

Presyntactic Bundling and How to Spot It

Jasper Jian – jjian@stanford.edu
SynRG @ Yale University
December 5, 2025

1 Introduction

- Within modern models of syntax, lexical items selected for a numeration determine syntactic derivations and the resulting structure (Chomsky, 2001; Borer, 2005; Boeckx, 2014). Particularly relevant are the syntactic features borne by lexical items.
- Across languages, there is much uniformity in the types of features found in various domains (Rizzi, 1997; Cinque, 1999; Aboh, 2004; Bobaljik, 2012, a.o.).
- The topic of today's discussion is the **relationship** between the syntactic features made available by the system and the **lexical items in a given language**.
- Two hypotheses about the distribution of syntactic features:
 - (1) **'One Feature – One Lexical Item':**
Lexical items may only bear a single syntactic feature.
 - (2) **Presyntactic Bundling:**
Lexical items may bear multiple syntactic feature.
- The first hypothesis originates primarily from studies within Syntactic Cartography (Cinque and Rizzi, 2009) and its extensions, e.g., Nanosyntax (Starke, 2009; Caha, 2009), but see also Sigurðsson (2004), Kayne (2005), and Hsu (2021), among others. It admits little variation between lexicons and the structures built from them.
- The second hypothesis finds increasing empirical support (Bobaljik and Thráinsson, 1998; Harley, 2017; Martinović, 2023; Erlewine, 2018; Bossi and Diercks, 2019; Jarvis, 2023; Šereikaitė, in press). The lexicons compatible with presyntactic bundling are a *strict superset* of the ones compatible with Hypothesis 1.
- Adjudicating between the two hypotheses, I'll discuss the syntactic signature of presyntactic bundling and show that Igbo interrogatives display such an effect, supporting Hypothesis 2. I explore the implications of presyntactic bundling for the construction of extended projections, ultimately broadening its empirical domain.

Plan:

§2 Diagnosing presyntactic bundling

§3 & §4 Igbo interrogatives evidence presyntactic bundling

§5 Presyntactic bundles within extended projections

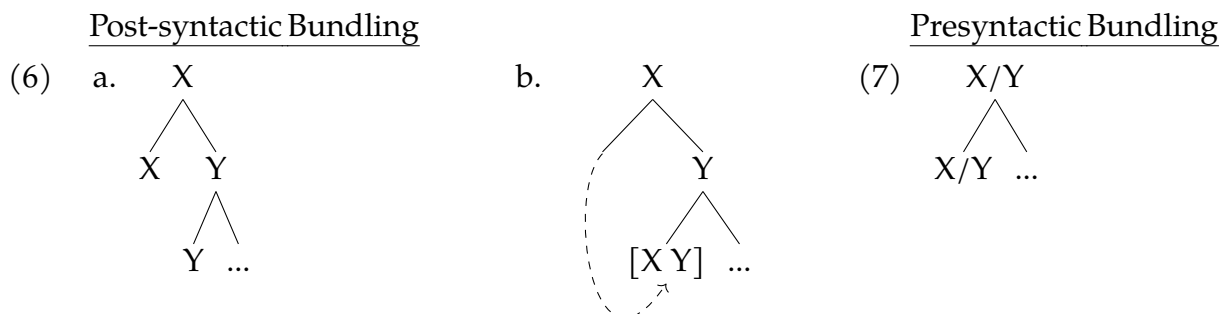
2 Pre- vs. post-syntactic bundling

- Single, non-decomposable morphemes commonly spell out more than one feature, *i.e.*, portmanteaux (4).

(3) *quick* : *quick-er*

(4) *bad* : *worse*

- Under the OFOLI hypothesis, these phenomena are always the result of (post-)syntactic operations operating over structures where features were Merged on distinct lexical items.
- (5) ‘Complex heads may arise in syntax, but they cannot be “atoms” of the syntactic computations, they can only arise through derivational procedures, namely head movement, which may create a complex conglomerate of features by moving featurally simple heads into other heads.’ (Cinque and Rizzi, 2009, p.74)
- Possible post-syntactic operations include:
 - Head-to-head movement & Fusion (Halle and Marantz, 1993)
 - Span-based (Svenonius, 2012) or phrasal (Starke, 2009; Caha, 2009) VI
 - Allomorphy (Deal, 2018)
- What properties differentiate unbundled structures (6a) which undergo, e.g., Fusion (6b), and structures where features are *presyntactic* bundled (7)?



- Surface facts are uninformative about whether we are dealing with pre- or post-syntactic bundling – we need *syntactic* properties to distinguish them.
- Assume that we have two syntactic features X and Y, **if X and Y are bundled on a single lexical item**, then some expected properties are:

- i **Hierarchy:** At any given stage in the derivation, anything that Y does not c-command, X does not c-command.
- ii **Projection:** X and Y are both present in the structure, but neither feature projects alone (there is no ‘XP’, nor ‘YP’, only ‘X/YP’).

- Post-syntactic bundling should *not* display the above effects.
- I argue for presyntactic bundling in Igbo on the basis of effects resulting from (i).
- See Šereikaitė (in press) on Lithuanian CENs for discussion of the effects of (ii).

3 Igbo interrogative constructions

- I will discuss the distribution of $[FOC_{EPP}]$ and $[Q]$ (roughly, Rizzi's (1997; 2001) $Foc(us)^0$ and $Int(errogative)^0$) within the Igbo left periphery.
- We will focus on the relative distribution of these two features with respect to the projection which hosts the subject, the projection bearing $[\phi_{EPP}]$.
- While $[FOC_{EPP}]$ surfaces in a projection above the one hosting the subject, $[Q]$ surfaces on same projection hosting the subject.

3.1 Morphosyntactic background

- Heads precede their complements and specifiers precede their sisters. (8) is a transitive clause. There is no morphological agreement, case marking, or *pro*-drop.¹

- (8) Àdá sì-rì jí.
Ada cook-rV yam
'Ada cooked yam.'

- Inflectional morphology is rich. Inflection is *suffixal* and includes aspect, negation, and valence changing morphology. The main verb stem surfaces at the left edge of the complex.

- (9) Àdá sì-kwà-à-rà Ézè jí.
Ada cook-ADD-APPL-rV Eze yam
'Ada also cooked yam for Eze.'

- Note about *-rV* which appears in this talk: it is required in the absence of other aspectual morphology within finite clauses with most predicates. It results in a default past reading with eventive predicates (8), and default present with statives, (10).

- (10) Àdá mà-rà m'í má.
Ada be.beautiful-rV beauty
'Ada is beautiful.'

¹All uncited data come from my own elicitation with native speakers of Igbo. Thank you to Amarachi Onuorah, Levi Eruala, and Ferdinand Ochor for sharing your language with me. Abbreviations beyond Leipzig conventions: ADD – additive; CONJ – conjunction; E/A – harmonizing verbal prefix; ovs – open vowel suffix; -rV – verbal suffix. Cited examples use original glosses where available.

- Following Déchaine (1993), Amaechi (2020), and Jian (2025), I take subjects in these clauses to occupy a vP -external position, attracted by $[\phi_{EPP}]$.

3.2 $[\text{FOC}_{EPP}]$ surfaces separate from $[\phi_{EPP}]$

- I follow proposals that the particle *kà* is a head in the left periphery (Goldsmith, 1981; Uwalaka, 1991; Amaechi, 2020, a.o.). I remotivate an analysis that *kà* is a head which bears a movement triggering A' -feature $[\text{FOC}_{EPP}]$.

3.2.1 *kà* is a head that takes a TP complement

- *kà* surfaces to the right of a fronted XP which leaves a gap in its base position:

- (11) a. Àdá zù-rù jí.
Ada buy-rV yam
'Ada bought yam.'
- b. Jí **kà** Àdá zù-rù ____.
yam FOC Ada buy-rV
'Ada bought YAM.'
- (12) a. Àdá zù-rù jí n'áhíá.
Ada buy-rV yam PREP-market
'Ada bought yam at the market.'
- b. N'áhíá **kà** Àdá zù-rù jí ____.
PREP-market FOC Ada buy-rV yam
'Ada bought yam AT THE MARKET.'
- (13) Ézè ch̀ [nà jí **kà** Àdá zù-rù ____].
Eze think DECL yam FOC Ada buy-rV
'Eze thinks that Ada bought YAM.'

- Other heads in the complementizer domain are also head-initial, e.g., the declarative subordinator *nà* in (13).
- *kà* surfaces between the fronted constituent and the subject, i.e., it is a head that takes a ϕP complement which has the subject in its specifier. The fronted XP in spec,FOCP.

3.2.2 *kà* triggers A' -movement

- *kà* need not be in the same clause as the gap, i.e., the dependency can hold across clausal boundaries, such as across the finite embedding complementizer *nà*:

- (14) a. Ch́ómá ch̀ [nà Àdá sì-rì jí].
Chioma think DECL Ada cook-rV yam
'Chioma thinks that Ada cooked yam.'
- b. Jí **kà** Ch́ómá ch̀ [nà Àdá sì-rì ____].
yam FOC Chioma think DECL Ada cook-rV
'Chioma thinks that Ada cooked YAM.'

- The dependency is sensitive to islands, e.g., adjuncts:

- (15) Àdá sì-rì jí [túpú Ézè à-gá-á úlò ákwúkwò].
Ada cook-rV yam before Eze E/A-go-ovs house book
'Ada cooked yam before Eze went to school.'

- (16) * $\dot{U}$ lò ákwúkwò **kà** Àdá sì-rì jí [túpú Ézè à-gá-á ____].
 house book FOC Ada cook-rV yam before Eze E/A-go-OVS
 Int.: ‘Ada cooked yam before Eze went to SCHOOL.’

- Parasitic gap licensing by *kà*-driven movement provides further support in favour of an A'-movement analysis (Amaechi and Georgi, 2020).

- (17) Gí'ní **kà** Àdá kwè-rè ____ ó'nú [túpú ò zú-rú ____]?
 what FOC Ada agree-rV mouth before 3SG buy-rV
 ‘What did Ada price before buying?’ (Amaechi and Georgi, 2020, (17))

3.2.3 Movement is associated with [FOC_{EPP}]

- Fronted XPs are focused (Amaechi and Georgi, 2022). (18) shows this with a corrective focus context.

- (18) a. Ada saw Chinenye at the party, right?
 b. Mbà, [Ézè nà Chíomá] **kà** Àdá hù-rù.
 No Eze CONJ Chioma FOC Ada see-rV
 ‘No, Ada saw EZE AND CHIOMA (not Chinenye).’

- (20) shows that this fronting targets exhaustively focused XPs – infelicity arises when there is an associated additive presupposition introduced by the morpheme *-kwà-*.

- (19) Àdá rì-kwà-rà jí. (20) #Jí **kà** Àdá rì-kwà-rà.
 Ada eat-ADD-rV yam yam FOC Ada eat-ADD-rV
 ‘Ada also ate yam.’ Int.: ‘Ada also ate YAM.’

- (21) shows that *kà*-fronting can also target *wh*-phrases.

- (21) Gí'ní **kà** Àdá zù-rù ____?
 what FOC Ada buy-rV
 ‘What did Ada buy?’

- Movement to the pre-*kà* position targets formally focused constituents, here, XPs, including *wh*-phrases, bearing a syntactic feature [FOC] (Horvath, 1986; Brody, 1990).

1. Based on its distribution and movement triggering properties, I propose the following lexical entry for *kà*:

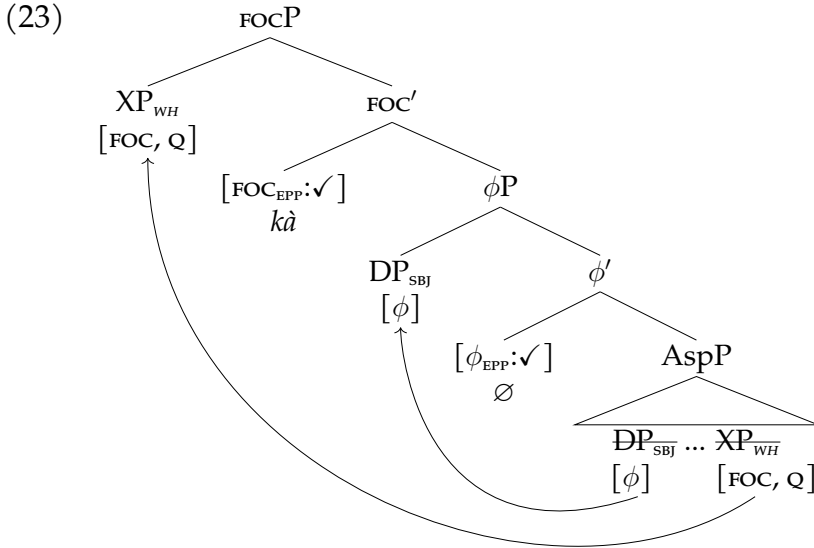
$$kà \leftrightarrow [\text{FOC}_{\text{EPP}}]$$

2. The subject appears in a projection lower than *kà*, which I take to be moved there by a null head which attracts the closest DP:

$$\emptyset \leftrightarrow [\phi_{\text{EPP}}]$$

- The structure underlying *kà*-fronting constructions is provided below. $[\phi_{\text{EPP}}]$ and $[\text{FOC}_{\text{EPP}}]$ surface on separate heads.

- (22) Gí'ní **kà** Àdá $\emptyset$ zù-rù ____?
 what FOC Ada ϕ buy-rV
 'What did Ada buy?'



3.3 [Q] surfaces together with [ϕ _{EPP}]

- I now discuss here the harmonizing particle $\emptyset/\emptyset$. I motivate an analysis of $\emptyset$ as a head responsible for interrogative licensing which surfaces within the projection hosting the subject.

3.3.1 $\emptyset$ is associated with interrogative licensing

- $\emptyset$ surfaces in both polar questions and *wh*-questions where the *wh*-phrase does not front to the left periphery (24)-(25). (25) is the *wh in-situ* counterpart of (21).

- (24) Àdá *($\emptyset$) zù-rù jí?
 Ada Q/ ϕ buy-rV yam
 'Did Ada buy yam?'
- (25) Àdá *($\emptyset$) zù-rù gí'ní?
 Ada Q/ ϕ buy-rV what
 'What did Ada buy?'

- Despite its seemingly low position, $\emptyset$'s is best viewed as a head which bears an A'-feature that licenses interrogatives without movement.
- Wh*-phrases left *in-situ* must be associated with $\emptyset$ to form true information-seeking *wh*-questions, repeated from above.

- (26) #Àdá zù-rù gí'ní?
 Ada buy-rV what
 Out: *'What did Ada buy?'
 OK: 'Ada bought WHAT?!'

- $\emptyset$ also surfaces in embedded polar interrogatives embedded using the particle *mà* 'whether'. Both *mà* and $\emptyset$ are required in these constructions, e.g., interrogatives embedded under the predicate *mà*, 'know'.

- (27) Ézè mà [*(mà) Àdá *(ò) gà-rà áhíá].
 Eze know whether Ada Q/φ go-rV market
'Eze knows whether Ada went to the market.'
#'Does Eze know that Ada went to the market?'

- ò does not surface in embedded *wh*-interrogatives (nor *kà*) (Goldsmith, 1981; Amaechi, 2020). This is a common phenomenon in related languages (e.g., Lecavelier and Zimmermann, 2024) which I do not take to arise from a syntactic restriction.

3.3.2 ò interrogatives do not involve covert movement

- Dependencies between ò and *wh*-phrases can hold across finite clausal boundaries. ò in the root clause results in embedded *wh*-phrases taking matrix scope (28). This has the locality profile of an A'-dependency.

- (28) Chíómá ò ché [nà Àdá gà-rà èbé'é]?
 Chioma Q/φ think DECL Ada go-rV where
'Where does Chioma think that Ada went?'

- *Wh*-phrases can be licensed within temporal adjunct clauses (30). *Wh ex-situ* with *kà* which involves A'-movement cannot occur (31).

- (29) Dòkí'tá gà à-hù 'Ádá [mà ó hù-chá Ézè].
 doctor FUT E/A-see Ada after 3SG see-COMPL Eze
'The doctor will see Ada after s/he sees Eze.'

- (30) Dòkí'tá ò gà à-hù 'Ádá [mà ó hù-chá 'ónyé]?
 doctor Q/φ FUT E/A-see Ada after 3SG see-COMPL who
'Who will the doctor see Ada after s/he sees __?'

- (31) *Ònyé *kà* dòkí'tá gà à-hù 'Ádá [mà ó hù-chá __]?
 who FOC doctor FUT E/A-see Ada after 3SG see-COMPL
 Int.: *'Who will the doctor see Ada after s/he sees __?'*

- Intervention effects due to negation are also consistent with these constructions not involving movement. *Wh in-situ* with ò is not permitted with negation (32). This effect disappears with *wh ex-situ* using *kà* (33).

- | | |
|---|--|
| <p>(32) *Àdá ò rí-'ghí gí'ní?
 Ada Q/φ eat-NEG what
 Int.: <i>'What did Ada not eat?'</i></p> | <p>(33) Gí'ní <i>kà</i> Àdá ná 'é-rí-ghí?
 what FOC Ada NA E/A-eat-NEG
 Int.: <i>'What did Ada not eat?'</i></p> |
|---|--|

- This is not due to ò being incompatible with negation, they cooccur in negative polar questions (34).

- (34) Ézè ò ghá-ghì Àdá?
 Eze Q/φ leave-NEG Ada
'Did Eze not leave Ada?'

- Following Beck (2006) and Kotek (2019, ch.6), I take these intervention effects to indicate that *wh*-phrases are within the scope of negation at LF.
- Lack of island-sensitivity and presence of intervention effects together show that *wh*-phrases licensed by $\bar{o}$ are indeed left *in-situ* (pace Amaechi and Georgi, 2020).

3.3.3 The canonical subject position immediately precedes $\bar{o}$

- The nominal which immediately precedes $\bar{o}$ is always the subject and indeed the subject *must* move there. The pre- $\bar{o}$ position likewise is not associated with the semantic/pragmatic effects of left dislocation or topicalization.
- (35) and (36) respectively show that this position can host bare quantifiers and generically-interpreted bare nouns, unexpected if they are left dislocated (e.g., Alexiadou and Anagnostopoulou, 1998; Schneider-Zioga, 2007).

(35) Mmádù $\bar{o}$ sì-rì òsìkápá?

someone Q/ ϕ cook-rV rice

'Did someone cook rice?'

(36) Ûmụnwá'ányì $\bar{o}$ nà à-gá ùlò ákwúkwó?

women Q/ ϕ IPFV E/A-go house book

'Do women go to school?'

- Furthermore, topicalization leaves an obligatory ϕ -matching resumptive pronoun (Georgi and Amaechi, 2023). The 3PL pronoun *há* does not appear in (36), which we would expect if topicalization did occur.²
- The subject *can* topicalize, leaving a matching resumptive which surfaces to the left of the $\bar{o}$ particle (37). Bare quantifiers are unacceptable in this position (38).

(37) Ûmụnwá'ányì áhù || há $\bar{o}$ gà-rà áhíá?

women DEM.DIST 3PL Q/ ϕ go-rV market

'Those women, did they go to the market?'

(38) ??Ndí m̀mádù || há $\bar{o}$ chòtà-rà m?

PL someone 3PL Q/ ϕ find-rV 1SG

Int.: 'Did someone (pl.) look for me?'

- This is expected if the pre- $\bar{o}$ position is not the topic position, but can be the bottom of the A'-chain with a higher topic.
- The topic in these clauses need not be the subject (Nwachukwu, 1995, p. 34). Clauses in Igbo permit a single topicalized XP to surface in the left periphery in the position immediately below the embedding complementizers (Amaechi, 2020, p. 66).

²Other A'-dependencies, like *kà*-fronting, do leave ϕ -mismatched resumptives. However, movement-derived resumptive pronouns also match in *number* in this variety – the same argument holds.

3.3.4 δ 's features

- We can capture the fact that *wh*-phrases left *in-situ* must occur in structures with δ , by modeling this as an A'-dependency between an A'-feature $[Q]$ and the *wh*-phrase (Bošković, 2007). $[Q]$ Agrees with but does not attract the *wh*-phrase, cf. $[FOC_{EPP}]$.
- δ follows the subject in the surface structure, which I take to arrive in its surface position by virtue of being attracted by $[\phi_{EPP}]$, as in all clauses.
- Despite surface patterns, there are still two viable hypotheses of how $[\phi_{EPP}]$ and $[Q]$ are introduced into structures:

Structure 1: A and A'-features are introduced on separate heads. The surface order is due to postsyntactic *Lowering* (Embick and Noyer, 2001).

$$\delta \leftrightarrow [Q]$$

$$\emptyset \leftrightarrow [\phi_{EPP}]$$

Structure 2: A and A'-features are introduced bundled on a single head.

$$\delta \leftrightarrow [\phi_{EPP}, Q]$$

- Structure 1 is consistent with the OFOLI hypothesis, while Structure 2 is not.

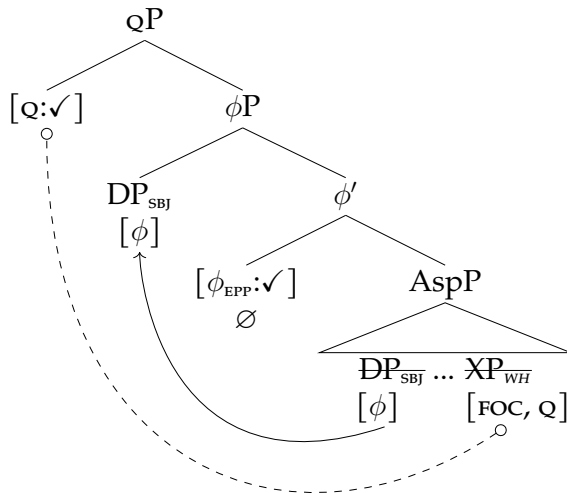
3.4 Syntactic distribution of $[Q]$

- Let us make precise the structures we must adjudicate between to assess the validity of the OFOLI hypothesis.
- An example of a *wh in-situ* construction with δ is repeated in (39).

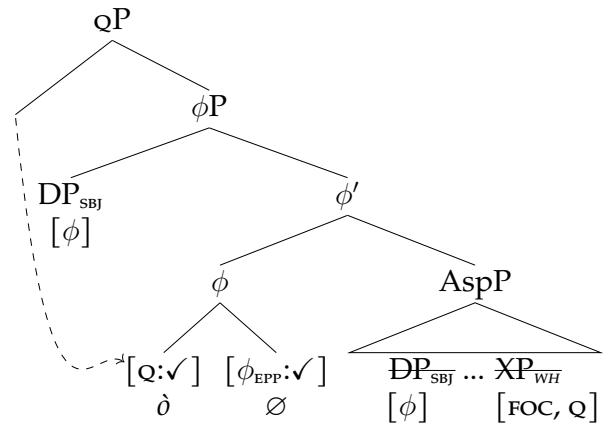
(39) Àdá δ zù-rù gí'ní?
 Ada Q/ϕ buy-rV what
 'What did Ada buy?'

Structure 1: $[Q]$ and $[\phi_{EPP}]$ are introduced on separate lexical items but surface together due to *Lowering* (Embick and Noyer, 2001).

(40) Input to PF + LF branches

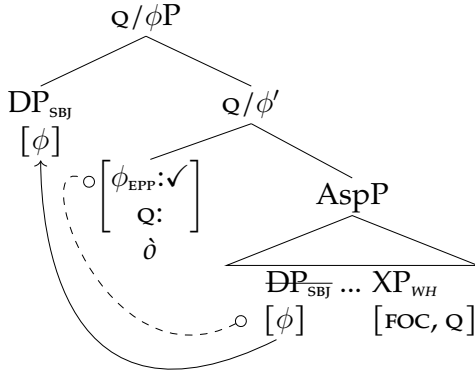


(41) Postsyntactic Lowering at PF

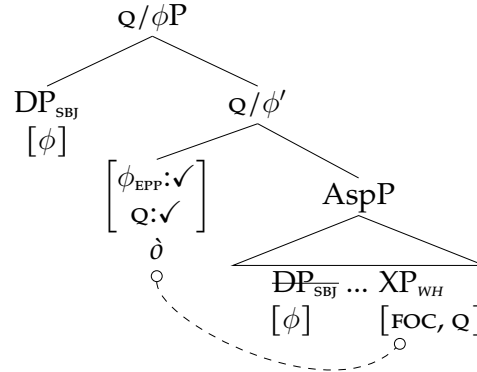


Structure 2: $[Q]$ and $[\phi]$ are Merged on a single lexical item and are hosted on a single head throughout the derivation.

(42) Agree with & Attract subject



(43) Agree with *wh*-phrase; input to PF + LF



4 Diagnosing presyntactic bundling in Igbo

- The hierarchy diagnostic for presyntactic bundling (repeated):

If X and Y are presyntactically bundled, at any given stage in the derivation, anything that Y does not c-command, X does not c-command.

- Presyntactic bundling may thus have effects on syntactic operations, like Agree, which make reference to c-command.
- I will show that Igbo interrogatives display exactly such an effect and that $[Q]$ and $[\phi]$ bundling (Structure 2) gives us a handle of a broader set of *wh*-licensing facts.

4.1 Licensing of local *wh*-subjects

- Thus far, the A- and A'-features I have discussed target different XPs within each structure. Structures with subject *wh*-phrases permit us to look at their interaction.
- It will be useful to make specific why *wh*-phrases are goals for both $[FOC_{EPP}]$ and $[Q]$, and why they must either be moved by *kà* or occur in a structure with $\emptyset$.
- The visibility of *wh*-phrases to both $[FOC_{EPP}]$ and $[Q]$ probes can be captured if they feature they bear, $[WH]$, is a value of both $[FOC]$ and $[Q]$. Cross-linguistic variation in *wh*-licensing motivates this: French *wh*-phrases can be licensed by the same morphemes as polar questions (e.g., Cheng and Rooryck, 2000), while Italian licenses *wh*-phrases in a focus position (e.g., Rizzi, 1997).³
- Igbo *wh*-phrases must be licensed. This is accomplished via Agree with an A'-feature, akin to Case licensing via Agree for DPs. Rizzi's *Wh*-Criterion (1996) states a similar

³We can perhaps conceptualize this as *wh*-phrases bearing a $[WH]$ feature which is situated within two distinct feature hierarchies, dominated by $[FOC]$ and $[Q]$, respectively. Other A'-features like $[REL]$ do not Agree with or license *wh*-phrases because $[WH]$ is not a subfeature of other A'-feature hierarchies.

requirement; I take Agree with either $[\text{FOC}_{\text{EPP}}]$ or $[\text{Q}]$ to be sufficient for licensing in Igbo (see also, May, 1985; Kratzer and Shimoyama, 2002; Cable, 2010).

- Let us now look at subject *wh*-questions. Subject questions do not surface with either *kà* or *ò*. Subject *wh*-phrases have the same surface distribution as non-*wh* subjects.

- (44) Ònyé (*kà / *ò) rì-rì jí? (45) Ndí 'ólé (*kà / *ò) bìà-rà?
 who (*FOC / *Q/φ) eat-rV yam PL WH (*FOC / *Q/φ) come-rV
 'Who ate yam?' 'Who (pl.) came?'

- Two language-internal diagnostics show that subject *wh*-phrases are not licensed by *ò* and suggest that subject *wh*-phrases are licensed by a null allomorph of *kà*.

- **Diagnostic 1:** Multiple *wh* is possible in structures with overt *ò*, but not when the structures have overt *kà*.

- (46) *Gí'ní kà Àdá rì-rì n'èbé'é? (47) Àdá ò rì-rì gí'ní n'èbé'é?
 what FOC Ada eat-rV PREP-where Ada Q/φ eat-rV what PREP-where
 Int.: 'What did Ada eat where?' 'What did Ada eat where?'

- When one of the *wh*-phrases is the subject, multiple *wh* is not possible.

- (48) *Ònyé rì-rì gí'ní?
 who eat-rV what
 Int.: 'Who ate what?'

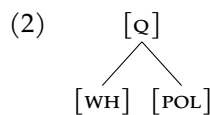
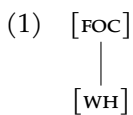
- **Diagnostic 2:** *kà* cannot license *wh*-phrases in clauses with perfective aspect, however, licensing *wh in-situ* with *ò* is permitted.

- (49) *Gí'ní kà Àdá 'é-rí-é-lá? (50) Àdá ò rí-é-lá gí'ní?
 what FOC Ada E/A-eat-OVS-PFV Ada Q/φ eat-OVS-PFV what
 Int.: 'What has Ada eaten?' 'What has Ada eaten?'

- Subject *wh*-questions pattern with *wh*-phrases licensed using *kà* – subject *wh*-phrases are not permitted with the perfective.

- (51) *Ònyé 'é-rí-é-lá 'jí?
 who E/A-eat-OVS-PFV yam
 Int.: 'Who has eaten yam?'

- A'-movement being restricted out of perfective clauses is well-documented in Igbo (Amaechi, 2020; Jian and Martinović, 2025). *ò* licenses *wh*-phrases without movement and is thus compatible.



- In both cases, *wh*-subjects pattern as if they are licensed by *kà*: *wh*-subjects are not permitted in the same structures that ban *wh*-phrases licensed by *kà*.
- **Why is *kà* not present in subject questions?** A'-movement of the subject from spec, ϕ P leaves a gap adjacent to a complementizer, triggering a null allomorph (Jian, 2025).

(52) $\emptyset \leftrightarrow [\text{FOC}_{\text{EPP}}] / \text{--- } t_{\text{SBJ}}$

- No phonologically overt complementizers surface adjacent to subject gaps.

(53) Àdá ché [nà Ézè dè-rè létà]?

Ada think DECL Eze write-rV letter

'Ada thinks that Eze wrote the letter.'

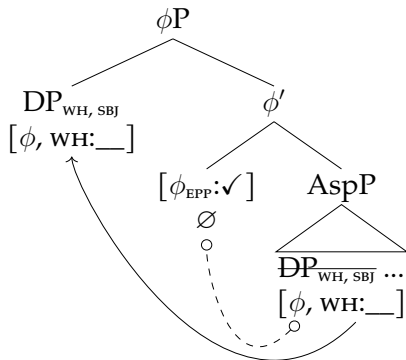
(54) Ònyé kà Àdá ché [(*nà) --- 'dé-ré létà]?

who FOC Ada think (*DECL) write-rV letter

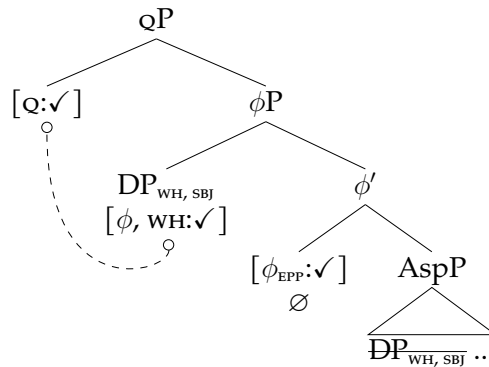
'Who did Ada think wrote the letter?'

- These patterns also show definitively that δ cannot license subject *wh*-phrases: if δ were able to license subject *wh*-phrases it should rescue structures with subject *wh*-phrases in the perfective or in multiple *wh* configurations.
- **How can we understand δ 's inability to license local subject *wh*-phrases?**
- The only feasible way to implement such a restriction is with a structural configuration where $[\phi_{\text{EPP}}]$ and $[Q]$ are bundled upon External Merge, i.e., Hypothesis 2.
- In Structure 1, the $[Q]$ and $[\phi_{\text{EPP}}]$ probes are Merged separately, and thus hosted on separate heads. As a result, local *wh*-subjects and lower *wh*-phrases, e.g., objects, have the same structural relationship to the node hosting the $[Q]$ probe: they are all c-commanded by $[Q]$, (56) & (40).
- Subject *wh*-phrases should be visible goals for Agree and thus licensed by structures containing δ . This does not capture the empirical patterns.

(55) $[\phi_{\text{EPP}}]$ probes

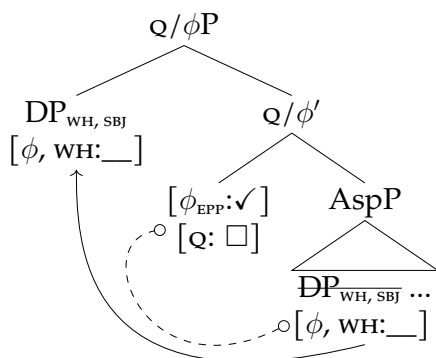


(56) $[Q]$ licenses local subject: Unattested

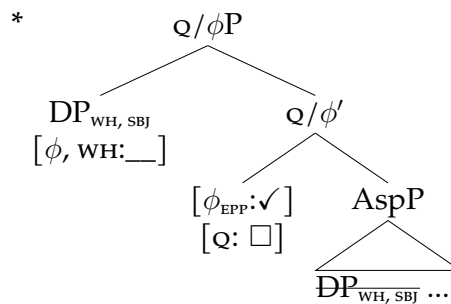


- Appeals to constraints like anti-locality, i.e., the subject *wh*-phrase is too local to $[Q]$, are not viable for maintaining Hypothesis 1:
 1. *Wh*-phrases licensed by $[Q]$ do not move, requiring us to state anti-locality as a condition on Agree (cf. a condition on movement; Erlewine, 2016; Deal, 2019).
 2. Subjects do not seem to have a problem with being Agreed with in $\text{spec}, \phi P$ by the head above ϕP in other structures (and then moved!), e.g., grammatical subject *wh*-questions, meaning anti-locality would have to be parameterized for individual heads.
- Structure 2 permits us to capture the ban on local subject licensing by $[Q]$ in a straightforward manner using existing theoretical mechanisms.
- I propose that $[\phi_{\text{EPP}}]$ and $[Q]$ are two probe features hosted on a single head which spells out as ∂ . The probes are ordered on the head such that $[\phi_{\text{EPP}}]$ probes before $[Q]$. This can be formalized as a stack, e.g., Georgi and Müller (2010).
- $[\phi_{\text{EPP}}]$ probes first, finds the local subject which then moves to $\text{spec}, Q/\phi$. When $[Q]$ on Q/ϕ^0 probes, the subject in $\text{spec}, Q/\phi$ is outside the search domain, assuming no cyclic expansion occurs (Rezac, 2003; Béjar and Rezac, 2009; Clem, 2022, a.o.).
- $[Q]$ is never able to Agree with the subject, and thus local *wh*-subjects are never licensed by $[Q]$, accounting for the empirical pattern.⁴

(57) $[\phi_{\text{EPP}}]$ probes



(58) $[Q]$ fails to license $[WH: _]$: Attested



- This solution is only possible if $[Q]$ and $[\phi_{\text{EPP}}]$ can be bundled on a single lexical item and thus hosted on a single head before Agree takes place during the derivation.
- **Adopting Structure 2 means a rejection of the OFOLI hypothesis, but now full empirical coverage of Igbo *wh*-questions.**

⁴One concern may be why the *lower* copy of the subject is not a viable goal for Agree and thus licensing. We might think about this as an assumption that XP copies are only accessible to A'-operations after they have completed their A-operations, e.g., nominative case assignment for subjects.

5 Implications for Extended Projections

- The availability of presyntactic bundling raises questions for how rigid hierarchies within extended projections is enforced both within a given language (Grimshaw, 2005; Ramchand and Svenonius, 2014; Svenonius, 2024), but also by hypothesis, across languages (Cinque, 1999).
- Lexicons which obey OFOLI permit c-selection as a possibility for the encoding of ordering within extended projections.
- For illustration, assume that the functional sequence of the verbal extended projection is C–T–Asp–Voice–*v*.
- A OFOLI lexicon could be structured as in (59):

- (59)
- a. {[C], [•TP•]}
 - b. {[T], [•AspP•]}
 - c. {[Asp], [•VoiceP•]}
 - d. {[Voice], [•*v*P•]}

- Permitting presyntactic bundling provides an different result for the relationship between the c-selectional feature and the features on the lexical item.
- Imagine that [T] and [Asp] were bundled on the same lexical item, we would still expect to find this head projected above [Voice] and below [C] (Grimshaw, 2005).

- (60)
- a. {[C], [•TP•]}
 - b. {[Asp, T], [•VoiceP•]}
 - c. {[Voice], [•*v*P•]}

- It is ‘lower’ of the two features on (60b) that determines the c-selectional feature borne on the lexical item.
- Implicit in this statement: an extrinsic ordering between the features [T] and [Asp].
- The question that arises from this is whether given such an extrinsic ordering, if hierarchy encoded in c-selection becomes altogether redundant.
- Distributional restrictions in the Igbo left periphery involving lexical items with bundled features suggest **yes**.
- **Assumption:** Extrinsic ordering over the features we have been discussing (61). Grounded in cross-linguistic evidence (Rizzi, 2001; Aboh, 2004; Friedmann, Belletti, and Rizzi, 2021), examples from Yoruba (Kwa; Nigeria) and Fongbe (Kwa; Benin).

(61) Partial fseq:
 $Q \succ \text{FOC} \succ \phi$ (Adapted from Rizzi, 2001)

(62) Yoruba (Kwa; Nigeria)
 Ẹ Kemi nì Ade ba-sorọ?
 Q Kemi FOC Ade talk
 ‘Was it Kemi that Ade talked to?’ (Adapted from Howell, 2020, p. 80, (64b))

(63) Fongbe (Kwa; Benin)
 Ví ỳ dũ nú ǎ wè à?
 child DET eat thing NEG FOC INTER
 ‘Is it NOT THE CASE THAT THE CHILD HAS EATEN (AS EXPECTED)?’ (Aboh, 2016, (6b))

- We do not expect *a priori* for [Q] and [FOC_{EPP}] to be incompatible within a given clause: ò and kà have non *wh*-functions, associated with polar questions and focus fronting, repeated below.

(64) Àdà *(ò) zù-rù jí? (65) Jí kà Àdà zù-rù ____.
 Ada Q/φ buy-rV yam yam FOC Ada buy-rV
 ‘Did Ada buy yam?’ ‘Ada bought YAM.’

- Thus, a construction like a polar question with focus fronting should be an instance where we find them *together*.
- This is not possible: neither ordering of ò > kà, nor kà > ò is acceptable.

(66) a. *Ò jí kà Àdà rì-rì? b. *Jí kà Àdà ò rì-rì?
 Q/φ yam FOC Ada eat-rV yam FOC Ada Q/φ eat-rV
 Int.: ‘Did Ada eat YAM?’ Int.: ‘Did Ada eat YAM?’

- It is not the case that these heads are semantically incompatible. Polar questions with focus fronting *can* be formed, they must be *biclausal* – the clause with focus is embedded under the copula bù.

(67) [_{Q/φP} Ò [_{vP} bù [_{FOCP} jí kà Àdà rì-rì ____]]]?
 3SG+Q/φ COP yam FOC Ada eat-rV
 ‘Did Ada eat YAM?’

- These structures are truly biclausal – the copula bù which embeds the FOCP can host a full range of inflectional morphology, e.g., aspect and negation.
- I propose that the Igbo restriction arises because of the way the inventory of lexical items which bear left peripheral features in the language.
- **Proposal:** the extrinsic ordering over features, e.g., (61), places restrictions on the relative *hierarchy* of the features when they are hosted on heads within the same extended projection (see also Grimshaw, 2005, p.11; Thráinsson, 2011).

(68) Given two ordered features, f_1, f_2 in the same functional sequence, where $f_2 \succ f_1$ (f_2 is higher ranked), f_1 cannot be hosted on a head which c-commands the head hosting f_2 .

- Note that (68) does not impose any orderings/restrictions on the features on a single head (c-command is irreflexive), presyntactic bundling is compatible with this.
- In Igbo, no lexical item bears $[Q]$ alone, whichever head hosts $[Q]$, also hosts $[\phi]$. Proposed LIs and functional sequence repeated below.

(69) Relevant inventory of lexical items in Igbo:

- a. $\emptyset \leftrightarrow [\phi_{\text{EPP}}]$
- b. $k\hat{a} \leftrightarrow [\text{FOC}_{\text{EPP}}]$
- c. $\partial \leftrightarrow [\phi_{\text{EPP}}, Q]$

(70) Partial fseq:

$Q \succ \text{FOC} \succ \phi$

- Merging ∂ and $k\hat{a}$ in the same extended projection enforces an ordering between not only $[Q]$ and $[\text{FOC}]$, but $[Q]$, $[\text{FOC}]$, and $[\phi]$.
 - (a) ∂ merged above $k\hat{a}$ results in $[Q]$, $[\phi]$ c-commanding $[\text{FOC}]$.
 - (b) $k\hat{a}$ merged above ∂ results in $[\text{FOC}]$ c-commanding $[Q]$, $[\phi]$.
- Given the assumed functional sequence, both structures made possible by the resources of the lexicon will violate (68).
- Presyntactic bundling makes clearer the theoretical upshots of relating an extrinsic ordering to a structure via a principle like (68) as opposed to via c-selection.

5.1 Presyntactic bundling and selection

- A recurring motivation in proposals involving presyntactic bundling, in part, is a move away from c-selection (Martinović, 2023, p.93; Šereikaitė, in press, fn.33).
- Extended projections display much less variation than might be expected if hierarchy were encoded via selection (see discussion in Grimshaw, 2005; Ramchand and Svenonius, 2014; Martinović, 2023, a.o.).
- This tension between presyntactic bundling and selection arises, for example, in discussions of Chol (Mayan; Mexico) (Coon and Preminger, 2011; Harley, 2017).
- Coon & Preminger propose that, in Chol, a split-ergative language, a head v responsible for two properties: assignment of ABS case and categorization of the root.
- They argue that v in fact *must* discharge ABS case, accurately predicting that all verbal predicates must have internal arguments.

- The crucial claim is the third property assigned to *v*: the introduction of the external argument, a property commonly associated with a distinct head, Voice.
- If this claim is right, then all verbal predicates which take an external argument, must also take an *internal* argument, e.g., there are no verbal unergatives.
- This is the right prediction, consider the root *soñ*, ‘dance’, which in its verbal form cannot be complementless.

(71) Tyi a-soñ-i bals.
 PFV A2-dance-DTV waltz
 ‘You danced a waltz.’ (Coon and Preminger, 2011, (20a))

(72) * Tyi a-soñ-i-yety.
 PFV dance-DTV-B2
 Int.: ‘You danced.’ (Coon and Preminger, 2011, (19b))

- Instead, external agents to this root must be introduced by a light verb meaning *do* which itself takes the nominal root as its internal argument.

(73) Tyi a-cha’l-e soñ.
 PFV A2-do-DTV dance
 ‘You danced.’ (Coon and Preminger, 2011, (19a))

- An unbundled structure is not ruled out. However, once the introduction of the external argument (Voice) and the verbalizing/ABS case assignment (*v*) are distributed over two heads, the implicational relationship between external argument introduction and transitivity must be captured via selection: Voice c-selects for *v*
- Whether or not c-selection is possible *within* extended projections changes whether or not phenomena like this are evidence of presyntactic bundling.
- Without c-selection, a third diagnostic of presyntactic bundling, with caveats:

iii **Interdependence:** If X and Y are always bundled, X can only occur if Y also occurs in the same extended projection

6 Conclusion

- I make precise the notion of presyntactic bundling and propose a (non-exhaustive) list of effects that should be observed if presyntactic bundling is possible.
- For Igbo interrogatives, presyntactic bundling unifies word order and licensing facts and also easily derives the distribution of left peripheral heads.
- Presyntactic bundling ultimately favours a system where hierarchical order within extended projections is not encoded within the lexicon via c-selection, but rather

a system where an extrinsic ordering interacts with syntactic structures through a restriction on what features can c-command each other.

- More broadly, if moving away from selection is correct, we open up the range of phenomena which may ultimately involve presyntactic bundling.

References

- Aboh, E. (2004). *The morphosyntax of complement-head sequences: Clause structure and word order patterns in Kwa*. Oxford University Press.
- (2016). “Information Structure: A Cartographic Perspective”. In: *The Oxford Handbook of Information Structure*. Oxford University Press.
- Alexiadou, A. and E. Anagnostopoulou (1998). “Parametrizing AGR: Word order, V-movement and EPP-checking”. In: *Natural Language & Linguistic Theory* 16, pp. 491–539.
- Amaechi, M. (2020). “A'-movement dependencies and their reflexes in Igbo”. PhD thesis. Universität Potsdam.
- Amaechi, M. and D. Georgi (2020). “On optional wh-/focus fronting in Igbo: A SYN-SEM-PHON interaction”. In: *Zeitschrift für Sprachwissenschaft* 39.3, pp. 299–327.
- (2022). “Focus marking strategies in Igbo”. In: *Descriptive and theoretical approaches to African linguistics: Selected papers from the 49th Annual Conference on African Linguistics*. Language Science Press, pp. 107–122.
- Beck, S. (2006). “Intervention effects follow from focus interpretation”. In: *Natural Language Semantics* 14.1, pp. 1–56.
- Béjar, S. and M. Rezac (2009). “Cyclic Agree”. In: *Linguistic Inquiry* 40.1, pp. 35–73.
- Bobaljik, J. D. (2012). *Universals in comparative morphology: Suppletion, superlatives, and the structure of words*. MIT Press.
- Bobaljik, J. D. and H. Thráinsson (1998). “Two heads aren’t always better than one”. In: *Syntax* 1.1, pp. 37–71.
- Boeckx, C. (2014). *Elementary syntactic structures: Prospects of a feature-free syntax*. Vol. 144. Cambridge University Press.
- Borer, H. (2005). *Structuring sense: Volume 1: In name only*. Vol. 1. Oxford University Press.
- Bošković, Ž. (2007). “On the locality and motivation of Move and Agree: An even more minimal theory”. In: *Linguistic inquiry* 38.4, pp. 589–644.
- Bossi, M. and M. Diercks (2019). “V1 in Kipsigis: Head movement and discourse-based scrambling”. In: *Glossa: a journal of general linguistics* 4(1).1, p. 65.
- Brody, M. (1990). “Some remarks on the focus field in Hungarian”. In: *UCL Working Papers in Linguistics* 2.20.
- Cable, S. (July 2010). *The Grammar of Q: Q-Particles, Wh-Movement, and Pied-Piping*. Oxford University Press.
- Caha, P. (2009). “The Nanosyntax of Case”. PhD thesis. University of Tromsø.
- Cheng, L. L.-S. and J. Rooryck (2000). “Licensing wh-in-situ”. In: *Syntax* 3.1, pp. 1–19.
- Chomsky, N. (Apr. 2001). “Derivation by Phase”. In: *Ken Hale: A Life in Language*. The MIT Press. eprint: https://direct.mit.edu/book/chapter-pdf/2308182/9780262316125_caa.pdf.

- Cinque, G. (1999). *Adverbs and functional heads: A cross-linguistic perspective*. Oxford University Press.
- Cinque, G. and L. Rizzi (Dec. 2009). “The Cartography of Syntactic Structures”. In: *The Oxford Handbook of Linguistic Analysis*. Oxford: Oxford University Press.
- Clem, E. (2022). “Cyclic expansion in Agree: Maximal projections as probes”. In: *Linguistic Inquiry* 54.1, pp. 39–78.
- Coon, J. and O. Preminger (2011). “Transitivity in Chol: A new argument for the split VP hypothesis”. In: *Proceedings of the NELS*. Vol. 41.
- Deal, A. R. (2018). “Locality in allomorphy and presyntactic bundling: A case of tense and aspect”. In: *Snippets* 34, pp. 8–10.
- (Mar. 2019). “Raising to Ergative: Remarks on Applicatives of Unaccusatives”. In: *Linguistic Inquiry* 50.2, pp. 388–415. eprint: https://direct.mit.edu/ling/article-pdf/50/2/388/731501/ling_a_00310.pdf.
- Déchaine, R.-M. A. (1993). “Predicates across categories: Towards a category-neutral syntax”. PhD thesis. University of Massachusetts Amherst.
- Embick, D. and R. Noyer (2001). “Movement operations after syntax”. In: *Linguistic inquiry* 32.4, pp. 555–595.
- Erlewine, M. Y. (2016). “Anti-locality and optimality in Kaqchikel Agent Focus”. In: *Natural Language & Linguistic Theory* 34.2, pp. 429–479.
- (2018). “Extraction and licensing in Toba Batak”. In: *Language* 94.3, pp. 662–697.
- Friedmann, N., A. Belletti, and L. Rizzi (2021). “Growing trees: The acquisition of the left periphery”. In: *Glossa: a journal of general linguistics* 6.1.
- Georgi, D. and M. Amaechi (2023). “Resumption in Igbo: Two types of resumptives, complex phi-mismatches, and dynamic deletion domains”. In: *Natural Language & Linguistic Theory* 41.3, pp. 961–1028.
- Georgi, D. and G. Müller (2010). “Noun-Phrase Structure by Reprojection”. In: *Syntax* 13.1, pp. 1–36.
- Goldsmith, J. (1981). “The Structure of wh-Questions in Igbo”. In: *Linguistic Analysis* 7.4, pp. 367–393.
- Grimshaw, J. (2005). *Words and Structure*. Stanford, CA: CSLI.
- Halle, M. and A. Marantz (1993). “Distributed morphology and the pieces of inflection”. In: *The View from Building 20*. Ed. by K. Hale and J. Keyser. Cambridge, Mass.: MIT Press, pp. 111–176.
- Harley, H. (2017). “The “bundling” hypothesis and the disparate functions of little v”. In: *The verbal domain*. Ed. by R. D’Alessandro, I. Franco, and Á. J. Gallego. Oxford Studies in Theoretical Linguistics, pp. 3–28.
- Horvath, J. (1986). *FOCUS in the Theory of Grammar and the Syntax of Hungarian*. Dordrecht, Holland: Foris.
- Howell, A. S. (2020). “Alternative semantics across languages: case studies on disjunctive questions and free choice items in Samoan and Yoruba”. PhD thesis. Universität Tübingen.
- Hsu, B. (Jan. 2021). “Coalescence: A Unification of Bundling Operations in Syntax”. In: *Linguistic Inquiry* 52.1, pp. 39–87. eprint: https://direct.mit.edu/ling/article-pdf/52/1/39/1883620/ling_a_00372.pdf.

- Jarvis, R. (2023). "Subject movement in Atchan relative clauses: A two-probe, mixed A/A'-account". In: *Proceedings of WCCFL 41*.
- Jian, J. (2025). *The long and short of subject focus in Igbo*. Talk presented at ACAL 56.
- Jian, J. and M. Martinović (2025). *A'-movement restrictions in Igbo reanalyzed*. Talk presented at WCCFL43.
- Kayne, R. S. (2005). *Movement and silence*. New York: Oxford University Press.
- Kotek, H. (2019). *Composing questions*. MIT Press.
- Kratzer, A. and J. Shimoyama (2002). "Indeterminate Pronouns: The View from Japanese". In: *Proceedings of the 3rd Tokyo Conference on Psycholinguistics*. Ed. by Y. Otsu. Tokyo: Hituzi Syobo, pp. 1–25.
- Lecavelier, J. and M. Zimmermann (2024). "Question embedding without wh-interrogatives: A unified account". In: *Proceedings of SALT 34*.
- Martinović, M. (2023). "Feature Geometry and Head Splitting in the Wolof Clausal Periphery". In: *Linguistic Inquiry* 54.1, pp. 79–116.
- May, R. (1985). *Logical Form: Its Structure and Derivation*. MIT Press.
- Nwachukwu, P. A. (1995). *Tone in Igbo syntax*. Nsukka: Igbo Language Association.
- Ramchand, G. and P. Svenonius (2014). "Deriving the functional hierarchy". In: *Language sciences* 46, pp. 152–174.
- Rezac, M. (2003). "The Fine Structure of Cyclic Agree". In: *Syntax* 6.2, pp. 156–182. eprint: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/1467-9612.00059>.
- Rizzi, L. (1996). "Residual verb second and the wh-criterion". In: *Parameters and Functional Heads: Essays in Comparative Syntax*. Ed. by A. Belletti and L. Rizzi. ProQuest Ebook Central. Oxford: Oxford University Press, pp. 63–97.
- (1997). "The Fine Structure of the Left Periphery". In: *Elements of Grammar: Handbook in Generative Syntax*. Ed. by L. Haegeman. Dordrecht: Springer Netherlands, pp. 281–337.
- (2001). "On the position "Int(errogative)" in the left periphery of the clause". In: *Current studies in Italian syntax*. Amsterdam: Brill, pp. 287–296.
- Schneider-Zioga, P. (2007). "Anti-agreement, anti-locality and minimality. The syntax of dislocated subjects". In: *Natural Language & Linguistic Theory* 25, pp. 403–446.
- Šereikaitė, M. (in press). "Case and Voice properties of complex event nominalizations: A Voice-bundling approach". In: *Natural Language & Linguistic Theory* 44.2.
- Sigurðsson, H. Á. (2004). "Meaningful silence, meaningless sounds". In: *Linguistic variation yearbook* 4.1, pp. 235–259.
- Starke, M. (2009). "Nanosyntax: A short primer to a new approach to language". In: *Nordlyd* 36.1, pp. 1–6.
- Svenonius, P. (2012). "Spanning". Ms., University of Tromsø, CASTL.
- (Dec. 2024). "The Workspace as a source of hierarchy in extended projections". In: *Nordlyd* 48.1, pp. 115–132.
- Thráninsson, H. (2011). "On the (non-) universality of functional categories". In: *Minimal ideas: Syntactic studies in the minimalist framework*. John Benjamins Publishing Company, pp. 253–281.
- Uwalaka, M. A. (1991). "Wh-movement in Igbo". In: *UCL-WPL* 3, pp. 185–208.