

## Class 3: Is $\nu$ P a phase?

Andrew Murphy

Universität Leipzig

andrew.murphy@uni-leipzig.de

### 1 $\nu$ P as a phase

- Yesterday, we saw various arguments for the phasehood of CP, in particular from successive-cyclic movement.
- Today, we will look at the arguments that have been put forward for  $\nu$ P as a phase.

(1) *Successive-cyclic movement via  $\nu$ P and CP:*

[<sub>CP</sub> Who do you [ <sub>$\nu$ P</sub> \_\_\_ think [<sub>CP</sub> \_\_\_ that Mary [ <sub>$\nu$ P</sub> \_\_\_ [<sub>VP</sub> likes \_\_\_ ]]]]] ?

(2) *Diagnostics for successive-cyclic movement:*

a. *Intermediate pronunciation:*

Can (part of) a moving phrase be pronounced at an intermediate landing site?

b. *Intermediate interpretation:*

Can a moving phrase be interpreted at an intermediate landing site?

c. *Intermediate licensing:*

Do certain licensing properties of a moved item hold at an intermediate landing site?

### 2 Evidence for successive-cyclicity at $\nu$ P

#### 2.1 Intermediate pronunciation

##### 2.1.1 Wh-copying/resumption

Recall that we saw that German allows for multiple pronunciation of a moved wh-phrase in (what looks like) an intermediate Spec-CP position (3a).

However, wh-copying is not possible in Spec- $\nu$ P position (3b) (pointed out by Schippers 2012:273, for example).

- (3) a. [<sub>CP</sub> Wen glaubt du [<sub>CP</sub> wen [<sub>TP</sub> Maria [ <sub>$\nu$ P</sub> \_\_\_ [<sub>VP</sub> \_\_\_ gesehen]] hat ]]] ?  
 who believe you who Maria seen has
- b. \* [<sub>CP</sub> Wen glaubt du [<sub>CP</sub> \_\_\_ [<sub>TP</sub> Maria [ <sub>$\nu$ P</sub> wen [<sub>VP</sub> \_\_\_ gesehen]] hat ]]] ?  
 who believe you Maria who seen has

Recall that Seerer showed intermediate resumption at Spec-CP:

(4) *Intermediate resumption at Spec-CP in Seereer* (Baier 2014):

- a. Xar<sub>1</sub> foog-o [<sub>CP</sub> yee **ten**<sub>1</sub> Yande a lay-u [<sub>CP</sub> yee **ten**<sub>1</sub> Jegaan a  
 what think.2SG.EXT C 3SG Yande 3.SBJ say-EXT C 3SG Jegaan 3.SBJ  
 ga'-u \_\_\_<sub>1</sub> ]] ?  
 see-EXT  
 'What do you think Yande said Jegaan saw?'

van Urk & Richards (2015) and van Urk (to appear) show that we find intermediate resumption of moved (plural) phrases at intermediate  $\nu$ P positions in Dinka:

(5) *ke-stranding in Dinka* (van Urk & Richards 2015:128):

- [<sub>CP</sub> Ye ŋa<sub>1</sub> ye [ <sub>$\nu$ P</sub> ke<sub>1</sub> taak [<sub>CP</sub> cii Bol [ <sub>$\nu$ P</sub> ke<sub>1</sub> [<sub>VP</sub> \_\_\_<sub>1</sub> tiŋ ]]]]] ?  
 is who HAB.SG PL think PRF.NS BOL.GEN PL see  
 'Who (pl.) do you think Bol saw?'

##### 2.1.2 Stranding

no clear case of stranding in Spec- $\nu$  is known

(Chomsky 2004:123)

- Recall quantifier float in West Ulster English, as described by McCloskey (2000).
- Stranding of *all* is possible in intermediate Spec-CP, but not Spec- $\nu$ P positions:

(6) *No quantifier float at Spec- $\nu$ P in West Ulster English* (McCloskey 2000:58,63):

- a. [<sub>DP</sub> What all ] did he say [<sub>CP</sub> (that) he wanted \_\_\_<sub>DP</sub> ] ?  
 b. What<sub>1</sub> did he say [<sub>CP</sub> that he wanted [<sub>DP</sub> \_\_\_<sub>1</sub> all ] ] ?  
 c. What<sub>1</sub> did he say [<sub>CP</sub> [<sub>DP</sub> \_\_\_<sub>1</sub> all ] that he wanted \_\_\_<sub>DP</sub> ] ?  
 d. \*What<sub>1</sub> did he tell [<sub>DP</sub> \_\_\_<sub>1</sub> all ] him [<sub>CP</sub> that he wanted \_\_\_<sub>DP</sub> ] ?

- However, Henry (2012) points out that there is some dialectal variation. The South Derry dialect is the mirror image, allowing stranding at Spec- $\nu$ P, but not Spec-CP:

- (7) *Quantifier float at vP only in South Derry English* (Henry 2012:12):
- What<sub>i</sub> did he do [DP \_\_\_<sub>i</sub> all ] on holiday?
  - What<sub>i</sub> did he [vP [DP \_\_\_<sub>i</sub> all ] say [CP that he did \_\_\_<sub>DP</sub> on holiday ] ] ?
  - What<sub>i</sub> did he say [CP [DP \_\_\_<sub>i</sub> all ] that he did \_\_\_<sub>DP</sub> on holiday ] ?

- Henry (2012) claims that East Derry speakers allow stranding in both intermediate positions.
- Recall that stranding of *exactly* is possible at Spec-CP:

- (8) *exactly-stranding at Spec-CP in English* (McCloskey 2000:63,fn.8)
- [DP What exactly ] do you want \_\_\_<sub>DP</sub> ?
  - What<sub>i</sub> do you want [DP exactly ] ?
  - What<sub>i</sub> did he say [CP [DP \_\_\_<sub>i</sub> exactly ] that he wanted \_\_\_<sub>DP</sub> ] ?

- It has been argued that we also find this at Spec-vP (for some speakers):

- (9) *exactly-stranding at Spec-vP* (Zyman 2017):
- What<sub>i</sub> was he [vP [DP \_\_\_<sub>i</sub> exactly ] doing there ] ?
  - What<sub>i</sub> did she [vP [DP \_\_\_<sub>i</sub> exactly ] send ] ?

- According to Ko (2011), Korean can strand a numeral quantifier in Spec-vP:

- (10) *Quantifier stranding at Spec-vP in Korean* (Ko 2011:736):
- Maykcwu-lul<sub>i</sub> John-i [VP [QP \_\_\_<sub>i</sub> sey-pyeng ] masiessta ]  
beer-ACC John-NOM 3-bottle drank  
'John drank three bottles of beer.'
  - Kong-ul<sub>i</sub> [TP amato [vP [QP \_\_\_<sub>i</sub> sey-kay ] [v' haksayng-tul-i [VP \_\_\_<sub>QP</sub>  
ball-ACC probably 3-thing student-PL-NOM  
patassulkesita ]]]]  
received  
'The students probably received three balls.'

- (11) *Left-Branch Extraction in Polish* (Wiland 2010:335):
- [NP Jaki samochód ] Paweł kupił swojej żonie \_\_\_<sub>NP</sub> ?  
what car Pavel bought his wife
  - Jaki<sub>i</sub> Paweł kupił swojej żonie [NP \_\_\_<sub>i</sub> samochód ] ?  
what Pavel bought his wife car  
'What car did Pavel buy for his wife?'
  - ?Jaki<sub>i</sub> *pro* myślisz [CP [NP \_\_\_<sub>i</sub> samochód ] Paweł kupił swojej żonie \_\_\_<sub>NP</sub> ]?  
what think car Pavel bought his wife.DAT  
'What car did Maria think Pavel bought his wife?'

- Wiland (2010) argues that (for some speakers) it is possible to strand the remnant of LBE in Spec-vP:

- (12) *Left-Branch Extraction from Spec-vP in Polish* (Wiland 2010:336):
- %Jaki<sub>i</sub> Maria [vP [NP \_\_\_<sub>i</sub> samochód ] myślała że Paweł kupił swojej żonie \_\_\_<sub>NP</sub> ]?  
what Maria car.ACC thought that Pavel bought his wife  
'What car did Maria think Pavel bought his wife?'

**Problem:**

Wiland (2010) claims that this must be stranding under successive-cyclic movement, since long-scrambling is not possible out of a finite clause:

- (13) \*Maria pieniądze<sub>i</sub> powiedziała [CP że Piotr oddał bratu \_\_\_<sub>i</sub> ]  
Maria money.ACC said that Piotr returned brother.DAT  
'Maria said that Piotr returned the money to his brother.' (Wiland 2010:344)

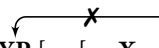
However, notice that we have the overt complementizer *że* in (12). This complementizer has been argued to block long-distance wh-movement (unlike the subjunctive one *żeby*):

- (14) \*Co<sub>i</sub> Janek myśli [CP że studenci czytają \_\_\_<sub>i</sub> ] ?  
what Janek think.3SG that students read  
'What does Janek think that the students read?' (Witkoś 1995:229)

**More general problem:**

Why is stranding possible at only some edges (but not others) within the same language?

- One way we could do this is to propose that at some point in the derivation, the internal content of a phrase is made 'inaccessible' (e.g. Spell-Out; Uriagereka 1999, or ATOMIZE; Fowlie 2013; Davis 2018).
- At an intermediate position, we either 'freeze' or Spell-Out the internal structure of a phrase (prohibiting later stranding):

- (15) a. [ YP [CP [XP X \_\_\_ ] ... [ZP [XP X YP ] ... [VP ... ]]] ]  
  
 Spell-Out

- The predictions of such a theory are pretty clear, once a phrase has been internally 'spelled-out', stranding at later edges should not be possible:

- (16) a. [CP C ... [vP [XP X YP ] ... [CP [XP X YP ] ... [vP [XP X YP ] ... [VP ... ]]]]]  
 no stranding no stranding stranding
- b. [CP C ... [vP [XP X YP ] ... [CP [XP X YP ] ... [vP [XP X YP ] ... [VP ... ]]]]]  
 no stranding no stranding no stranding

- What we don't predict are the following patterns:

- (17) a. \* $[_{CP} C \dots [_{vP} \underbrace{[_{XP} X YP] \dots}_{\text{no stranding}}] \dots [_{CP} \underbrace{[_{XP} X YP] \dots}_{\text{stranding}}] \dots [_{vP} \underbrace{[_{XP} X YP] \dots}_{\text{no stranding}}] \dots [_{VP} \dots ]]]]$
- b. \* $[_{CP} C \dots [_{vP} \underbrace{[_{XP} X YP] \dots}_{\text{stranding}}] \dots [_{CP} \underbrace{[_{XP} X YP] \dots}_{\text{no stranding}}] \dots [_{vP} \underbrace{[_{XP} X YP] \dots}_{\text{stranding}}] \dots [_{VP} \dots ]]]]$

- It turns out that we do find languages instantiating these patterns, however.
- The pattern in (17a) is found in West Ulster English and also with *voor*-stranding in Afrikaans (Rackowski & Richards 2005:593).
- For example, stranding of *allemaal* and *mee* in Dutch is claimed to be possible in all intermediate Spec-*vP*, but not Spec-CP positions (see Barbiers 2002:49 for parallel data with other strandable elements in Dutch):

- (18) *Intermediate stranding of Dutch allemaal in Spec-vPs* (Koopman 2010:268):  
 Wat heeft hij [<sub>vP</sub> (allemaal) gezegd [<sub>CP</sub> (\*allemaal) dat hij [<sub>vP</sub> (allemaal) wilde  
 what has he (all) said (\*all) that he (all) wanted  
 hebben ]]] ?  
 have  
 'What (all) did he say that he wanted to have?'

## 2.2 Intermediate interpretation

### 2.2.1 Reconstruction effects

- Recall that we saw evidence for intermediate reconstruction to Spec-CP:

- (19) *Intermediate reconstruction for Principle C* (Fox 1999:173):
- a. [<sub>DP</sub> Which papers that he<sub>i</sub> gave to Ms. Brown<sub>j</sub> ] did every student<sub>i</sub> hope [<sub>CP</sub> ✓ that she<sub>j</sub> will read \* ] ?
- b. \* $[_{DP}$  Which (of the) papers that he<sub>i</sub> gave to Ms. Brown<sub>j</sub> ] did she<sub>i</sub> hope [<sub>CP</sub> \* that every student<sub>i</sub> would revise \* ] ?

- Fox also shows that the same effect can be found at the *vP* edge:

- (20) *Intermediate reconstruction to vP edge* (Fox 1999:174):
- a. [Which of the papers that he<sub>i</sub> asked Ms. Brown<sub>j</sub> for] did every student<sub>i</sub> [<sub>vP</sub> ✓ get her<sub>j</sub> to grade \* ] ?
- b. \* $[_{DP}$  Which of the papers that he<sub>i</sub> asked Ms. Brown<sub>j</sub> for] did she<sub>j</sub> [<sub>vP</sub> \* get every student<sub>i</sub> to grade \* ] ?

- Legate (2003) argues that this effect is also found with unaccusative and passive *vPs*:

- (21) *Reconstruction at unaccusative/passive vP edge* (Legate 2003:507f.):

- a. [At which of the parties that he<sub>i</sub> invited Mary<sub>j</sub> to] was every man<sub>i</sub> [<sub>vP</sub> ✓ introduced to her<sub>j</sub> \* ]
- b. [At which of the conferences where he<sub>i</sub> mispronounced the invited speaker's<sub>j</sub> name] did every organizer's<sub>i</sub> embarrassment [<sub>vP</sub> ✓ escape her<sub>j</sub> \* ] ?

- *Note*: We are moving an **adjunct**. What is its base-position? (cf. *cascades*; Pesetsky 1995).
- Another argument for reconstruction to the edge of defective *vP* comes from Sauerland (2003):

- (22) *Intermediate reconstruction with raising verbs* (Sauerland 2003:310f.)

- a. [<sub>TP</sub> Every child<sub>i</sub> doesn't [<sub>vP</sub> ✓ seem to his<sub>i</sub> father [<sub>TP</sub> to \* be smart ]]]
- b. [<sub>TP</sub> All linguists<sub>i</sub> didn't [<sub>vP</sub> ✓ seem to their<sub>i</sub> employer [<sub>TP</sub> to \* work hard ]]]

- A narrow scope interpretation of negation requires interpretation above the experiencer PP, but below negation.

What [arguments from reconstruction] demonstrate is that extraction out of *vP* can proceed in two steps. But the claim that *vP* is a phase is considerably stronger than that, in that it forces such movement to proceed in two steps. To demonstrate that *vP* is a phase, it is necessary to show that extraction out of the *vP* has to proceed through the edge of the *vP*. [...] It seems to me that this is a general property of evidence from reconstruction. The option of reconstructing an element into an intermediate position is uninformative with respect to the question of whether this intermediate position has to be created or merely may be created. Because an argument for phases depends on establishing the former, reconstruction evidence as a matter of principle does not provide evidence for phasehood.

(Keine 2016:407)

- In particular, den Dikken (2006) suggests that this evidence would be equally compatible with an intermediate landing site at Spec-TP:

- (23) [At which of the parties that he<sub>i</sub> invited Mary<sub>j</sub> to]<sub>1</sub> was [<sub>TP</sub> every man<sub>i</sub> [<sub>TP'</sub> ✓ [<sub>vP</sub> introduced to her<sub>j</sub> \* ] ]]

### 2.2.2 Parasitic gap licensing

- It has been argued that parasitic gap licensing also constitutes an argument for intermediate movement to Spec-*vP*:

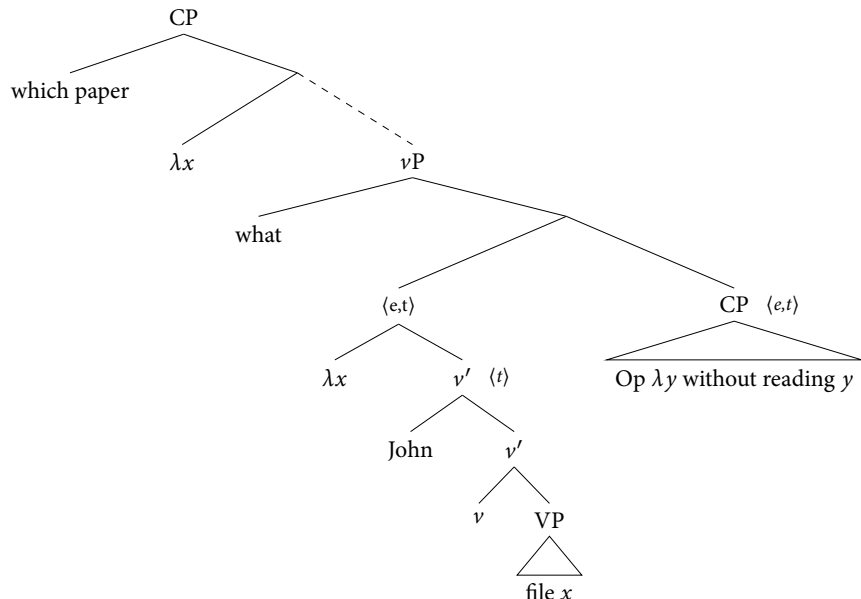
- (24) *Parasitic gaps require wh-movement* (Engdahl 1983; Nissenbaum 2000):

- a. Which paper<sub>1</sub> did John file \_\_\_<sub>1</sub> [ without PRO reading \_\_\_<sub>pg</sub> ] ?
- b. \*John filed the paper [ without PRO reading \_\_\_<sub>pg</sub> ]

- Nissenbaum (2000) proposes that the adjunct containing the *pg* adjoins low to the *vP*.

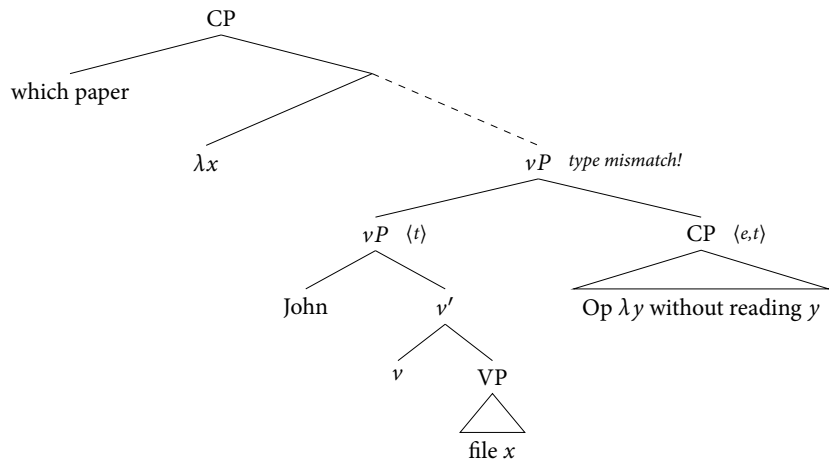
- This modification requires two predicates of type  $\langle e,t \rangle$  (cf. *Predicate Modification*; Heim & Kratzer 1998), which is created by intermediate movement to Spec- $\nu P$ :

(25) *Licensing of parasitic gaps* (Nissenbaum 2000):



- However, if we did not have movement to Spec- $\nu P$ ,  $\nu P$  would be of type  $\langle t \rangle$ , resulting in a type-mismatch:

(26) *Lack of intermediate movement does not license parasitic gaps*:



- Legate (2003) claims that parasitic gap licensing is (somewhat marginally) possible with both unaccusative and passive  $\nu P$ s, meaning that these also must involve intermediate movement (pace Chomsky 2000, 2001).

(27) *Unaccusative and passive  $\nu P$ s license parasitic gaps* (Legate 2003:511)

- ?Which house<sub>1</sub> was John sold \_\_\_<sub>1</sub> [before we could demolish \_\_\_<sub>pg</sub> ] ?
- ?Whose name<sub>1</sub> escaped John \_\_\_<sub>1</sub> [before he could write \_\_\_<sub>pg</sub> down ] ?

- Is this a strong argument? It seems clear that parasitic gaps need to be adjoined relatively low:

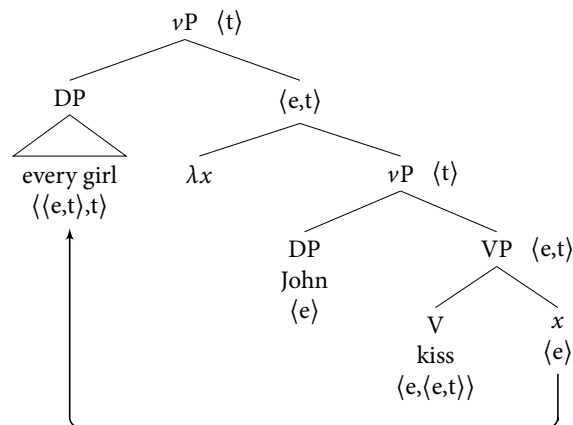
(28) Which paper<sub>1</sub> did [TP each student<sub>i</sub> [ $\nu P$  [ $\nu P$  file \_\_\_<sub>1</sub> ] [CP without his<sub>i</sub> supervisor reading \_\_\_<sub>pg</sub> ]]] ?

- This argument is compatible with there being an intermediate landing site at Spec- $\nu P$ , but it does enforce one?
- This argument for  $\nu P$  as a phase presupposes that Nissenbaum's analysis is the *only* way to analyze parasitic gaps (as pointed out by den Dikken 2006).

### 2.2.3 Quantifier raising

- Legate (2003) follows a suggestion by Chomsky (2000:109) that phases should constitute the target for Quantifier Raising.


(29) *Quantifier Raising*:



- QR is also crucial for the classic analysis of *antecedent-contained deletion* (ACD):

- John [ $\nu P$  read the book ] and Mary did [ $\nu P$   $\Delta$  ] too
- John [ $\nu P$  read every book that Mary did [ $\nu P$   $\Delta$  ] ]

- Let us assume that the resolution of VPE involves finding an antecedent VP for the ellipsis site.
- For (30a), this is relatively easy. We just copy *read the book*.

(31) John  $[\text{VP read book}]$  and Mary did  $[\text{VP } \Delta ]$  too.  

 A dashed arrow labeled 'Copying' points from the VP 'read book' in the antecedent clause to the ellipsis site 'Δ' in the second clause.

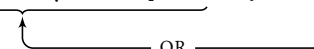
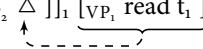
- However, the problem with (30b) is that the ellipsis site is contained in the antecedent VP:

(32) *Infinite regress problem in ACD:*

- John  $[\text{VP read every book that Mary did } [\text{VP } \Delta ] ]$
- John  $[\text{VP read every book that Mary did } [\text{VP}' \text{ read every book that Mary did } [\text{VP } \Delta ] ] ]$
- John  $[\text{VP read every book that Mary did } [\text{VP}_1 \text{ read every book that Mary did } [\text{VP}' \text{ read every book that Mary did } [\text{VP } \Delta ] ] ] ] ]$
- ...

- One proposed solution (May 1985) is to QR the quantified DP *every book that Mary did Δ* outside of the  $\text{VP}_1$ .
- This allows us to copy  $\text{VP}_1$  (with a trace of QR) into the ellipsis site in  $\text{VP}_2$

(33) *QR solves infinite regress problem:*

- John  $[\text{VP}_1 \text{ read every book that Mary did } [\text{VP}_2 \Delta ] ]$
- John  $[\text{VP } \underbrace{\text{every book that Mary did } [\text{VP}_2 \Delta ]}_1 [\text{VP}_1 \text{ read } t_1 ] ]$   

 A solid arrow labeled 'QR' points from the ellipsis site 'Δ' in the inner VP to the DP 'every book that Mary did [VP2 Δ]' in the outer VP.
- John  $[\text{VP } [\text{every book that Mary did } [\text{VP}_2 \Delta ] ]_1 [\text{VP}_1 \text{ read } t_1 ] ]$   

 A dashed arrow points from the ellipsis site 'Δ' in the inner VP to the DP 'every book that Mary did [VP2 Δ]' in the outer VP.
- John  $[\text{VP } \text{every book that Mary did } [\text{VP}_2 \text{ read } t_1 ]_1 [\text{VP}_1 \text{ read } t_1 ] ]$

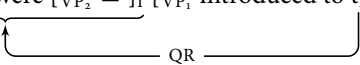
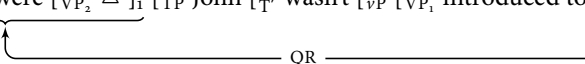
- Legate (2003) argues that QR targets  $\nu\text{P}$  as a phase.
- The question is: how we do know the landing site for QR is not higher (i.e. TP) as often assumed (May 1985)?
- Legate (2003) adopts an insight by Merchant (2000) who shows that we can force QR to target a lower position, i.e.  $\nu\text{P}$ , by making the DP containing the ACD an negative polarity item:

(34) *ACD with NPIs* (Merchant 2000:144; Legate 2003:509):

- Mary wasn't introduced to  $[\text{DP anyone you were } [\text{VP } \Delta ] ]$
- That boy won't do  $[\text{DP a damn thing I ask him to } [\text{VP } \Delta ] ]$

- Legate (2003) argues that this position is  $\nu\text{P}$ :

(35) *QR must scope below negation:*

- $[\text{TP John } [\text{T}' \text{ wasn't } [\nu\text{P anyone you were } [\text{VP}_2 \Delta ]_1 [\text{VP}_1 \text{ introduced to } t_1 ] ] ] ] ]$   

 A solid arrow labeled 'QR' points from the ellipsis site 'Δ' in the inner VP to the DP 'anyone you were [VP2 Δ]' in the outer VP.
- \* $[\text{TP anyone you were } [\text{VP}_2 \Delta ]_1 [\text{TP John } [\text{T}' \text{ wasn't } [\nu\text{P } [\text{VP}_1 \text{ introduced to } t_1 ] ] ] ] ] ] ]$   

 A solid arrow labeled 'QR' points from the ellipsis site 'Δ' in the inner VP to the DP 'anyone you were [VP2 Δ]' in the outer VP.

- Importantly, Legate (2003) shows that unaccusative and passive  $\nu\text{Ps}$  also pattern like  $\nu^*\text{Ps}$  as landing sites for QR:

(36) *Unaccusative and passive νPs are landing sites for QR* (Legate 2003:509f.):

- Mary wasn't introduced to  $[\text{DP anyone you were } [\text{VP } \Delta ] ]$
- The road didn't go to  $[\text{DP any of the scenic spots you expect it to } [\text{VP } \Delta ] ]$

### Question:

What does QR actually tell us about phases?

Either of two possible conceptions of QR renders it a diagnostic for movement to the phase edge. The first is that QR is covert, and covert movement must obey cyclicity just like overt movement. Since the phase is the minimal unit sent to LF for interpretation, the phase edge is the only possible target for QR.

(Legate 2003:509)

- The problem with the first diagnostic is that we might expect successive-cyclic movement out of a CP to be possible. However, QR is typically clause-bound

(37) *QR is clause-bound:*

- A (different) student talked to every professor ( $\forall > \exists$ )
- A (different) student said  $[\text{CP that he talked to every professor } ]$  ( $*\forall > \exists$ )

- There might be ways to derive this, however (see Cecchetto 2004; Citko 2014:67).
- The problem with the second suggestion is that the  $\nu\text{P}$  is *not* sent to the interfaces, but rather its complement (VP).
- A possible rationale might be that QR involves Predicate Abstraction (29) and must therefore adjoin to something 'propositionally complete' of type (t) (see Bruening 2001). Does this single out  $\nu\text{P}$  as a phase, though?
- Like reconstruction, it seems that the QR facts are *compatible* with  $\nu\text{P}$  being a phase, but they do not necessarily require it.

## 2.3 Intermediate licensing

### 2.3.1 Subject-auxiliary inversion

- Recall that successive-cyclic movement seems to trigger inversion in some languages:

(38) *Inversion in Belfast English* (Henry 1995:108f):

- a. What<sub>1</sub> did Mary claim [CP [C<sup>0</sup> did] [TP they \_\_\_ steal \_\_\_<sub>1</sub>]] ?
- b. \*Who<sub>1</sub> did John say [CP [C<sup>0</sup> did] [TP Mary \_\_\_ claim [CP [C<sup>0</sup> had] [TP John \_\_\_ feared [CP [C<sup>0</sup> would] [TP Bill \_\_\_ attack \_\_\_<sub>1</sub>]]]]] ?

- It has been argued that this is found in a Mòcheno (a German dialect spoken in Northern Italy)

(39) *Inversion at vP in Mòcheno* (Cognola 2013; Cognola 2015):

- a. I hòn [vP (\*kaft) [VP s puach kaft ]]  
I have bought the book bought  
'I bought the book.'
- b. \*En bem<sub>1</sub> hòt=se [vP \_\_\_<sub>1</sub> [VP \_\_\_<sub>1</sub> de zaitung kaft ]] ?  
to whom has=she the newspaper bought  
'Who bought the book?'
- c. En bem<sub>1</sub> hòt=se [vP \_\_\_<sub>1</sub> kaft [VP \_\_\_<sub>1</sub> de zaitung \_\_\_ ]] ?  
to whom has=she bought the newspaper  
'Who bought the book?'

- It is certainly tempting to analyze this along similar lines to inversion in Belfast English.

### 2.3.2 Gaps

- In the last class, we saw that extraction from a V<sub>2</sub>-clause left an obligatory gap in Spec-CP in languages such as German and Dinka:

(40) *Extraction from a V<sub>2</sub>-clause in Dinka* (van Urk 2015:133):

- a. Yè ŋó<sub>1</sub> yúukú<sub>1</sub> luéel [CP \_\_\_<sub>1</sub> cǐi [TP Ból \_\_\_<sub>1</sub> cáam ]] ?  
be who HAB.IPL say.NF has Bol.GEN eat.NF  
'Who do we say (that) Bol has eaten?'
- b. \*Yè ŋó<sub>1</sub> yúukú<sub>1</sub> luéel [CP Ból<sub>2</sub> àcǐ [TP \_\_\_<sub>2</sub> \_\_\_<sub>1</sub> cáam ]] ?  
be who HAB.IPL say.NF Bol.GEN has eat.NF  
'Who do we say (that) Bol has eaten?'

- van Urk and Richards argue that there is an obligatory gap in Spec-vP under wh-movement:

(41) *Preverbal position in Dinka must be occupied* (van Urk & Richards 2015:122):

- a. yêɛn<sub>1</sub> cǐ [vP Ayén [VP yiɛn \_\_\_ kitáp ]]  
I PRF Ayen give book  
'I gave Ayen a book'
- b. yêɛn<sub>1</sub> cǐ [vP kitáp [VP yiɛn Ayén \_\_\_ ]]  
I PRF book give Ayen
- c. \*yêɛn<sub>1</sub> cǐ [vP \_\_\_ [VP yiɛn Ayén kitáp ]]  
I PRF give Ayen book  
'I gave Ayen a book'

(42) *Object extraction requires gap in Spec-vP* (van Urk & Richards 2015:125):

- a. Yeŋa, cǐi môc [vP \_\_\_<sub>1</sub> [VP \_\_\_<sub>1</sub> yiɛn kitáp ]] ?  
Who PRF.NS man.GEN give book  
'Who did the man give the book to?'
- b. \*Yeŋa, cǐi môc [vP kitáp [VP yiɛn \_\_\_<sub>1</sub> \_\_\_ ]] ?  
Who PRF.NS man.GEN book give  
'Who did the man give the book to?'

- Thus, they argue that movement must pass through Spec-vP (blocking movement of other arguments there).
- However, Keine (2016) points a problematic aspect of their analysis when the full range of data is taken into account. He argues vP phasehood is not a necessary condition to derive the data.

### 2.3.3 Pied-piping

- Some languages allow for pied-piping of a constituent under wh-movement:

(43) *Clausal pied-piping in Basque* (Ortiz de Urbina 1989; Arregi 2003:118):

- a. Se<sub>1</sub> pentzate su [CP \_\_\_<sub>1</sub> idatzi rabela Jon-ek \_\_\_<sub>1</sub> ]] ?  
what you.think written has Jon-ERG  
'What do you think (that) Jon wrote?'
- b. [CP se<sub>1</sub> idatzi rabela Jon-ek \_\_\_<sub>1</sub> ] pentzate su \_\_\_<sub>CP</sub> ?  
what written has Jon-ERG you.think  
'What do you think (that) Jon wrote?'

- Do we find Pied-Piping with intermediate movement to Spec-vP?

(44) *Pied-piping of vP in German* (Reis 2006; Heck 2008:157):

- a. Fritz weiß,  $\overbrace{\text{wie schön}_i \text{ man}}_{[vP \text{ ---}_1 [vP \text{ ---}_1 \text{ geschrieben}]]}$  haben muss, um  
 Fritz knows how beautifully one written have must PRT  
 eine Eins zu bekommen  
 a one to get  
 ‘Fritz knows how well one must have written to get an A.’
- b. Fritz weiß,  $\overbrace{[\text{vP wie schön}_i [\text{vP ---}_1 \text{ geschrieben}]] \text{ man}}_{\text{---}_{vP}}$  haben muss, um  
 Fritz knows how beautifully written one have must PRT  
 eine Eins zu bekommen  
 a one to get  
 ‘Fritz knows how well one must have written to get an A.’

- We can also find a slightly different kind of evidence for intermediate movement to *vP* from Ewe. The matrix verb can show up in Spec-CP along with the moving embedded wh-phrase:

(45) *Pied-piping of matrix verb under long-distance movement in Ewe* (Buell 2012:19):

- a. È-lè dì-dí-m [CP bé má-dà móli  
 2SG-be.at REDUP-want-PROG that 1SG-prepare rice  
 ‘You want me to make some rice.’
- b. Nùkà<sub>1</sub> [TP nè-lè [vP ---<sub>1</sub> dì-dí-m [CP bé má-dà ---<sub>1</sub>]] ?  
 what 2SG-be.at want-PROG that 1SG-prepare  
 ‘What do you want me to prepare?’
- c. [<sub>α</sub> Nùkà<sub>1</sub> dí-m ] [TP nè-lè [vP ---<sub>α</sub> [CP bé má-dà ---<sub>1</sub>]] ?  
 what want-PROG 2SG-be.at that 1SG-prepare  
 ‘What do you want me to prepare?’

- But what kind of constituent is  $\alpha$ ?
- Cozier (2006) describes a similar pattern in Trinidad dialectal English.

## 2.4 Morphological reflexes of movement

• (46) *Complementizer alternation in Irish* (McCloskey 1979:54,150f.):

- a. Dúirt mé [CP **gu-r** shíl mé [CP **go** mbeadh sé ann ]  
 said I go-PAST thought I go would.be he there  
 ‘I said that I thought that he would be there.’
- b. [CP cen t-ursceal **a** mheas me [CP --- **a** duirt se [CP **a** thuig se --- ]]] ?  
 which novel  $a^L$  thought I  $a^L$  said he  $a^L$  understood he  
 ‘Which novel did I think he said he understood?’

(47) *Vocabulary Items for Irish* (cf. McCloskey 2002:203):

- a. [C, EPP] ↔  $a^L$   
 b. [C] ↔ *go*

- There are movement reflexes that also seem to target *vP*, for example *ke-* shows up on all verbs crossed by an  $\bar{A}$ -dependency:

(48) *ke-marking in Defaka* (Bennett et al. 2012:296f.):

- a. Amanya ómgbinya sóno á ama-ma kí'á 'té ?  
 Amaya shirt buy her give-NFUT market at  
 ‘Amaya bought a shirt for her at the market.’
- b. Tári<sub>1</sub> ndo Amanya ómgbinya sóno ---<sub>1</sub> ama-**ke** kí'á 'té ?  
 who FOC Amaya shirt buy give-KE market at  
 ‘Who did Amaya buy a shirt for at the market?’
- c. Ándu<sub>1</sub> ndo Bomá faa-**ke** [CP iní ---<sub>1</sub> été-**ke** ]  
 canoe FOC Boma say-KE they have-KE  
 ‘It’s a canoe that Boma said they have.’

- A similar pattern has been described by Korsah & Murphy (2017) for Asante Twi, where low-toned verbs alternate to high when crossed by an  $\bar{A}$ -dependency:

(49) *Tonal overwriting in Asante Twi* (Korsah & Murphy 2017):

- a. [CP Kofi **kaé** [CP se Á'má **kita** bayéré ]]]]  
 Kofi remember that Ama hold yam  
 ‘Kofi remembers that Ama is holding a yam.’
- b. [CP Déén na Kofi [vP --- **kaé** [CP --- se Á'má [vP --- [vP **kítá** --- ]]]]] ?  
 what FOC Kofi remember that Ama hold  
 ‘What does Kofi remember that Ama is holding?’
- c. Hwáń<sub>1</sub> na ɔ<sub>1</sub>-**ká**-a [CP sé ɔ-**do** Á'má ] ?  
 who FOC 3SG-say-PST that 3SG-love Ama  
 ‘Who said that he loves Ama?’

- We can adopt a similar analysis to the one for Irish:

(50) *Vocabulary Items for v in Asante Twi*:

- a. [v, EPP] ↔  $H^-$   
 b. [v] ↔  $\emptyset$

### General issue:

- Some morphological reflexes are ambiguous about the exact position/movement involved:

- For example, Ewe exhibits optionality in the form of an embedded pronoun in the context of clausemate extraction:

(51) *Long-distance movement triggers pronoun optionality* (Collins 1993:179,182):

- Kofi gblɔ [CP be é/\*wò fo Kɔsi ]  
Kofi said that he hit Kosi  
'Kofi said that he hit Kosi'
- Kofi<sub>i</sub> ε me gblɔ [CP be é/wò fo \_\_\_\_<sub>i</sub> ]  
Kofi FOC 1SG said that he hit-3SG  
'It is Kofi that I said s/he hit'

### 3 vP as a phase: Some problems

#### 3.1 Agreement across vPs in Hindi

- Keine (2016, 2017) argues that long-distance agreement in Hindi is problematic for vP phases.

(52) *Idiomatic reading lost under movement* (Keine 2017:178f.)

- Raam-ne bhains ke aage **biin** bajaa-**yii**  
Ram-ERG buffalo in.front.of flute.FSG play-PERF.FSG  
'Ram did something futile.' (*lit.* 'Ram played the flute in front of the buffalo')
- Biin**<sub>i</sub> raam-ne bhains ke aage \_\_\_\_<sub>i</sub> bajaa-**yii**  
flute.FSG Ram-ERG buffalo in.front.of play-PERF.FSG  
*lit.* 'Ram played the flute in front of the buffalo' (no idiomatic reading)

(53) *Long-distance agreement with idiomatic reading* (Keine 2017:179):

Raam-ne [<sub>vP</sub> bhains ke aage **biin** bajaa-nii ] caah-**ii**  
Ram-ERG buffalo in.front.of flute.FSG play-INF.FSG want-PERF.FSG  
'Ram wanted to do something futile.'

- This rules out the possibility that the direct object moves 'covertly' to the edge (Polinsky & Potsdam 2001).

(54) [<sub>TP</sub> T<sub>[φ:□]</sub> [<sub>vP</sub> v [<sub>VP</sub> V [<sub>vP</sub> [<sub>VP</sub> V DP<sub>[φ]</sub> ]]]]]

- Maybe the φ-probe is on v?
- The same facts hold with two levels of embedding:

(55) *Long-distance agreement with idiomatic reading (2 levels)* (Keine 2017:180):

?Raam-ne [<sub>vP</sub> [<sub>vP</sub> bhains ke aage **biin** bajaa-nii ] shuruu kar-nii ]  
Ram-ERG buffalo in.front.of flute.FSG play-INF.FSG start do-INF.FSG  
caah-**ii**  
want-PERF.FSG  
'Ram wanted to do something futile.'

(56) [<sub>TP</sub> T<sub>[φ:□]</sub> [<sub>vP</sub> v [<sub>VP</sub> V [<sub>vP</sub> [<sub>VP</sub> V [<sub>vP</sub> [<sub>VP</sub> V DP<sub>[φ]</sub> ]]]]]]]

- This is problematic on both PIC<sub>1</sub> and PIC<sub>2</sub>. Could we assume that Agree is exempt from the PIC (e.g. Bošković 2007)?
- No, because Agree across CP is still impossible in Hindi:

(57) *No LDA across finite CPs* (Bhatt 2005:776):

Larkō-ne soc-**aa**/\*-**ii** [<sub>CP</sub> ki monaa-ne **ghazal** gaa-yii  
boys-ERG think-PERF.MSG/\*-PERF.FSG that Mona-ERG ghazal.F sing-PERF.FSG  
thii ]  
be.PAST.FSG  
'The boys thought that Mona had sung ghazal.'

- Thus, Keine (2017) concludes that vP is not a phase in Hindi (cf. Legate 2005 for a similar problem).

#### 3.2 Morphological reflexes of local subject extraction

- Recall that object extraction must pass through vP, licensed by an [EPP]-feature which can trigger morphological alternations:

(58) *Local object extraction:*

[<sub>CP</sub> wh [<sub>C'</sub> C<sub>[EPP]</sub> ... [<sub>vP</sub> \_\_\_\_ [<sub>v'</sub> DP [<sub>v'</sub> v<sub>[EPP]</sub> [<sub>VP</sub> V \_\_\_\_ ]]]]]]]

- Subjects are base-generated at the phase-edge (Spec-vP) and thus do not require EPP-insertion. Thus, we expect not to find movement reflexes with local subject extraction:

(59) *Local subject extraction:*

[<sub>CP</sub> wh [<sub>C'</sub> C<sub>[EPP]</sub> ... [<sub>vP</sub> \_\_\_\_ [<sub>v'</sub> v [<sub>VP</sub> V DP ]]]]]

- We do find this pattern in some languages, e.g. Indonesian.
- It has been argued that deletion of the transitive voice prefix *meN-* in Indonesian tracks successive-cyclic movement Aldridge (2008); Sato (2012).
- Importantly, local subject movement does not trigger the reflex:





- Keine, Stefan (2016). *Probes and their Horizons*. PhD thesis, University of Massachusetts Amherst.
- Keine, Stefan (2017). Agreement and vP Phases. In N. LaCara, K. Moulton & A.-M. Tessier (eds). *A Schrift to Fest Kyle Johnson*. Linguistics Open Access Publications: Amherst, MA. 177–185.
- Ko, Heejeong (2011). Predication and Edge Effects. *Natural Language and Linguistic Theory* 29(3). 725–778.
- Koopman, Hilda (2010). On Dutch *allemaal* and West Ulster English *all*. In J.-W. Zwart & M. de Vries (eds). *Structure Preserved: Studies in Syntax for Jan Koster*. John Benjamins: Amsterdam. 267–275.
- Korsah, Sampson & Andrew Murphy (2017). Tonal Reflexes of Movement in Asante Twi. Ms. Universität Leipzig.
- Legate, Julie Anne (2003). Some Interface Properties of the Phase. *Linguistic Inquiry* 34(3). 506–516.
- Legate, Julie Anne (2005). Phases and Cyclic Agreement. In M. McGinnis & N. Richards (eds). *Perspectives on Phases*. MITWPIL: Cambridge, MIT. 147–156.
- May, Robert C. (1985). *Logical Form: Its Structure and Derivation*. MIT Press: Cambridge, MA.
- McCloskey, James (1979). *Transformational Syntax and Model Theoretic Semantics: A Case Study in Modern Irish*. Dordrecht: Riedel.
- McCloskey, James (2000). Quantifier Float and Wh-Movement in an Irish English. *Linguistic Inquiry* 31(1). 57–84.
- McCloskey, James (2002). Resumption, Successive Cyclicity, and the Locality of Operations. In S. Epstein & T. Seely (eds). *Derivation and Explanation in the Minimalist Program*. Blackwell: Oxford. 184–226.
- Merchant, Jason (2000). Antecedent Contained Deletion in Negative Polarity Items. *Syntax* 3(2). 144–150.
- Nissenbaum, Jon (2000). *Investigations of Covert Phrase Movement*. PhD thesis, MIT.
- Ortiz de Urbina, Jon (1989). *Parameters in the Grammar of Basque*. Foris: Dordrecht.
- Pesetsky, David (1995). *Zero Syntax: Experiencers and Cascades*. MIT Press: Cambridge, MA.
- Polinsky, Maria & Eric Potsdam (2001). Long-Distance Agreement and Topic in Tsez. *Natural Language and Linguistic Theory* 19(3). 583–646.
- Rackowski, Andrea & Norvin Richards (2005). Phase Edge and Extraction: A Tagalog Case Study. *Linguistic Inquiry* 36(4). 565–599.
- Reis, Marga (2006). Gibt es interrogative VPs? Zu einem ungelösten Pied-Piping-Rätsel des Deutschen. In H.-M. Gärtner, S. Beck, R. Eckardt, R. Musan & B. Stiebels (eds). *Between 40 and 60 Puzzles for Krifka*. ZAS: Berlin.
- Sato, Yosuke (2012). Successive Cyclicity at the Syntax-Morphology Interface: Evidence from Standard Indonesian and Kendal Javanese. *Studia Linguistica* 66(1). 32–57.
- Sauerland, Uli (2003). Intermediate Adjunction with A-Movement. *Linguistic Inquiry* 34(2). 308–314.
- Schippers, Ankelien (2012). Some people are repeaters: Medial copy spell-out in long-distance wh-dependencies. In C. Constantinescu, B. L. Bruyn & K. Linke (eds). *Proceedings of ConSOLE XVII*. Leiden University Centre for Linguistics: Leiden. 269–288.
- Uriagereka, Juan (1999). Multiple Spell-Out. In S. D. Epstein & N. Hornstein (eds). *Working Minimalism*. MIT Press: Cambridge, MA. 251–282.
- van Urk, Coppe (2015). *A Uniform Syntax for Phrasal Movement: A Case Study of Dinka Bor*. PhD thesis, MIT.
- van Urk, Coppe (to appear). Pronoun Copying in Dinka and the Copy Theory of Movement. *Natural Language and Linguistic Theory*
- van Urk, Coppe & Norvin Richards (2015). Two Components of Long-Distance Extraction: Successive Cyclicity in Dinka. *Linguistic Inquiry* 46(1). 113–155.
- Wiland, Bartosz (2010). Overt Evidence from Left-Branch Extraction in Polish for Punctuated Paths. *Linguistic Inquiry* 41(2). 335–347.
- Witkoś, Jacek (1995). Wh-Extraction from Clausal Complements in Polish: A Minimality/Locality Account. *Foila Linguistica* 29(3–4). 223–264.
- Zyman, Erik (2017). Phase-Constrained Obligatory Late Adjunction. Ms. UCSC.