

**On Wh and Subject Positions and the EPP**

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**Starting point puzzles:**

**The who left effect**

(1) Who left

Is *who* in SpecCP or SpecTP? The answer will be neither. The derivation that is most often assumed for (1), given in (2), cannot be right.

(2) [<sub>CP</sub> Who<sub>i</sub> [<sub>TP</sub> t<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> left]]]

A number of related cases regarding what looks like local subject A'-movement will be discussed, where it is not clear whether something is in SpecCP or SpecIP, e.g. the controversy regarding whether subject initial V-2 clauses in Germanic V-2 languages are CPs or TPs, locative inversion, clausal subjects....

(3) [<sub>CP</sub> Non-Subject V [<sub>TP</sub>

(4) [? Subject V

Another question to address (which will be shown to be related): Were we right to unsplit INFL? The answer will be no

Delineating left periphery and the inflectional/A-field (i.e. the unsplit INFL): Cannot be done

-Left periphery vs subject positions (SpecTP and higher)

-Crosslinguistic variation in this domain (SpecTP and higher)

What does all this tell us about wh and subject positions (or left periphery and the inflectional field more broadly), the EPP, and the syntax more generally?

The answer will lead us to fine tuning the position of various subject and wh-phrases, split IP, and a new conception of the EPP that situates it within a broader theoretical move in syntax more generally.

One comparison to be made:

(5) a. I wonder **who John met** vs b. I wonder **who left** vs c. I think **John left**

*Who* in (5b) not as high as *who* in (5a) but higher than *John* in (5c)

Extension to a number of phenomena and constructions crosslinguistically, providing us with a new tool to re-examine a number of well-known puzzles/debated issues.

**Starting point: The *who left* puzzle**

(6) Who left?

It is sometimes suggested that *who* is in SpecIP in *who left*.

There is movement to SpecCP (see Bošković 2016a, 2021a,b, Messick 2020 and references therein)

- (7) a. \*Who bought what the hell?  
c. Who the hell bought that house?
- (8) a. Who loves everyone?  
b. Someone loves everyone.
- (9) Someone bought a car. Who?

**No subject wh-movement through SpecIP**

In a number of languages that allow both SV and VS order, where in the latter the subject does not move to SpecIP, the two orders are associated with different subject-agreement morphology. What we get in *who left* is the morphology associated with the VS order (e.g some dialects of Italian).

This shows wh-movement to SpecCP can't proceed via SpecIP or we'd get the S-V order morphology (the same point holds for languages where the agreement morphology associated with subjects in SpecIP must be dropped here (Kinande, Kacchikel; see e.g. Bošković 2016a, Erlewine 2016).

- (10) a. Kambale a.langira Marya  
Kambale agr.saw Mary  
c. Iyondi yo u.langira Marya  
who C anti-agr.saw Mary
  - b. \*Iyondi yo a.langira Marya  
who C agr.saw Mary
- (Kinande, Schneider-Zioga 1995)

**Icelandic:**

- (11a): experiencers block agreement with a lower nominative NP.
  - (11b): an NP-trace does not induce a blocking effect.
  - (11c): a wh-trace induces a blocking effect.
- If the experiencer in (11c) were to move to SpecIP before wh-movement, the intervener would be an NP-trace, and (11c) should pattern with (11b).  
The wh-phrase does not, in fact cannot, move to SpecIP in (11c); it must move directly to SpecCP.

- (11) a. Það virðist/\*virðast einhverjum manni [hestarnir vera seinir]  
EXPL seems/seem<sub>PL</sub> some mandat the-horses<sub>NOM</sub> be slow  
'It seems to some man that the horses are slow.'
- b. Mér virðast t<sub>NP</sub> [hestarnir vera seinir]  
me<sub>DAT</sub> seem<sub>PL</sub> the-horses<sub>NOM</sub> be slow (Holmberg & Hróarsdóttir 2004)
- c. Hverjum mundi/?\*mundu hafa virst t<sub>wh</sub> [hestarnir vera seinir]  
who<sub>DAT</sub> would<sub>3SG</sub>/would<sub>3PL</sub> have seemed the-horses<sub>NOM</sub> be slow  
'To whom would it have seemed that the horses are slow?' (Nomura 2005)

Aux contraction (Bošković 2021b): auxiliary contraction is not possible when the auxiliary is followed by a wh-trace (Bresnan 1971, Selkirk 1972, Kaisse 1983; Bošković in prep: this holds when the auxiliary and the wh-trace are located in the same phase).

- (12) a. I know where<sub>i</sub> John is t<sub>i</sub> (tonight).
- b. \*I know where<sub>i</sub> John's t<sub>i</sub> (tonight).

The fact that auxiliary contraction is allowed in (13) then indicates that wh-movement in (13) does not proceed via SpecIP, leaving a wh-trace in that position.

- (13) Who's leaving tonight?

Lack of *do*-support no indication of no inversion in subject questions. It's a last resort mechanism to support a stranded tense affix when a phonologically realized element intervenes between it and the V

(going back to Chomsky 1957). No phonologically realized intervener in *Who walked* (Who C+T(ed) **walk**), as in *she walked* and in contrast to *What did she buy*. Only the last case then triggers *do*-support.

### West Ulster English Q-float

- (14) a. Who was arrested all in Duke Street?      b. \*They were arrested all last night  
(15) What<sub>i</sub> did he say all t<sub>i</sub> that he wanted?      (McCloskey 2000)

Unlike standard English, WUE allows Q-float under wh-movement (15); it's also possible in (14a).

Still, just like standard English, WUE disallows (14b): a subject in SpecIP cannot float a quantifier in the postverbal position in passives.

This rules out the derivation where *who* in (14a) moves to SpecCP via SpecIP since *all* would then float under movement to SpecIP. This is disallowed (14b). The *who*-in-SpecIP option is also ruled out.

**Conclusion:** *Who* does not pass through SpecIP in *Who left* (6).

**Question:** How is the EPP satisfied in (6) then, or are we dealing here with a puzzling voiding of the EPP effect (McCloskey 2000 suggests it is voided; see Bošković 2004, Asinari 2021 for problems with his account).

### Another issue

Bošković (2021a): Null C induces Comp-trace effects, as one would expect under a syntactic account of the effect (there is no CP in the embedded clause in *who do you think left Mary*)

Bošković (2016a): a null-C-inducing-a-Comp-trace-effect account of (16).

- (16) a. What is it likely John will read t?  
      b. How is it likely [John fixed the car t]?  
      c. \*Who is it likely t will read the book?

Bošković (2007): ECM crosslinguistically involves movement to the Case-licensing vP (overtly or covertly).

Given that ECM must involve movement, (17) involves subject movement out of the infinitive (for evidence that this infinitive is a CP, see Hout 1981, Pesetsky 1992, Bošković 1997; note A-movement across CP is in principle possible, see e.g. Nunes 2008, Obata 2010, Nemoto 1991, Carstens 2005).

- (17) \*Pierre a cru Marie avoir acheté des fraises.  
      Pierre has believed Marie to-have bought strawberries

ECM possible when no CP: small clauses

- (18) Pierre a jugé Paul coupable.  
      Pierre has judged Paul guilty

Addressing the EPP and the Comp-trace effect issue regarding *who left*: There are two wh-positions, a higher and a lower one, where the lower wh-position is occupied by wh-moved subjects (Bošković 2001a).

### Evidence for two wh-positions

Contraction argument: there is a one-word host restriction on contracted auxiliaries hosted by moved wh-phrases, but, crucially, only with non-subject wh-phrases (Kaisse 1983). I take this to indicate that the wh-phrases/auxiliaries are not in the same position in the a. & b. examples in (20)-(21). (Recall the subject wh-phrase does wh-move.)

(19) a. What's Mary buying? b. When's dinner? c. How's your old man?

(20) a. \*Whose food's the dog eating?

b. Whose food's burning?

(21) a. \*Which man's she the fondest of?

b. Which man's leaving first?

(Kaisse 1983)

### Interaction with topicalization

(22) a. ?Mary wonders which book, for Kim, Peter should buy.

b. \*Mary wonders which student, for Kim, should buy that book.

Only the landing site of non-subject wh-movement is above the topic.

Interaction with polarity adverbs suggests different landing sites for non-subject & subject wh-movement

(23) a. \*What under no circumstances should Mary ever buy?

b. Who under no circumstances should ever hire Peter?

(24) a. \*What should under no circumstances Mary ever buy?

b. Who should under no circumstances ever hire Peter?

Long-distance moved subjects pattern with objects: regarding aux-contraction, (25) patterns with (20a)/(21a) not (20b)/(21), so only local subject wh-movement goes to the lower position.

(25) \*Which man's Peter claiming will leave first?

### The same pattern with topicalization

(26) a. Mary wonders which book, for Kim, Peter should buy.

b. \*Mary wonders which student, for Kim, should buy that book.

c. ?I wonder which student, for Kim, Mary said should buy that book.

### The same pattern with polarity adverbs

(27) \*Who under no circumstances should Ann ever say stole it?

(28) Who under no circumstances should ever hire Peter?

### **Specs of different heads<sup>1</sup>**

#### **Belfast English** (Henry 1995)

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<sup>1</sup> For a different perspective on some of the constructions discussed in this section, see Pesetsky (2021)

- (29) I wonder which dish that they picked  
 (30) I don't know when that he is going  
 (31) \*I wonder which author that wrote this book.

Opposite in **Norwegian** (*som* distinct from declarative C 'that')

- (32) a. Vi vet hvem (\*som) Marit snakker med.  
 we know who that Marit talks with  
 'We know who Marit is talking with.'  
 b. Vi vet hvem \*(som) snakker med Marit.  
 we know who that talks with Marit  
 'We know who is talking with Marit.' (Norwegian, Taraldsen 1986:150)

### Defaka

- (33) a. ì Bòmá ésé-kà-rè *No focus-fronting*  
 I Boma see-fut-neg  
 'I will not see Boma.'  
 b. ì **kò** Bòmá ésé-kà-rè *Local-subject focus*  
 I foc Boma see-fut-neg  
 'I will not see Boma.'  
 c. Bòmá **ndò** ì ésé-kà-rè-kè *Object focus*  
 Boma foc I see-fut-neg-ke  
 'I will not see Boma.' (Bennett et al 2012)

Adjunct focus-fronting and long-distance subject fronting pattern with (33c).

- (34) a. [ ándù kikià ] **ndò** à èbèrè rì bòi-mà-kè *Adjunct focus*  
 canoe under foc the dog ke hide-nfut-ke  
 'The dog is hiding under the canoe.' (Bennett et al. 2012:296)  
 b. òmòmò **ndò** Bòmá ìbò tìnà árí-kè  
 now foc Boma big fish catch-ke  
 'Boma caught a big fish just now.' (Bennett 2009:18)  
 (35) Bruce<sub>1</sub> **ndò**/\***kò** Bòmá jírí-\*(kè) [<sub>CP</sub> \_\_<sub>1</sub> á ésé-mà ] *Nonlocal-subject focus*  
 Boma foc/\*foc.sbj Boma know-\*(ke) her see-nfut  
 'Boma knows (that) Bruce saw her.' (Bennett et al. 2012:297)

### Bùlì

Wh-moved objects and subjects occur with different particles (Sulemana 2017, Pesetsky 2021). This may provide more direct evidence that wh-moved subjects and objects have different landing sites since the subject particle is lower (*ká* is optional).

- (36) a. Ká b<sup>wā</sup> **ātì** Azuma **nīem** á dīgī? (object extraction)  
 Q what ĀTÌ Azuma usually IPFV cook  
 'What is it that Azuma usually cook?'  
 b. \*Ká b<sup>wā</sup> **nīem** **ātì** Azuma á dīgī?  
 Q what usually ĀTÌ Azuma IPFV cook

'What is it that Azuma usually cook?'  
 c. *Ká wānā nīem ālì á dīgī lām?* (local subject extraction)  
 Q who usually ĀLÌ IPFV cook meat  
 'Who usually cooks meat?'

d. \**Ká wānā ālì nīem á dīgī lām?*  
 Q who ĀLÌ usually IPFV cook meat  
 'Who usually cooks meat?'

(Sulemana 2017)

(37) (*Ká*) *wānā ātì fi pá:-chīm wà ālì dig lāmmú:?* (long-distance subject extraction)

Q what ati 2sg think 3sg ali cook meat  
 'Who do you think cooked the meat?'

(Pesetsky 2021)

### Restricted processes

#### Brazilian Portuguese *nunca* ellipsis (Dias 2022)

(38) A: Maria beijou João.

'Mary kissed John'

B: Quem nunca [~~beijou João~~]

who never kissed John

'Who has never kissed John?'

B': \*Quem Maria nunca [~~beijou t~~] (cf. Quem Maria nunca beijou?)

who Mary never kissed

(39) a. Pedro beijou João na festa.

Pedro kissed João at.the party

b. \*Onde Pedro nunca ~~beijou João~~ t?

where Pedro never kissed Joao.

'Where did Pedro never kiss Joao?'

(40) a. Maria disse que Pedro beijou João.

M. said that P. kissed J.

b. Quem nunca [~~t disse que Pedro beijou João~~]?

who never said that P. kissed J.

'Who has never said Pedro kissed João?'

c. \*Quem Maria nunca [~~disse que Pedro beijou t~~]?

who M. never said that P. kissed

'Who has Maria never said kissed João?'

d. \*Quem Maria nunca [~~disse que t beijou Pedro~~]

who M. never said that kissed P.]

'Who has Maria never said Pedro kissed?'

*Nunca* ellipsis is only available with local wh-subjects (sluicing is not restricted this way)

#### Hong Kong Sign language (Gan 2022)

(41) AARON LIKE WHAT/WHO?

(42) \*WHAT/WHO AARON LIKE?

(43) AARON EAT BREAKFAST SHORT-TIME.

'Aaron ate the breakfast quickly.'

(44) \*AARON EAT WHAT SHORT TIME.

(45) AARON EAT SHORT-TIME WHAT?

(46) KENNY THINK HELP-a AARONa WHO

'Who does Kenny think helped Aaron?'

(47) \*WHO KENNY THINK HELP-a AARONa ?

(48) EAT FISH NOT WHO  
'Who does not eat fish?'

(49) WHO EAT FISH NOT

Only locally moved subjects (see Gan 2022 for evidence they are moved) need not undergo rightward wh-movement.

**British *do*-ellipsis** (Lewis 2022):

(50) Tom should write a paper and Emma should **do** <sub>VP</sub> Δ too.

Object wh-extraction out of *do*-ellipsis is disallowed. Also long-distance subject wh-extraction.

(51) a. Although I don't know what Tom will read, I do know what Fred will (**\*do**). (Baltin 2006)

b. I don't know who Martha thinks will leave, but I do know who Emily thinks will (**\*do**).

Importantly, short subject wh-extraction is allowed:

(52) A: Sue wouldn't kiss Peter last night. B: Well, who WOULD (**do**)? (Lewis 2022)

The same pattern as with Brazilian Portuguese *nunca*-ellipsis and HKSL rightward wh-movement.

**Summary:** There are two wh-positions, a higher one and a lower one, where the lower wh-position is occupied by locally moved wh-subjects.

A null C can induce a Comp-trace effect, as would be expected under a syntactic account of the effect. This raised a question why a Comp-trace effect does not arise in *who left*.

The reason why the Comp-trace effect does not arise in *who left* is now rather straightforward: the landing site of subject wh-movement is lower than the Comp-trace effect inducing head.

Why is the lower wh-position confined to subjects: mixed A/A' position on the border of the traditional A and A' fields, it's the landing site of wh-movement, but also the position where the EPP is satisfied (left periphery cannot be delineated then).

This explains the otherwise puzzling voiding of the EPP effect in McCloskey's (14a) (*who was arrested all* vs *\*They were arrested all*), and more generally *who left*.

The EPP is satisfied here: It is satisfied in the lower wh-position, a mixed A/A' position confined to locally A'-moved subjects (this differs from Branigan 1992, where all subjects are in an A'-position).

Norwegian questions, *som* only with local subject wh-movement: *Som* may be a PF realization of the A/A'-head, subject wh-movement stopping in its Spec. Extendable to Defaka and Bùli, also have PF realizations of the A/A'-head (distinct from C).

Antiagreement: antiagreement in SpecA/A'P, regular agreement in SpecIP

(53) a. Kambale **a**.langira Marya  
Kambale agr.saw Mary

c. Iyondi yo **u**.langira Marya  
who C anti-agr.saw Mary

b. \*Iyondi yo **a**.langira Marya  
who C agr.saw Mary

(Kinande, Schneider-Zioga 1995)

New conception of the EPP on a par with the contextual approach to phases in Bošković (2012, 2013, 2014), where there are phasal domains and the highest phrase in a phasal domain is a phase (e.g., DP is a phase in the nominal domain in English, but in languages without articles where DP is lacking, a lower projection in the nominal domain is a phase; also the highest clausal projection is a phase....)

EPP domain with the highest projection in this domain being the locus of the EPP.

(54) EPP domain: [<sub>CP</sub> who-acc [<sub>A/A'P</sub> who-nom [<sub>IP</sub> Amy-nom

Capturing the long-standing intuition (e.g. Chomsky 1986) that extraction from subject wh-islands is less degraded than from non-subject wh-islands.

(55) ?What<sub>i</sub> do you wonder who bought t<sub>i</sub>

(56) ??What<sub>i</sub> do you wonder how she bought t<sub>i</sub>

The issue here is wh-movement to an A'-position across an A'-Spec (Rizzi 1990): what may matter is that in (55) the crossed position is not a pure A'-position, while in (56) it is.

You-get-to-have-your-cake-and-eat-it situation—there is subject wh-movement in *who left* but it is not pure A'-movement.

Focalized subjects also move to the position in question; not surprising given that wh and focalized elements often pattern together regarding movement.

(57) a. Only his girlfriend does John give any flowers. b. \*John gives only his girlfriend any flowers.  
c. Only Mary showed any respect for the visitors. (Branigan 1992:84)

The *only* licenser c-commands the NPI in (57a-b), which apparently cannot be licensed from a purely A-position.

(57c) can then be captured if the focalized subject moves to the mixed A/A' position like *who* in (6).

### Scope

(58) Someone likes everyone                      inverse scope OK

(59) Who likes everyone                            \*inverse scope

(60) Nobody likes everyone                        \*inverse scope

*No one* moves to SpecA/A'P in (60) (on focus-movement of negative constituents, see Bošković 2009)

### **Imperatives**

(61) Buy yourself a nice present!

(62) You buy yourself a nice present!

Object drop in Germanic, dashes indicate the canonical object position.

(63) A: Hvað finnst þér um nýja húsvörðinn? (Icelandic)  
what think you about new janitor.the

B: Veit é(g) ekki \_\_, hef é(g) ekki séð \_\_ enn.  
know I not have I not seen yet  
'I don't know (that), I have still not seen (him). (Sigurðsson and Maling 2008)



Sigurðsson and Maling (2008): such null objects are possible only with an empty SpecCP.

(64) (Það) þekki é(g) ekki \_\_. Icelandic  
(that) recognize I not

(65) \*Núna þekki é(g) ekki \_\_.  
now recognize I not

Bošković (2011): these null objects are licensed by moving to SpecCP (cf. also Fujiwara 2022, Mizuno 2022 regarding argument ellipsis in Japanese involving movement).

Sigurðsson & Maling: an overt subject blocks object drop in Icelandic imperatives.

The effect is also found in English (see Bošković 2011, Sadock 1974)

(66) a. Open carefully  
b. \*You open carefully  
c. You open it carefully

Evidence for null object movement: Parasitic gap licensing (see Bošković 2011)

(67) Don't open without closing afterward

Suggestion: overt subject in (66b-c) is focalized, it undergoes movement to SpecA/A'P, hence it blocks A'-movement of the null object.

Test for null objects (possibly of a particular kind)

(68) a. Eat! b. You eat!

But SC:

(69) Otvori/Pažljivo otvori!  
open/ carefully open

(70) Ti otvori/pažljivo otvori!  
you open/carefully open

What matters here? The nature of the null object or the verbal form (SC has true imperatives)?

K. Zanon (p.c.) on Russian: Russian can additionally use infinitives (with dative subjects) as imperatives.

(71) a. Otkryvaj ostorožno!  
openIMPER carefully  
b. Ty otrkyvaj ostorožno!  
you openIMPER carefully

(72) a. Otryvat' ostorožno!  
openINF carefully  
b. ?\*Vsem otkryvat' ostorožno!  
all<sub>DAT</sub> open carefully  
c. ?Vsem otkryvat' pis'ma ostorožno!  
all<sub>DAT</sub> open letters carefully

Suggestion: no A/A'P in true imperatives.

So far we have (73) for different subjects (A/A'P is used for ease of exposition):

(73) [<sub>A/A'P</sub> wh-moved subject [<sub>IP</sub> Mary

Bošković (2020) on a return to split IP: Given that bar-level coordination is disallowed, (74) (the subject is outside of the coordination, the modal is not) provides evidence that the subject and the modal are not in the same phrase, the modal being lower than the phrase whose Spec the subject occupies. (This can be captured in early minimalist clausal structure, which split IP into AgrsP and TP.)

(74) John [travels to Rome tomorrow] and [will fly for Paris on Sunday]

(75) a. [<sub>AgrsP</sub> Mary will<sub>i</sub> [<sub>TP</sub> probably [<sub>TP</sub> t<sub>i</sub> write a book

b. [<sub>AgrsP</sub> Mary [<sub>TP</sub> probably [<sub>TP</sub> will write a book

One of original arguments for splitting IP: Infl was a strange element that contained two kinds of rather different information, agreement and tense (looking at the two semantically it is quite obvious how different they are). The argument applies to the current assumption that Tense has phi-features.

Bošković (2019), Cardinaletti (2004): non-agreeing quirky subjects are lower than agreeing subjects (XP is AgrsP and YP TP under the AgrsP/TP split—non-agreeing subjects are naturally not located in SpecAgrsP).

(76) [<sub>A/A'P</sub> wh-moved subject [<sub>XP/AgrsP</sub> Mary [<sub>YP/TP</sub> quirky subjects

### Quirky subject constructions

(77) Mér er kalt

me(D) is cold (Icelandic)

Crosslinguistic variation regarding the availability of quirky subjects like (77) is poorly understood.

Poole (2015): quirky subjects crosslinguistically do not behave uniformly with respect to the Zaenen et al (1985) tests.

I will take the possibility of binding subject-oriented anaphors as a diagnostic for true quirky subjects.

Quirky subjects are allowed in Icelandic, Faroese, Laz, Kannada, Korean, Malayalam, Spanish, Telugu, Japanese, Tamil, Polish, Russian, Imbabura, Georgian, Basque, Old French, Marathi, Gujarati, Hindi.

What these languages have in common is that they all allow *pro*-drop (full or partial). This leads to (78):

(78) Quirky subjects are allowed only in *pro*-drop languages.

Why is *pro*-drop required for quirky subjects?

This can be captured if quirky subjects are not located in the same position as regular subjects.

*Pro* is then needed for the regular subject position, hence only *pro*-drop languages allow quirky subjects (it would be an expletive *pro*).

Alternative: there is no separate AgrsP, with T having phi-features, in pro-drop languages (essentially T that is strong enough to label in Chomsky 2015): Quirky subjects cannot go to SpecA/A'P or SpecAgrsP, so only a language without AgrsP can have quirky subjects, only pro-drop languages are like that.

(79) [<sub>AgrsP</sub> Amy [<sub>TP</sub> quirky subject

**Extensions:** All of this can be extended to a lot of constructions

### V-2 subject/non-subject asymmetries in Germanic V-2 languages

The controversy regarding whether subject V-2 clauses in Germanic are CPs or IPs: subject V-2 clauses (81)/(83a) in several respects differ from non-subject V-2 clauses ((80)/(83b), Travis 1991, Zwart 1993), but they are also not exactly the same as regular non-V-2 subject clauses (82).

(80) Non-subject V ....

(81) Subject V...

(82) that Subject...V

(83) a. Das Kind hat das Brot gegessen.

the child has the bread eaten

'The child has eaten the bread.'

b. Das Brot hat das Kind gegessen.

the bread has the child eaten

What this essentially indicates is that the subject in subject V-2 clauses is in a position that is lower than SpecCP but higher than SpecIP, which can be captured if the subject in such clauses is located in SpecA/A'P (cf. also (57) for focalized subjects in English).

### English vs German

SpecA/A'P interpreted as +wh in English, not as topic, so a topic can't be located there (which means cannot satisfy the EPP there). This is why \**John<sub>i</sub>, t<sub>i</sub> left it* is bad.

In German the topic can be located in that position, this is why short subject topicalization is possible.

This may be related to inversion; there is inversion with topicalization/V-2 clauses in German, not in English ("Her, he likes" in English vs "Her likes he" in German)

**Locative Inversion** (see Diercks 2017, Salzmann 2011 for literature overviews on LI)

LI subjects show a number of subject properties, e.g. subject-raising (84a), no WCO effects (84b-c).

(84) a. On the wall<sub>i</sub> seemed [<sub>t<sub>i</sub></sub> to be hanging a picture of John].

b. Into every dog<sub>i</sub>'s cage peered its<sub>i</sub> owner.

c. cf. \*Into every dog<sub>i</sub>'s cage its<sub>i</sub> owner peered.

They also show some non-subject properties: they block extraction of lower elements (85a-b) and disallow inversion (85c).

(85) a. \*Which horse do you think that out of the barn ran?

b. \*Who do you think that on this wall hung [a picture of t<sub>i</sub>]?

c. \*Did on the wall hang a picture of John?

These properties can be captured under (86), where LI subjects move to a higher subject position than the regular subject position, where the higher position has mixed A/A' properties. (The *pro*-drop issue does not arise with LI under (86), hence LI subjects are allowed in non-*pro*-drop languages like English; as for inversion, it could be that what undergoes inversion is Agrs—the intervening higher head then blocks inversion.)

(86) [<sub>A/A'P</sub> LI<sub>i</sub> [<sub>AgrsP</sub> Amy [<sub>TP</sub> quirky subject

The higher position (SpecA/A'P) cannot be the Topic position; it must be a distinct position: (84b-c). Also, local subject topicalization is disallowed in English (Lasnik and Saito 1992, Bošković 2016a, Lacerda 2020, among others, see (87)).

- (87) a. \*John thinks that Mary likes himself.  
b. John thinks that himself, Mary likes  
c. \*John thinks that himself likes Mary

The domain approach to the EPP: the EPP requirement is satisfied in the highest projection in Split IP (i.e. the EPP domain; all the projections in (86) belong to the EPP domain).

Non-nominative subjects do not move to SpecAgrsP (since the EPP is satisfied in the final position of LI, the LI would not pass through SpecAgrsP).

If there is a QP above wh-DPs (see Cable 2010), there may be a similar projection above all phrases undergoing traditional A'-movement, see Yoo 2018): the right generalization may be that non-DP/nominal subjects cannot move to SpecAgrsP.

This could be the source of anti-agreement effects in languages that have them; under this suggestion, inherent case, as with quirky subjects, would be associated with a null P, as often assumed.

**Clausal subjects** (88) also show mixed subject properties (Stowell 1981, Bošković 1995; cf. (89) & (90)) but cannot be treated as undergoing topicalization from the usual subject position, which is disallowed. Note also the locality effect in (91)-(92).

(88) [That John likes Mary] is likely.

(89) [That John likes Mary] seems to be surprising.

(90) \*Is [that John likes Mary] likely?

(91) ?\*Peter asked to whom that John likes Mary seems to be surprising

(92) ?Peter asked to whom that discovery seems to be surprising

#### **Other candidates for SpecA/A'P:**

Quotative inversion subjects (93) and subject topics in Singlish no-agreement constructions (see Lee 2021 on the latter, all Singlish data from there).

(93) “I am so happy,” thought Mary.

(94) Mr. Wu know Mary. (Singlish)

(95) \*Mary, Mr. Wu know.

- (96) \*A horse love apples.  
 (97) cf. The girl/\*a girl Mr. Wu knows.  
 (98) \*John regrets that he know Mary.  
 (99) cf. \*John regrets that Mary, he knows.  
 (100) Someone love everyone.  $\exists > \forall, * \forall > \exists$   
 (101) Someone loves everyone.  $\exists > \forall, \forall > \exists$   
 (102) Who loves everyone?  $wh > \forall, * \forall > wh$   
 (103) On some stage stood every actress.  $\exists > \forall, * \forall > \exists$

It can also be focus (which is fine with A/A'P, note this is also a discourse effect)

Chinese subjects, which have a specificity requirement (a discourse effect), also in SpecA/A'P?

No inverse scope in Chinese either

More on Singlish and Chinese

- (104) a. A horse loves apples. OK specific, OK non-specific  
 b. \*A horse love apples.  
 c. ?The horse love apples.  
 d. ?One horse love apples. OK specific, \* non-specific  
 e. ?A certain horse love apples. f. \*One certain horse love apples. (Singlish)

Mandarin: Numeral phrases in Mandarin are non-specific indefinite expressions (e.g., Huang et al. 2009); they generally do not appear in subject position due to the specificity/definiteness requirement on Mandarin subjects (e.g. Li & Thompson 1981; Lee 1986; Li 1996).

- (105) a. wo kandao-le san-ge xuesheng.  
 I see-ASP two-Cl student  
 'I saw two students.'  
 b. ?\*san-ge xuesheng chi-le dangao.  
 three-Cl student eat-ASP cake  
 'Three students ate the cake.'

Exception: 'one' (only the specific reading possible here; only numeral expressions with one allow it)

- (106) yi-ge xuesheng chi-le dangao.  
 one-Cl student eat-ASP cake  
 'A student ate the cake.'

yi 'one': ambiguous between a numeral and an indefinite article (Chen 2003, Wang 2019, Zhang 2019)

This is why, in contrast to other numerals, yi 'one' does not require a classifier

- (107) a. yi nanhai b. san-\*(ge) nanha  
 one boy three-Cl boy  
 'a boy' 'three boys'

One of Wang's arguments: Numeral phrases in Mandarin, but not yi-N phrases, can be used to answer 'how many' questions.

- (108) ni        mai-le        duoshao        shu?  
 you        buy-ASP        how.many        book  
 ‘How many books did you buy?’  
 a. wo        mai-le        yi-ben/san-ben        shu.  
 I        buy-ASP        one-CL three-CL book  
 ‘I bought one book/three books.’  
 b. \*wo        mai-le        yi        shu.  
 I        buy-ASP        one book  
 ‘I bought a book.’

The same pattern found in English, which confirms the indefinite article status of yi ‘one’ in yi-N.

- (109) How many books did you buy a. I bought one book.  
 b. I bought three books.  
 c. ??I bought a book.

The non-agreeing structure in Singlish essentially comes from Chinese (see Lee 2021); *one* has to be used as an indefinite article in (104b,d) since Chinese uses *one* as an indefinite article here. (Article required because of English, but it has to be ‘Chinese’ article; the blocking effect (see Chierchia 1998) there only for the indefinite article since Chinese does not have definite article).

- (104) a. A horse loves apples.        OK specific, OK non-specific  
 b. \*A horse love apples.  
 c. ?The horse love apples.  
 d. ?One horse love apples.        OK specific, \* non-specific  
 e. ?A certain horse love apples.        f. \*One certain horse love apples.

‘One certain horse’ is (somewhat) degraded in (110) without CL on ‘one’ (so with article ‘one’), hence English indefinite article can be used in (104e,f).

- (110) yi ??(pi) teding de ma xihuan pingguo.  
 one CL certain DE horse love apple  
 ‘One certain horse loves apples.’

Codeswitching (CS) generally assumed to be lexical: if in a X-Y CS, a word/sequence of words is from X, then this part is X. Not so here, a word from X in Y (particularly interesting given the blocking effect involved in the interaction)

Back to Chinese: Could it be that there is no AgrsP (lack of agreement) or AgrsP can’t have a Spec so the subject needs to go somewhere else, that’s why it is in SpecA/A’P, which results in a semantic effect?

Could it then go lower in other languages of this sort, which would not yield a semantic effect of the Chinese kind, maybe Japanese?

Maybe multiple subjects possible in Japanese since the subject is not in SpecAgrsP, which would make the subject unique?

K. Zanon (p.c): radical pro-drop in languages like Chinese and Japanese connectable to the lack of AgrsP? If no AgrsP not possible to impose the agreeing/agreement requirement on pro (cf. Saito 2007)



**Sluicing:** If sluicing is always deletion of the complement of C, it would force subject wh-movement to go higher (see Stjepanović 1999)

**Wh-in-situ subjects**, are they in SpecA/A'P?

(115) Who thinks that who left

The *hell* test: no

(116) a. Who the hell bought that house? b. What the hell did Mary buy? c. \*Who bought what the hell?

(117) \*Who thinks that who the hell left

Superiority ((119) not worse than (118), in fact (118) may be worse)

(118) a. ?\*I wonder what John told who that Mary bought b. ?\*What did John tell who that Mary bought

(119) a. ?\*I wonder what John thinks that who bought b. ?\*What do you think that who left

**Non-subjects in SpecIP?**

**Japanese scrambling:**

Scrambled O in the OSV order shows both A and A'-properties.

This can be captured if the scrambled object is located in SpecA/A'P.

Alternative A/A'P implementation that separates A and A'-scrambled objects

Miyagawa (2003): scrambled O in the OSV order satisfies the EPP when the subject stays in SpecvP (a possibility in Japanese). This O can be in SpecA/A'P.

Argument to that effect, modifying Miyagawa (2003) based on the current system

- (120) a. zen'in-ga    sono    tesuto-o    uke-nakat-ta. (SOV)  
      all-NOM    that    test-ACC    take-NEG-PST  
      'All did not take that test.'    \*not >> all, all >> not    (Ishihara 2007:139)
- b. sono    tesuto-o<sub>i</sub>    zen'in-ga    t<sub>i</sub>    uke-nakat-ta. (OSV)  
      that    test-ACC    all-NOM    take-NEG-PST  
      'That test, all didn't take.'    not >> all, all >> not    (Miyagawa 2003:183-184)

Following Miyagawa (2003), the EPP holds in Japanese and elements other than subjects can satisfy it but adapting it to the contextual, the highest phrase in the EPP domain approach

The subject that moves to SpecIP must scope over the negation, while the negation obligatorily scopes over the subject that stays in its base position in SpecvP.

The subject in (120a) moves to SpecIP, hence it scopes over the negation.

(120b) is structurally ambiguous: On the derivation on which the subject takes wide scope the subject moves to SpecIP, with the object undergoing A'-movement to a higher position.

On the reading where the negation takes wide scope in (120b), for Miyagawa the object undergoes traditional A-scrambling.

For us, this is movement to SpecA/A'P, with the EPP satisfied in A/A'P (the highest phrase in the EPP domain). The subject then stays in its base position. (Ishihara observes prosody disambiguates (120b))



## A'-extraction of possessors in West Circassian

Generalizations/claims from Ershova (in press) regarding such extraction from DPs:

(121) Clause-mate possessor extraction possible out of absolutive DPs, not possible out of ergative and applied object DPs

(122) Long-distance possessor extraction possible out of all of them

(123) Absolutive DPs are in SpecTP (SpecAgrsP for us), ergative DPs in SpecvP, and applied object DPs in SpecApplP

Speculation: in English, with local A'-extraction, the relevant Op-feature can be in C(P) or A/A'(P), the latter being the case with subjects. In West Circassian, the latter also holds for possessors.

Only the element that would normally go to SpecTP (more precisely SpecAgrsP), or the possessor of that element, which should agree with it, can go to SpecA/A'P.

(121)-(122) immediately follow, given Ershova's (123).

## Contextuality in general (see Bošković 2021a,c)

History of the locality-of-movement/islandhood research

The bounding node approach (Chomsky 1973): the trouble-makers for movement were defined rigidly; NP and IP as bounding nodes regardless of the syntactic context in which they occur.

*Barriers* (Chomsky 1986): very different from the bounding node approach, but the importance of one difference has largely gone unnoticed—the contextuality of *Barriers*. One cannot even ask whether e.g. CP in general is a barrier. Its status in this respect depends on the syntactic context in which the CP occurs; in *Barriers*, trouble-makers for movement were defined contextually.

Chomsky's (2000, 2001) phase approach: went back to the bounding node approach in that it defined phases rigidly; e.g. CP & NP (ignoring the DP hypothesis) are phases regardless of their structural position.

This approach to phases was soon followed by various contextual approaches, where whether XP is a phase depends on the syntactic context in which it occurs (on a par with *Barriers*, in contrast to the bounding node/early phasehood approach), see e.g. Bošković 2005, 2013, 2014, 2015, Bobaljik & Wurmbrand 2005, den Dikken 2007, Despić 2011, Gallego & Uriagereka 2007, Takahashi 2011.

## Phasal edges

Bošković (2016b): just like the phasal status of a phrase is affected by the syntactic context in which it occurs, the concept of *phasal edge*, i.e. the status of a Spec regarding the PIC, is affected by the syntactic context in which the Spec occurs (the highest phrase in a phasal domain functions as a phase, and the highest edge in multiple-edge contexts functions as the phasal edge).

(124)  $[_{XP} \alpha [_{XP} \beta [_{XP} \gamma$

There has thus been a consistent move toward contextuality in the locality of movement.

The contextual approach to the EPP gains theoretical significance within this broader picture: It shows broader relevance of contextuality, contextuality now also being relevant in defining the EPP (in the same way as for phases and phasal edges—there is a domain for phases/phasal edges/EPP, with the highest phrase in the relevant domain functioning as a phase, phasal edge, locus of the EPP effect).

The scope of the contextuality of syntax is even broader

Chomsky (2013): labeling is also contextual; the same element behaves differently for labeling depending on the context (a phrase behaves differently in phrase-phrase and head-phrase mergers, also behaves differently in different phrase-phrase contexts), and its labeling status changes during the derivation.

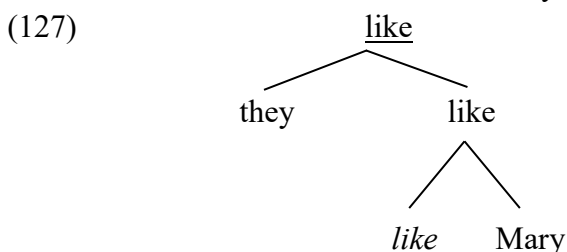
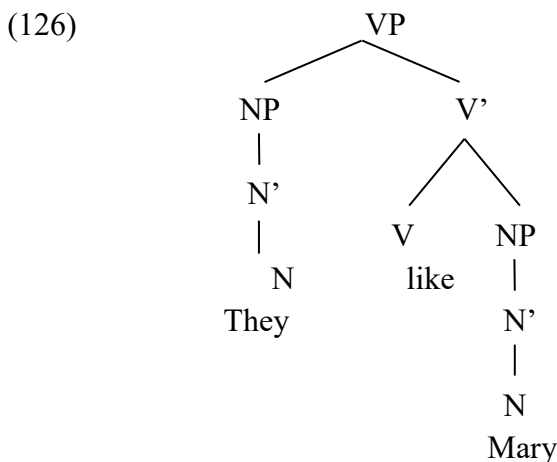
- (125) a. What do you think [~~what~~ that Mary bought ~~what~~]  
 b. I wonder [what Mary bought]

*Bare phrase structure* is also very contextual: whether  $\alpha$  is a head, phrase, or an intermediate projection depends on its syntactic context—its status also changes during the derivation: what is a maximal projection after a head and a phrase merge becomes an intermediate projection with further merger.

Takita et al (2016): spell-out of a phasal complement removes it from the derivation, which turns the Spec of phase head X into a complement. (Bošković 2021b uses this to explain why phasal Specs are more resistant to diachronic loss than non-phasal specifiers (cf. Dadan 2019 on the general loss of Specs).

Parallelism with the locality of movement: In the bounding node/rigid phasehood approach, one can look at a node itself, without paying attention to anything around it, and determine whether it is a bounding node/phase or not. Not possible in *Barriers*/contextual phasehood approaches.

In GB phrase structure one only needs to look at a node to determine its phrase structure status, whether it's a phrase or a head (126). In Bare Phrase structure, looking at any of the *like*-s in (127) doesn't help in determining whether it's a head or a phrase, its status being determined contextually (an element that doesn't project (like) is a phrase and an element that is not a projection (*like*) is a head).



The A/A' distinction: the status of a position regarding the A/A' distinction is now (in the phase system) also determined contextually.

Movement out of vP must stop by SpecvP. The A/A' status of a SpecvP depends on the nature of movement that stops by SpecvP: if we are dealing with A-movement (the position below and above SpecvP in the relevant chain is an A-position), the SpecvP counts as an A-position (also if SpecvP is the landing site of object shift); if we are dealing with A'-movement (as with wh-movement of adjuncts or long-distance movement of objects out of vP), the SpecvP counts as an A'-position; we need to look at the larger syntactic context to determine the status of a particular SpecvP regarding the A/A'-distinction.

(128) How<sub>i</sub> do you [<sub>vP</sub> t<sub>i</sub> think [that Mary fixed the car t<sub>i</sub>]]

Bošković (2015, 2016a, 2018, 2020): uniform account of all island/locality-of-movement effects based on a contextual approach to phases and the labeling theory, which is also heavily contextual, where there are in fact no islands as this notion has been traditionally understood—there are no phrases that by their nature, independently of their syntactic context, disallow extraction (extraction is possible from all islands under particular well-defined contexts).

There has thus been a constant broader move toward contextuality/context-sensitivity of syntax which permeates many domains, including structure-building and labeling, the A/A' distinction, formulation of locality domains (traditional islandhood as well as the status of phasal projections and their edges), and, as we argued, the EPP (the contextuality of the EPP is essentially the same as the contextuality of phases and phasal edges, being defined in the-highest-phrase-in-the-relevant-domain terms).

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