons (see Šimík 2018: 6 for a list). In contrast, RelOP-movement to the left periphery seems to be necessary for interpretation: relative clauses are properties derived by lambda-abstraction that is brought about by syntactic movement. Thus, one could also say that the RelOP-Criterion is not just a

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[23]By the same logic, the optimal candidate for a declarative clause that does not contain any [Foc]-XP will also not project FocP even though ithe Foc-head is present in the numeration; doing so would cause a fatal violation of FCH since the probe feature of this head cannot be discharged.

very high ranked violable constraint, but probably an inviolable constraint of the grammar. In any case, the behavior of Igbo RelOPs is not special at all from a cross-linguistic perspective.[24]

Up to this point, we have considered only matrix questions. We now turn to long-distance wh-movement. Recall that in the embedded clause the focus marker *kà* must be absent regardless of the grammatical function of the wh-XP in this clause; in the matrix clause the opposite holds: *kà* must be present, also regardless of the function of the wh-XP in the embedded clause (i.e. the SU/non-SU split is neutralized under long movement). In addition, the declarative complementizer *nà* that spells out the embedded Force-head must be absent if the embedded subject undergoes long-distance movement (= *that*-trace effect). Before we can look at the derivation of this pattern, we need to consider the structure of the clauses in a long wh-dependency as well as the nature of long movement. Let us start with the structural aspects. As mentioned at the beginning of this section, the Foc-projection is not part of the subnumeration for embedded clauses (Igbo does not have embedded questions, Force$_{[-root]}$ cannot select FocP). This explains why we never see a focus marker in the embedded clause: If the Foc-head cannot be present, it cannot have an exponent. What is optimized in the embedded clause is thus mainly whether ForceP is projected. In the matrix clause subnumeration both Foc^0 and Force^0 are present and can potentially be projected (subject to optimization).

The second issue we need to clarify concerns the nature of long wh-dependencies. A lot of evidence has been accumulated for the thesis that long-movement applies successive-cyclically in smaller steps (see a.o. van Urk 2015 for a recent overview). Technically, intermediate movement steps can be enforced by the Phase Impenetrability Condition (PIC, Chomsky 2000 et seq.) that requires material from the complement domain of a phase head to move to the edge (the specifier) of the phase to remain accessible for operations outside of the phase. CP is usually considered to be a phase, but what is the phase head in a split CP-system with a variable clause size? We follow suggestions in Bošković (2014) in assuming that the highest functional projection of the verbal domain is the phase. To enforce a wh-XP to be at the edge of the phase we adopt the OT-constraint PHASE BALANCE by Heck and Müller (2000; 2003):

(51) PHASE BALANCE (PB):
       For every head X in the numeration that projects a criterial position for feature [F], there must be an accessible feature [F] at the phase level.
       Accessibility: A feature [F] is accessible if (i) or (ii) holds:
       (i) [F] is on X or edgeX of the present root of the derivation.
       (ii) [F] is part of the workspace of the derivation.

In the context of our discussion of long wh-movement in Igbo, this constraint basically says the following: For every Foc-head with the probe feature [∗Foc∗]↑ in the numeration (viz. in any of the subnumerations), there must be a [Foc]-XP at the edge of the phase in the phrase marker built from the current subnumeration, in order to keep this [Foc]-XP accessible for the discharge of the probe feature on Foc^0 (which is contained in a different subnumeration).[25] This requirement holds unless there is another [Foc]-XP somewhere in the numeration, a case we will not consider here. Note that PB enforces movement steps that do not result in discharge of

a probe feature on the phase head; rather Heck and Müller take intermediate movement steps to be a repair operation that violates LR. PB is the highest ranked among our constraints, see (52) (we ignore REL-CRIT here since it is irrelevant for wh-movement):

(52)   Ranking (final version): PB > SSAL > C-TYPE > FCH > LR > FOC-CRIT > STAY

We can now go through the derivations. We start with the optimization of the first cycle, i.e. the embedded clause. In the input there is material that constitutes the TP as well as the Force-head, but no Foc-head; FOC-CRIT is thus necessarily violated by any of the candidates. The tableaux for a long SU-question is given in (53). C1 does not project ForceP. As a consequence, C-TYPE is violated, but crucially, PB is fulfilled: there is a Foc-head with a probe feature in the numeration (the subnumeration for the matrix CP) and hence, the sole available [Foc]-XP, viz. the wh-SU of the embedded clause, is required to occupy the edge (specifier) of the phase; the phase is the highest projection of the clause, here the TP. Since a SU is in SpecTP anyway (due to the EPP-property of Igbo), a wh-SU is also at the edge of the TP-phase without undergoing any additional movement steps. A way to avoid the violation of C-TYPE is to project ForceP, see C2 and C3. However, if this is done, the wh-SU must move to SpecForce in order to circumvent a violation of the highest ranked constraint PB, because now ForceP is the phase and the wh-SU needs to occupy SpecForce (this movement does not lead to discharge of a feature of Force^0 and hence violates LR). But crucially, movement of the wh-SU to SpecForce violates SSAL as it targets the specifier of the next higher projection. Since PB and SSAL outrank C-TYPE, the best option in the embedded clause of a long SU-question is not to project ForceP at all. In fact, in Grimshaw's (1997) OT-system (with a different set of constraints), the embedded clause in a long SU-dependency also turns out to be just a TP, it lacks higher functional structure that could host the complementizer. this is similar in spirit to Grimshaw's. Hence, this clause is just a TP. This also explains why the embedded complementizer nà must be absent in this context (*that*-trace effect): the head it realizes (Force^0) is not present in the winning candidate.

(53)   Competition for the embedded clause in a long SU-question:

Force, [TP DP[Foc] [T' T [AspP Asp [vP tDP[Foc] [v' v [VP V DP]]]]]]	PB	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
☞ C1: [TP DP[Foc] [T' T ... [VP V DP]]]			*			*	
C2: [ForceP DP[Foc] [Force' Force [TP tDP[Foc] [T' T ... [VP V DP]]]]		*!			*	*	*
C3: [ForceP Force [TP DP[Foc] [T' T ... [VP V DP]]]]	*!				*	*	

If a wh-non-SU, say the DO of the embedded clause, is to undergo long wh-movement, the best option is to project ForceP and to move the wh-DO to its specifier, see (54):

(54)   Competition for the embedded clause in a long non-SU-question:

Force, [TP DP [T' T [AspP Asp [vP tDP [v' v [VP V DP[Foc]]]]]]]	PB	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
C1: [TP DP [T' T ... [VP V DP[Foc]]]]	*!		*			*	
C2: [TP DP[Foc] [T' DP [T' T ... [VP V tDP[Foc]]]]]			*!		*	*	*
☞ C3: [ForceP DP[Foc] [Force' Force [TP DP [T' T ... [VP V tDP[Foc]]]]]					*	*	*
C4: [ForceP Force [TP DP [T' T ... [VP V DP[Foc]]]]]	*!					*	

The crucial difference to long wh-SU-movement is that the wh-non-SU is not automatically at the edge of the phase when ForceP is not projected, since it starts moving from within the vP. Thus, not projecting ForceP and not moving the wh-DO leads to a fatal violation of PB, see C1. The latter can be avoided by moving the wh-DO to an outer specifier of T, see C2; however, since ForceP is still missing, C-TYPE is violated. Both violations are avoided if ForceP is projected and the wh-non-SU moves to SpecForce, see C3. Since ForceP is projected and we are dealing with an embedded declarative clause, Force^0 is realized by *nà*, i.e. there is a complementizer in the embedded clauses in cases of long non-SU wh-movement.[26]

Finally, we turn to the derivation of the matrix clause, see (55) (for reasons of space, Force is again represented by 'F'). Recall that in the matrix clause subnumeration there is both a Foc- and Force-head. The competition is basically the same as for matrix non-SU-questions, see (47). FOC-CRIT requires movement of the wh-XP to SpecFoc and thus the projection of FocP in the matrix clause. This movement step can always take place; it is never too short since the wh-XP starts moving from the edge of the embedded clause (SpecForce or SpecT), but not from matrix SpecT (which is occupied by the matrix clause subject). Thus, no matter whether the wh-XP represents the SU or a non-SU of the embedded clause, it can move to SpecFoc and is forced to do so by the constraint ranking. The projection of ForceP is enforced by C-Type (candidates without ForceP are harmonically bound by the corresponding ones that include this projection); PB is irrelevant in the matrix clause (and hence left out) since there is no further Foc-head with a probe feature in the numeration.

(55)   Competition for the matrix clause in a long SU- or non-SU-question:

	SSAL	C-TYPE	FCH	LR	FOC-CRIT	STAY
Force, Foc$_{[*Foc*]\uparrow}$, [$_{TP}$ DP [$_{T'}$ T ... [$_{VP}$ V [$_{ForceP/TP}$ DP$_{[Foc]}$ [$_{Force'/T'}$ ...]]]]]]]]]						
C1: [$_{FP}$ F [$_{TP}$ DP [$_{T'}$ T ... [$_{VP}$ V [$_{FP/TP}$ DP$_{[Foc]}$ [$_{F'/T'}$ ...]]]]]]]]]]					*!	
C2: [$_{FP}$ F [$_{FocP}$ Foc$_{[*Foc*]\uparrow}$ [$_{TP}$ DP [$_{T'}$ T ... V [$_{FP/TP}$ DP$_{[Foc]}$ [$_{F'/T'}$ ...]]]]]]]]]]]			*!		*	
☞ C3: [$_{FP}$ F [$_{FocP}$ DP$_{[Foc]}$ [$_{Foc'}$ Foc$_{[*Foc*]\uparrow}$ [$_{TP}$ DP [$_{T'}$ T ... V [$_{FP/TP}$ t$_{DP_{[Foc]}}$ [$_{F'/T'}$ ...]]]]]]]]]]]						*

If the wh-XP in matrix SpecFoc is pronounced in its terminal landing site, the Foc-head will be realized as *ká* in accordance with (23). Thus, we have correctly derived the third generalization about long wh-movement in Igbo: there must always be a focus marker in the matrix clause, regardless of the grammatical function that the wh-XP had in the embedded clause.

One issue that has not been addressed so far is the source of the tonal reflex of movement in Igbo. Recall that this reflex is triggered in subject relative clauses and in the embedded clause of a long SU-question, but not in a matrix SU-question and in any kind of non-SU-Ā-dependency. What does the reflex realize? In the literature, reflexes of Ā-movement in the C/T-domain are usually taken to realize intermediate copies of a movement chain or a head of that has agreed with the operator that moves through its specifier. But in Igbo neither (Spec)Foc nor (Spec)Force can be relevant for the realization of the reflex since a SU-relative clause contains Force but not Foc, while the opposite holds for the embedded clause of a long SU-question; still, we see the reflex in both cases. What these contexts have in common is that there is a gap (viz. an unpronounced copy of the local subject) in SpecT because the SU of the clause has undergone movement (to SpecForce in relative clauses and to the matrix

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[26]In Igbo we can exclude the Foc-projection from embedded clauses because the language does not have embedded questions. For languages like English that do have embedded questions (and hence Foc in every subnumeration), but still exhibit the *that*-trace effect, we need a different explanation for the absence of FocP in the embedded clause of a long wh-dependency. In particular, we must exclude that the [Foc]-XP in moves to the embedded SpecFoc (a criterial position) if it is supposed to take matrix scope. One way of doing this is to mark scope on the elements in the numeration and to add a constraint that demands faithfulness to the scope indications in the input; see Legendre et al. (1995) for an OT-account of wh-movement that contains such devices.

clause in long SU-questions, respectively). Therefore, we propose that the tonal reflex spells out an (unpronounced) copy in SpecT; note that this also explains the presence of the reflex in the *that*-trace repair configuration with the special complementizer *sí* in (35-a). The tone is floating and attaches to the closest element to its right at PF, viz. the T-head that hosts the finite verb in Igbo. In other contexts such as matrix non-SU questions, multiple questions, non-SU relative clauses, the embedded clause of a long non-SU question, SpecT is occupied by the subject of the minimal clause (not by a silent copy), and hence, the tonal reflex is absent.

The very last context that we want to address in this section is the derivation of the co-ordination examples in (30-c) and (31-c), where one of the conjuncts is a resumptive pronoun (RP) that resumes a wh-element in clause-initial position, which must be followed by the focus marker. Crucially, using a RP is not the only way to express the intended content; the wh-element can also stay inside the &P, see (30-a) and (31-a). Optionality between a sentence with a gap and one with a RP in a single language has been taken as evidence that the candidates that represent these clauses do not compete (see Salzmann 2017). In fact, our definition of reference set at the beginning of this section makes their competition impossible because the sentences are not based on the same subnumeration (the same lexical and functional elements): (30-c) and (31-c) contain the RP, which is absent from the subnumeration that (30-a) and (31-a) are based on. How are the two types of examples derived? The derivation of the wh-in-situ examples (30-a) and (31-a) is straightforward: The input looks as in the previous tableaux: There is TP-material as well as Foc^0 and Force^0 in the numeration. C-TYPE enforces the projection of ForceP. The wh-XP needs to fulfill FOC-CRIT, hence FocP is projected, but movement of the wh-element to SpecFoc is blocked by the &P-island, which we take to be due to an inviolable constraint of the generator, viz. an island violating candidate cannot be generated in the first place. If the wh-element is contained in a non-SU-&P, the only way to fulfill FOC-CRIT is to pied-pipe the whole &P to SpecFoc (and to percolate the [Foc]-feature to &P), so that the probe feature on the Foc-head can be discharged (the competition thus basically corresponds to the one for wh-non-SU-movement in (47)); this presupposes that any constraint that may militates against pied-piping (see Heck 2008) must be lower ranked than FOC-CRIT in Igbo. The &P that contains the wh-element can then be pronounced in SpecFoc (in which case it must be followed by the focus marker, as predicted) or in-situ (and the focus head remains silent). If the wh-element is contained in a SU-&P, movement of the entire &P is blocked by SSAL, compare the tableau for local wh-SUs in (46). Thus, a SU-&P containing a wh-element as one of its conjuncts stays in SpecT; the best option is then to not project FocP in the first place.

The derivation for the cases that involve a RP, viz. (30-c) and (31-c), is very different. In this case, the numeration contains TP-material (including the RP), Foc^0, Force^0 as well as a wh-XP with the feature [Foc]. The TP is generated with the resumptive as one of the conjuncts inside &P. If FocP is projected, a wh-XP needs to be in its specifier to discharge the probe feature on Foc^0. There is no wh-XP inside the TP, but still one in the numeration. So this wh-XP is *externally* merged in SpecFoc and thereby satisfies FCH (it c-commands the probe feature on Foc^0). As usual, C-TYPE enforces the projection of ForceP. In addition, the wh-XP in SpecFoc semantically binds the RP inside the &P. Foc^0 is realized by *kà* because an overt XP (the externally merged wh-XP) occupies its specifier – and this holds independently of whether the pronoun that resumes this wh-element is contained inside a SU- or a non-SU-island, hence the absence of the SU/non-SU split in these examples. Since there is no wh-movement in this derivation, neither the &P-island nor any other constraints on movement such as SSAL are violated. In essence, base-generation of a wh-XP plus having a theta-marked RP inside the TP is another way in Igbo to circumvent violations of constraints on movement,

in particular island constraints and SSAL.[27] An interesting question is when a RP can be part of the numeration in the first place. As mentioned in fn. (i), the possibility of repair by resumption is highly restricted in Igbo. It is not always available, not even for all strong islands. More research on resumption in Igbo is needed to provide an answer; we leave this for future research.

7 Conclusion

We have investigated a subject/non-subject extraction asymmetry in wh-constructions in Igbo. While (ex-situ) wh-non-SUs need to be followed by the morpheme *kà*, wh-SUs must not co-occur with *kà*. Based on novel data we have argued that despite surface appearance, this asymmetry is not just a morphological phenomenon; the presence or absence of *kà* does not simply reflect any inherent properties of the wh-element in whose presence *kà* is deleted. Rather, the overt split reflects a deeper syntactic asymmetry: *kà* is a focus marker that realizes the left-peripheral head Foc^0 whenever an overt XP occupies its sole specifier. *kà* surfaces with ex-situ wh-non-SUs because they move to $SpecFoc^0$, while wh-SUs cannot undergo local Ā-movement to this position, they have to stay in the canonical SU-position SpecT. Based on the subject-object inversion construction, we have argued that it is the structurally highest XPs within the TP that is frozen for Ā-movement to the minimal SpecFoc. We attribute the SU / non-SU asymmetry to an anti-locality constraint on movement which prohibits too local movement steps. Local wh-SU-movement would qualifies as too local and is hence blocked; local wh-non-SU elements start from a lower position and do not violate this condition and hence, they can move freely. We use an OT-system to model the Igbo facts because anti-locality as well as the requirement to fill SpecFoc by a [Foc]-bearing XP are violable in Igbo. The analysis also captures local SU-relativization as well as the distribution of the focus marker in long-distance wh-dependencies and the that-trace effect that arises in these constructions. Furthermore, we have argued that wh-in-situ in simple questions in Igbo is only apparent: in every sentence with at least one [Foc]-bearing element, exactly one of them must move to SpecFoc; the optionality between wh-in-situ and wh-ex-situ is the result of optionality in the pronounciation of the bottom or the head of the wh-movement chain at PF.

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[27]Note that in the derivation of examples (30-c) and (31-c) resumption is not the necessary outcome. Based on the numeration with a RP and a wh-element, it is also possible to Merge the wh-element instead of the RP inside the conjunct; no constraint enforces to merge the RP first. In this scenario, the only converging derivation is again the pied-piping derivation for non-SU &Ps in which the RP remains in the numeration; viz. the output would be the same as in a case in which the subnumeration does not contain a RP in the fist place. There is another option in the scenario: the RP is merged inside the &P and a wh-element is part of the subnumeration; however, FocP is not projected and the wh-element is nt merged, i.e. it remains in the subnumeration. This candidate has the same constraint profile as the one that projects FocP and base-generates the wh-element in SpecFoc – none of them violates any constraints on movement nor FCH and FOC-CRIT, so both candidates are optimal. Thus, an additional grammatical output based on the resumptive numeration would be "Ada and s/he ate rice" (the &P could also represent a non-SU, of course). In this case, the RP will be bound by an antecedent in the discourse. Thus, a subnumeration with a RP and a wh-element can have different outputs. What is crucial is that one of these outputs corresponds to the resumptive cases with an ex-situ wh-XP followed by *kà* that are attested in Igbo.

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