The syntax of sluicing-like constructions in English

Jason Overfelt
Oakland University

1 Introduction

1.1 Background

• **Canonical Sluicing.**   Everything but the preposed *wh*-constituent of an embedded question can be deleted on the promise of recoverability (Ross 1969:252).

(1)   He is writing something, but you can't imagine **what** ~~he is writing~~.

• **Move-and-Delete.**   An influential analysis proposes that expected $\overline{\text{A}}$-movement extracts the *wh*-element from an elided IP/TP constituent (Ross 1969, Merchant 2001).

(2)   He is writing something, but you can't imagine **what** $\langle_{\text{IP}}$ ~~he is writing *x*~~ $\rangle$

where *what* is the *remnant* and *he is writing x* is the *ellided constituent*

• **Sluicing-Like Constructions.**   Constructions that resemble canonical sluicing are observed in *wh*-in-situ languages, such as Japanese (e.g., Takahashi 1994:266, (3); see also Merchant & Simpson 2012, Gribanova & Manetta 2016).

(3)   Mary-ga   nanika-o   katta   rasii ga, boku-wa [**nani(-o) ka**] wakaranai
       Mary-NOM something-ACC bought likely but I-TOP   what-ACC Q   not.know
       'It is likely that Mary bought something, but I don't know what.'

• **Derivational Possibilities for SLCs.**   Several derivational possibilities have been proposed for SLCs.

   – *Scramble-and-Delete.* Scrambling escapes subsequent IP-deletion (Takahashi 1994, Hasegawa 2006).

   (4)   Boku-wa [**nani-o**$_1$ ~~kanojo-ga *x*$_\text{T}$ katta~~ **ka**] wakaranai
          'I don't know what$_1$ ~~she bought *x*$_\text{T}$~~.'

   – *Pseudosluicing.* The reduction operation targets (pseudo)cleft constructions (Nishiyama et al. 1996, Abe 2006).

   (5)   Boku-wa [*expl* **nani** ~~da~~ **ka**] wakaranai
          'I don't know what ~~it is~~.'

   – *Selective Deletion.* IP-deletion spares in-situ focus-marked elements (Kimura 2010, Abe 2015).

   (6)   Boku-wa [~~kanojo-ga~~ **nani(-o)** ~~katta~~ **ka**] wakaranai
          'I don't know ~~she bought~~ what.'

1.2 Outlook

• **Sluicing-Like Constructions in English.**   *Wh*-in-situ phenomena in English give rise to sluicing-like constructions.

(7)   A: Anne invited someone.

   B: Yeah, and you think ~~Anne invited~~ **who**?

• **Movement Plus Deletion.**   Bare *wh*-remnants are derived by way of a Move-and-Delete derivation (Ross 1969, Merchant 2001).
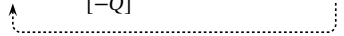
> **Scramble-and-Delete**
>
> *Wh*-scrambling extracts the *wh*-remnant from an elided clausal constituent.

(8)   … and $[_{CP}\ C^0_{[\sim Q]}$ you think $[_{CP}$ **who**$_1$ $C^0_{[-Q]}$ $\langle_{IP}$ ~~Anne invited x_1~~ $\rangle$]] ?

• **Ellipsis-Licensed Displcement.**   Clause-bounded *wh*-scrambling chains are exceptionally pronounced at the higher copy under ellipsis (Richards 1997, Temmerman 2013, Gribanova & Manetta 2016).

> **Exceptional Chain Realization**
>
> Covert partial *wh*-scrambling is pronounced exceptionally high in the context of ellipsis.

(9)   a.   … and $[_{CP}\ C^0_{[\sim Q]}$ you think $[_{CP}$ <~~who~~> $C^0_{[-Q]}$ Anne invited **who**]] ?

   b.   … and $[_{CP}\ C^0_{[\sim Q]}$ you think $[_{CP}$ **who** $C^0_{[-Q]}$ $\langle_{IP}$ ~~Anne invited <who>~~ $\rangle$]] ?

2 English Sluicing-Like Constructions

2.1 *Wh*-in-situ in English

• **English *Wh*-in-situ.**   English has semantico-pragmatically and prosodically distinguished *wh*-in-situ constructions (see also Bartels 1999 and references therein).

– *Echo Questions* : Utterances that echo an immediately preceding utterance and mark an issue in the discourse known to have been resolved previously (Sobin 2010, Beck & Reis 2018).

(10)   A: Randall invited Dracula.

   B: Randall invited ↗**WHO**?

(11)   A: Did Randall invite Dracula.

   B: Did Randall invite ↗**WHO**?

– *Follow-up Questions* : Utterances that presuppose an open issue in the discourse and signal to re-solve that issue next (Pires & Taylor 2009, Biezma 2020).

(12) A: Carrie is having a party this weekend.
      B: And she invited ↘**who**?

• **Compositional Distinctness.**   *Wh*-in-situ and *wh*-fronting strategies are compositionally distinct from the perspective of clause-embedding predicates (Bobaljik & Wurmbrand 2015).

(13) *[−Q]-embedding predicates select for* wh-*in-situ*

   a.   Anne invited someone and Susie <u>thinks</u> [$_{CP}$ $C^0_{[-Q]}$ she invited **who**]?

   b.   *Anne invited someone and Susie <u>thinks</u> [$_{CP}$ **who**$_1$ $C^0_{[+Q,wh]}$ she invited x_1].

(14) *[+Q]-embedding predicates select for* wh-*ex-situ*

   a.   *Anne invited someone and Susie <u>asked</u> [$_{CP}$ $C^0_{[-Q]}$ she invited **who**]?

   b.   Anne invited someone and Susie <u>asked</u> [$_{CP}$ **who**$_1$ $C^0_{[+Q,wh]}$ she invited x_1].

• **Root Scope Interpretation.**   In-situ *wh*-elements appear in embedded environments and are interpreted as taking root scope (Pires & Taylor 2009, Sobin 2010, Bobaljik & Wurmbrand 2015; cf. Beck & Reis 2018, Biezma 2020).

(15) Wh-*in-situ is interpreted with matrix scope*

   So, Anne invited someone and <u>Susie said [$_{CP}$ she invited **who**]</u>?

   a.   *Matrix Scope* : " ... and who did Susie say that she invited?"

   b.   **Embedded Scope* : " ... and Susie said who she invited."

(16) *Partial* wh-*movement is interpreted with embedded scope*

   So, Anne invited someone and <u>Susie said [$_{CP}$ **who**$_1$ she invited x_1]</u>

   a.   **Matrix Scope* : " ... and who did Susie say that she invited?"

   b.   *Embedded Scope* : " ... and Susie said who she invited."

2.2 Bare *Wh*-Remnant Ellipsis

• **Bare Remnant Ellipsis.**   Several embedded environments have independently been argued to permit bare remnant ellipsis (i.e., Stripping; Hankamer 1979).

(17) *Non-Factive complement clauses*   (e.g., Weir 2014, Wurmbrand 2017)
      So, Anne invited someone and Susie { thinks / believes / suspects } [~~she invited~~ **Mark**]

(18) *Temporal adverbial clauses*   (e.g., Larson 1987, Overfelt 2021)
      Paul read the article [{ before / after } ~~he read~~ **the abstract**]

(19) *Comparative clauses*   (e.g., Lechner 2004)
      Carla fixed the computer { faster / more often } [than ~~she fixed~~ **the printer**]

- **English Sluicing-Like Constructions.** In-situ *wh*-elements can appear in embedded environments and surface as a bare *wh*-remnant.

(20)   *Non-factive complement clauses*
       So, Anne invited someone and Susie { thinks / believes / suspects } [~~she invited~~ **who**]?

(21)   *Temporal adverbial clauses*
       Paul read the article [{ before / after } ~~he read~~ **the what**]?

(22)   *Comparative clauses*
       Carla fixed the computer { faster / more often } [than ~~she fixed~~ **the what**]?

3   Structured Ellipsis

- **Extraction from Elided Syntax.** Bare *wh*-remnants are derived by way of a Move-and-Delete derivation (Ross 1969, Merchant 2001).

> **Scramble-and-Delete**
> *Wh*-scrambling extracts the *wh*-remnant from an elided clausal constituent.

(23)   ... and $[_{CP} \, C^0_{[\sim Q]}$ you think $[_{CP} \, \textbf{who}_1 \, C^0_{[-Q]} \, \langle_{IP} \, \text{\sout{Anne invited} } x_1 \rangle \,]] \,$?

- **Diagnostics for Ellipsis.** Standard diagnostics link the bare *wh*-remnant to elided material:

  – *Selectional Constraints* : Bare *wh*-remnants satisfy the requirements on clausal complements.

  – *Connectivity Effects* : Bare *wh*-remnants behave like constituents of elided content.

  – *Island Sensitivity* : Bare *wh*-remnants are sensitive to island boundaries.

3.1   Selectional Constraints

- **Bare *Wh*-Remnants Track Stripping.** Bare *wh*-remnants are not available in environments that do no otherwise permit bare remnant ellipsis, suggesting a shared source.

(24)   *Nominal Complement Clauses*
       *Anne invited someone and Susie heard [the rumor [~~she invited~~ { **who / Mark** }]]?

(25)   *Reason Adverbials*
       *Paul read the article [because ~~he read~~ { **the what / the abstract** }]?

(26)   *Conditional Clauses*
       *Carla fixed the computer [if ~~she fixed~~ { **the what / the printer** }]?

• **S-Selection for Bare Wh-Remnants.**   The restricted scope of bare *wh*-remnants suggests that embedding predicates select for distinct *wh*-strategies (cf. Ross 1969, Merchant 2001, Bobaljik & Wurmbrand 2015).

(27)   *[−Q]-embedded predicate selects for matrix scope* wh-*remnant*
        So, Anne invited someone and Susie <u>thinks</u> [$_{CP}$ C$^0_{[-Q]}$ ⟨$_{IP}$ ~~Anne invited~~ ⟩ **who**] ?

   a.   *Matrix Scope* : " ... and who does Susie think that she invited?"
   b.   *Embedded Scope : " ... and Susie thinks who she invited."

(28)   *[+Q]-embedded predicate selects for embedded scope* wh-*remnant*
        So, Anne invited someone and Susie <u>asked</u> [$_{CP}$ **who** C$^0_{[+Q,wh]}$ ⟨$_{IP}$ ~~Anne invited~~ ⟩] ?

   a.   *Matrix Scope : " ... and who did Susie ask that she invited?"
   b.   *Embedded Scope* : " ... and Susie asked who she invited."

3.2   Connectivity Effects

• **Binding Connectivity.**   The distribution of disjoint reference effects suggest that the *wh*-remnant is c-commanded by an elided instance of a coreferent nominal.

(29)   So, you sent <u>her$_1$</u> to Steve but ...
   a.   *Mark thinks [$_{CP}$ ⟨ ~~you sent her$_1$ to~~ ⟩ **which of Leslie$_1$'s clients**]?
                              └──── Condition C ────┘
   b.   ?Mark thinks [$_{CP}$ **which of Leslie$_1$'s clients** ⟨ ~~sent her$_1$ to Steve~~ ⟩]?
                              └──────── ✓ ────────┘

(30)   So, you sent <u>Leslie$_1$</u> to Steve but ...
   a.   Mark thinks [$_{CP}$ ⟨ ~~you sent Leslie$_1$ to~~ ⟩ **which of her$_1$ clients**]?
                              └──── ✓ ────┘
   b.   ?Mark thinks [**which of her$_1$ clients** ⟨ ~~sent her$_1$ to Steve~~ ⟩]?
                       └── Vehicle Change ──┘

• **C/L-Selectional Connectivity.**   The *wh*-remnant is sensitive to the C/L-selectional restrictions of antecedent content, not the embedding predicate.

(31)   *Elided content selects for the categorial content* wh-*remnant*
   a.   So, Dale <u>read</u> something and you think [⟨ ~~he read~~ ⟩ **the what**] ?
   b.   *So, Dale <u>read</u> something and you think [⟨ ~~he read~~ ⟩ **of the what**] ?

(32)   *Elided content selects for the lexical content* wh-*remnant*
   a.   So, Lois <u>depends</u> on someone and you think [⟨ ~~she depends~~ ⟩ **on who**] ?
   b.   *So, Lois <u>depends</u> on someone and you think [⟨ ~~she depends~~ ⟩ **of who**] ?

3.3   Island Constraints

• **Island Sensitivity.**   The sensitivity of the *wh*-remnant to island boundaries under ellipsis suggests the *wh*-remnant is extracted from elided structure (Barros et al. 2014, Abels 2019; cf. Griffiths 2019).

(33)   Wh-*Remnant is sensitive to island boundaries*
So, Denise hired [$_{DP}$ someone that runs a non-profit] but ...

    a.   you think [$_{CP}$ she hired [$_{DP}$ someone that runs **a what**]] ?

    b. *you think [$_{CP}$ ⟨ ~~she hired [$_{DP}$ someone that runs~~ ⟩ **a what**]?

(34)   Wh-*Remnant can replace an island environment*
So, Denise hired [$_{DP}$ someone that runs a non-profit] but ...

    a.   you think [$_{CP}$ she hired [$_{DP}$ **who**]]] ?

    b.   you think [$_{CP}$ ⟨ ~~she hired~~ ⟩ [$_{DP}$ **who**]]?

4   Exceptional Move-and-Delete

• **Extraction of the Remnant.**   The connectivity effects above are compatible with a standard Move-and-Delete derivation (Ross 1969, Merchant 2001).

> **Scramble-and-Delete**
>
> *Wh*-scrambling extracts the *wh*-remnant from an elided clausal constituent.

(35)   ... and [$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ **who**$_1$ C$^0_{[-Q]}$ ⟨$_{IP}$ ~~Anne invited x_1~~ ⟩]] ?

• **Non-Interrogative Environments.**   The lack of *wh*-movement in the relevant environments is problematic for Move-and-Delete analyses.

(36)   *[−Q]-embedding predicates do not select for* wh-*ex-situ*
*Anne invited someone and Susie thinks [$_{CP}$ **who**$_1$ C$^0_{[+Q,wh]}$ she invited x_1].

• **Ellipsis-Licensed Displcement.**   Clause-bounded *wh*-scrambling chains are exceptionally pronounced at the higher copy under ellipsis (Richards 1997, Temmerman 2013, Gribanova & Manetta 2016).

> **Exceptional Chain Realization**
>
> Covert partial *wh*-scrambling is pronounced exceptionally high in the context of ellipsis.

(37)   a.   ... and [$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ <who> C$^0_{[-Q]}$ Anne invited **who**]] ?

    b.   ... and [$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ **who** C$^0_{[-Q]}$ ⟨$_{IP}$ ~~Anne invited <who>~~ ⟩]] ?

4.1 A Theory of *Wh*-in-situ

• **Standard Mechanisms for *Wh*-in-Situ.** There are two standard mechanisms for deriving *wh*-in-situ configurations:

- <u>*Covert Movement*</u> : A *wh*-constituent undergoes syntactic movement that is not reflected at the Phonological Form of the utterance (e.g., Huang 1982, Pesetsky 2000, Cable 2010).

  (38) $[_{CP}$ <wh> $C^0_{[+Q,wh]}$ [... **wh** ...]]

- <u>*In-situ Interpretation*</u> : A *wh*-constituent is interpreted in-situ via material associated with the left periphery (e.g., Hamblin 1973, Cheng 1991, Reinhart 1998).

  (39) $[_{CP}$ $C^0_{[\sim Q]}$ [... **wh** ...]]

• **Scramble into Position.** Phonologically in-situ *wh*-constituents undergo scrambling to a position in which they are interpretable (see Kotek 2019, Abels & Dayal 2022).

(40) *Root in-situ* wh-*constituents scramble locally*
$[_{CP}$ $C^0_{[\sim Q]}$ ... $[_{vP}$ <wh> ... **wh** ...]]

(41) *Embedded in-situ* wh-*constituents scramble to the edge of their clause*
$[_{CP}$ $C^0_{[\sim Q]}$ ... $[_{CP}$ <wh> C^0 ... [... **wh** ...]]]

• **Selective Intervention Schema.** *Wh*-in-situ can avoid intervention effects from tauto-clausal negation, but not negation in a higher clause.

(42) $[_{CP}$ $C^0_{[\sim Q]}$ ... $[_{CP}$ **wh** ... **not** ... [... x ...]]] (43) *$[_{CP}$ $C^0_{[\sim Q]}$ ... **not** ... $[_{CP}$ **wh** [... x ...]]]

• **Selective Sensitivity to Intervention.** In-situ *wh*-constituents are sensitive to intervention effects from tauto-clausal negation, but not negation in a higher clause.

(44) *Intervention effects arise in* wh-*in-situ constructions with matrix but not embedded negation*
   a. So, Phil did**n't** read one of the articles and

   Beth <u>thinks</u> $[_{CP}$ he did**n't** read **which article**] ?

   b. ??So, Phil read one of the articles but Beth does**n't** <u>think</u> $[_{CP}$ he read **which article**] ?

• **Covert *Wh*-Scrambling.** Covert *wh*-scrambling in English is island-sensitive and clause-bounded (see Kotek 2019, Abels & Dayal 2022; see also section 5 and Appendix A).

(45) *Clause-bounded* wh-*scrambling escapes the scope of an embedded but not a matrix intervenor*
   a. ... $[_{CP}$ $C^0_{[\sim Q]}$ Beth <u>thinks</u> $[_{CP}$ **which article** $C^0_{[-Q]}$ Phil did**n't** read x]]

   b. *... $[_{CP}$ $C^0_{[\sim Q]}$ Beth does**n't** <u>think</u> $[_{CP}$ **which article** $C^0_{[-Q]}$ Phil read x]]

4.2 A Theory of Chain Pronunciation

• **Copy-Theory of Movement.**   Syntactic movement is the creation of a chain consisting of multiple copies of a syntactic element (Chomsky 1993).

(46) $[_{CP}$ Susie asked $[_{CP}$ **who** $C^0_{[+Q,wh]}$ Anne $[_{vP}$ **who** invited **who** $]]]$?

• **A Strong-Weak Distinction.**   The featural content of heads determine whether their specifier is a strong or a weak position (e.g., Chomsky 1993, 2001, Richards 1997; see Richards 2010).

- <u>*Strong Position*</u> : The specifier of a head X^0_F that Agrees with the content of its specifier YP_F.

    (47)   XP

        $\boxed{YP_F}$

            X^0_F ...

- <u>*Weak Position*</u> : The specifier of a head X^0 that does not Agree with the content of its specifier YP_F.

    (48)   XP

        $\boxed{YP_F}$

            X^0 ...

• **Chain Pronunciation Algorithm.**   Adopting insights from Gärtner (2002) and Abels & Dayal (2022), we adapt the system of chain pronunciation proposed in Richards 1997 to fit a single-output syntax.

(49)   *Conditions on Chain Realization*

 i.   PF must receive unambiguous instructions about which copy in a chain to pronounce.

 ii.   A strong position instructs PF to pronounce the copy of a chain in its specifier.

 iii.   If there is no strong position, PF pronounces the lowest possible weak position.

• **Ellipsis Eliminates Candidates.**   A movement chain is may be pronounced in a higher position if ellipsis eliminates lower candidates (Richards 1997, Temmerman 2013, Gribanova & Manetta 2016).

(50)   *The scrambled* wh-*constituent is pronounced in-situ*

 ... and $[_{CP}$ $C^0_{[\sim Q]}$ Susie thinks $[_{CP}$ <who> $C^0_{[-Q]}$ Anne invited **who** $]]$?

(51)   *The scrambled* wh-*constituent is pronounced ex-situ under ellipsis*

 ... and $[_{CP}$ $C^0_{[\sim Q]}$ Susie thinks $[_{CP}$ **who** $C^0_{[-Q]}$ ⟨$_{IP}$ ~~Anne invited <who>~~ ⟩ $]]$?

4.3   (Exceptional) Chain Pronunciation

• **Overt v. Covert *Wh*-Movement.**   Overt and covert movement are predictable on the basis of the featural content of the local C^0.

– *Embedded Constituent Question* : An agreeing C^0 provides PF unambiguous instructions to pronounce the highest copy of the *wh*-constituent.
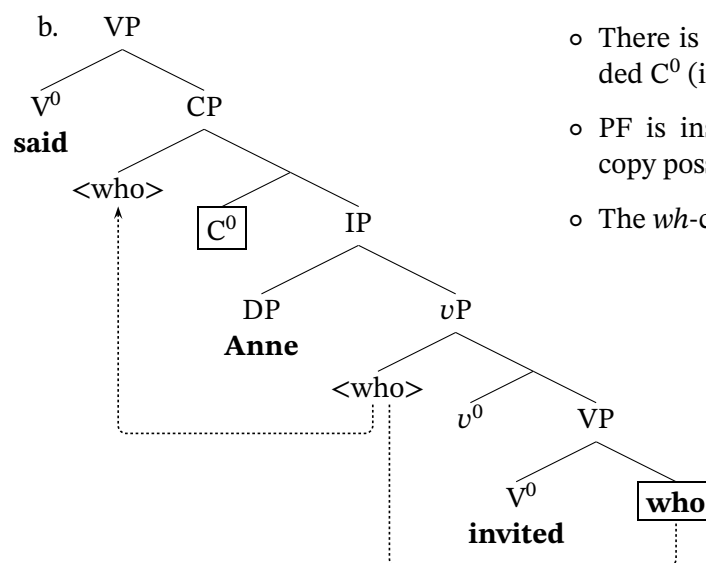
(52)   a.   ... and Susie said **who** Anne invited.
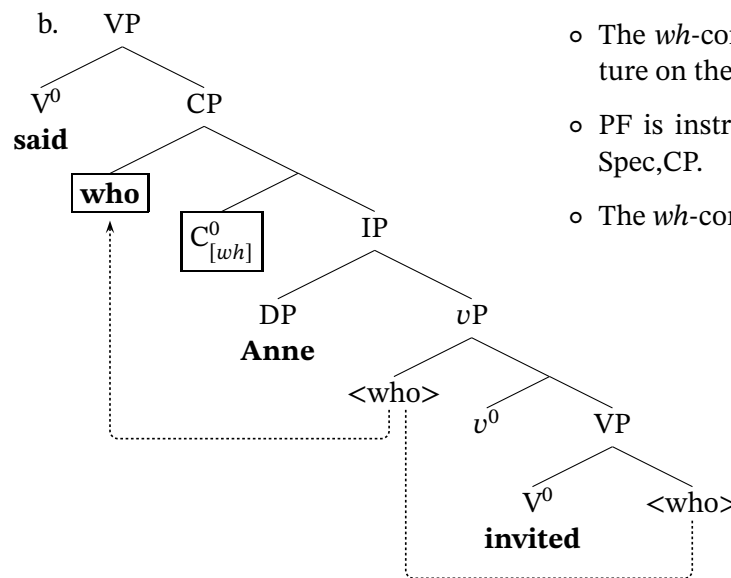
b.

○ The *wh*-constituent agrees with a [*wh*] feature on the embedded C^0.

○ PF is instructed to pronounce the copy in Spec,CP.

○ The *wh*-constituent moves overtly.

– Wh-*in-Situ Configuration* : Without an agreeing C^0, PF receives unambiguous instruction to pronounce the lowest copy of the scrambled *wh*-constituent.

(53)   a.   ... and Susie said Anne invited **who**?

b.

○ There is no agreeing feature on the embedded C^0 (i.e., *wh*-scrambling).

○ PF is instructed to pronounce the lowest copy possible.

○ The *wh*-constituent moves covertly.

• **Displacement Licensed by Ellipsis.**   Ellipsis eliminates candidates for pronunciation, allowing the pronunciation of higher, typically unpronounced copies (see also Appendix B).

– *Canonical Sluicing* : An agreeing C^0 provides PF instructions that are compatible with ellipsis to pronounce the highest copy of the *wh*-constituent.

(54)   a.   ... and Susie asked **who**.
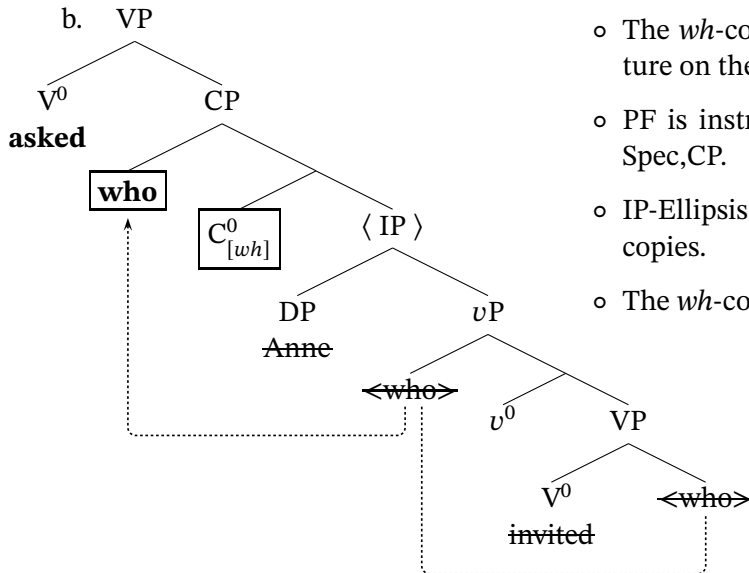
b.

○ The *wh*-constituent agrees with a $[wh]$ feature on the embedded C^0.

○ PF is instructed to pronounce the copy in Spec,CP.

○ IP-Ellipsis instructs PF to delete all lower copies.

○ The *wh*-constituent moves overtly.

– *Sluicing-Like Construction* : Without an agreeing C^0, PF receives instruction to pronounce the lowest copy that is viable candidate for pronunciation.

(55)   a.   ... and Susie thinks **who**?
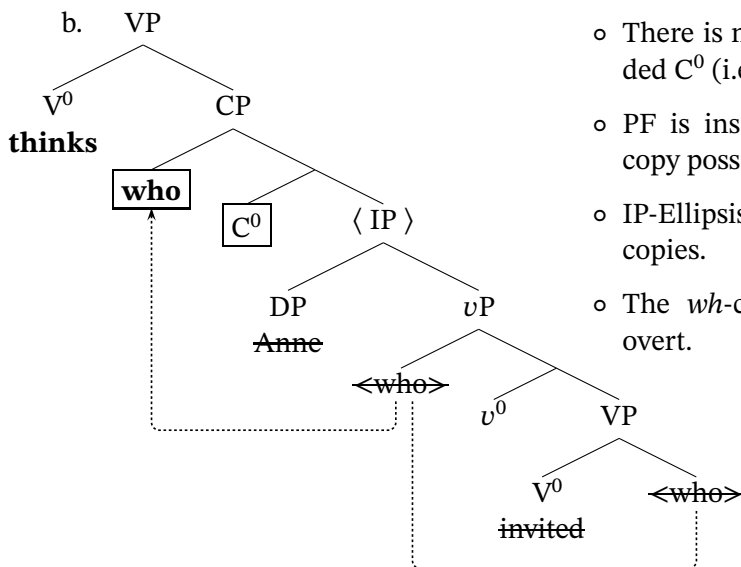
b.

○ There is no agreeing feature on the embedded C^0 (i.e., *wh*-scrambling).

○ PF is instructed to pronounce the lowest copy possible.

○ IP-Ellipsis instructs PF to delete all lower copies.

○ The *wh*-constituent's movement is made overt.

5   Detecting Covert Movement

• **Stay-and-Delete Approaches?**   The literature provides various in-situ approaches that could be applied to English SLCs (e.g., Weir 2014, Abe 2015, Ott 2018, Griffiths 2019, Griffiths et al. 2022).

–   _Selective Deletion_ : SLCs involve IP-deletion that spares in-situ focus-marked constituents.

(56)   ... and Susie thinks [$_{CP}$ ⟨ ~~she invited~~ ⟩ **who**]?

• **Movement Diagnostics.**   Contrary to received wisdom, standard indicators of movement converge on the conclusion that bare _wh_-remnants undergo syntactic movement out of the ellipsis site.

–   _Selective Island Effects_ : Bare _wh_-remnants are sensitive to island boundaries.

–   _Selective Intervention Effects_ : Bare _wh_-remnants are sensitive to intervention effects.

5.1   Selective Island Sensitivity

• **No Island Effects?**   The conventional wisdom is that single _wh_-in-situ configurations in English are not sensitive to islands boundaries (Pires & Taylor 2009:13, (25), Beck & Reis 2018).

(57)   So, you will interview [$_{DP}$ the man [$_{CP}$ that won the lottery **when**]] ?

• **Local Covert _Wh_-Scrambling**   The lack of intervention effects is consistent with the claim that the _wh_-constituent undergoes local covert scrambling.

(58)   So, you will interview [$_{DP}$ the man [$_{CP}$ <when> that won the lottery **when**] ?

• **Island-Violating Displacement.**   The in-situ _wh_-constituent becomes sensitive to island boundaries under ellipsis.

(59)   Wh-_Remnant is island-sensitive only under ellipsis_
      So, Denise hired [$_{DP}$ someone that runs a non-profit] but ...

a.   you think [$_{CP}$ she hired [$_{DP}$ someone that runs **a what**]] ?

b.   *you think [$_{CP}$ ⟨ ~~she hired [$_{DP}$ someone that runs~~ ⟩ **a what**]?

• **Island Violating Movement under Ellipsis.**   Movement to a position that would be licensed for pronunciation under ellipsis induces an island violation (Abels & Dayal 2022; cf. Kotek 2019).

(60)   _Clause-bounded scrambling moves the_ wh-_constituent as far as possible for interpretation_
      ... [$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ she hired [$_{DP}$ someone [$_{CP}$ <a what> that runs **a what**]]]] ?

(61)   _Scrambling to a position that licenses pronunciation induces and island violation_
      *... [$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ **a what** ⟨$_{IP}$ ~~she hired [$_{DP}$ someone [$_{CP}$ that runs <a what>]~~ ⟩]] ?
      Subjacency

5.2 Intervention Effects

• **No Intervention Effects?**   The conventional wisdom is that single *wh*-in-situ configurations in English do not show intervention effects (Pires & Taylor 2009:11, (20), Beck & Reis 2018).

(62)   John does**n't** eat **what**?

• **Local Covert *Wh*-Scrambling**   The lack of intervention effects is consistent with the claim that the *wh*-constituent undergoes additional covert scrambling outside the scope of negation.

(63)   [$_{CP}$ <what> John does**n't** eat **what**] ?

• **Selective Sensitivity to Intervention.**   The bare *wh*-remnant of SLCs but not sluicing selectively shows intervention effects.

(64)   *Intervention effects arise in SLCs with matrix but not embedded negation*

    a.   So, Phil did**n't** read one of the articles and

                         Beth <u>thinks</u> [$_{CP}$ **which article**$_1$ ⟨ ~~Phil did**n't** read x_T~~ ⟩] ?

    b.   *So, Phil read one of the articles but

                         Beth does**n't** <u>think</u> [$_{CP}$ **which article**$_1$ ⟨ ~~Phil read x_T~~ ⟩] ?

(65)   *No internvention effects arise in Sluicing*

    a.   Phil didn't read one of the articles and

                         Beth <u>asked</u> [$_{CP}$ **which article**$_1$ ⟨ ~~Phil did**n't** read x_T~~ ⟩]

    b.   Phil read one of the articles but Beth did**n't** <u>ask</u> [$_{CP}$ **which article**$_1$ ⟨ ~~Phil read x_T~~ ⟩]

• **SLCs are *Wh*-Scrambling.**   The bare *wh*-remnant in SLCs undergoes clause-bounded movement that is interpreted by a matrix C$^0_{[\sim Q]}$.

(66)   *Clause-bounded* wh-*scrambling escapes the scope of an embedded but not a matrix intervenor*
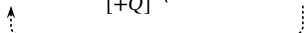
    a.   ... [$_{CP}$ C$^0_{[\sim Q]}$ Beth <u>thinks</u> [$_{CP}$ **which article** C$^0_{[-Q]}$ ⟨ ~~Phil did**n't** read x~~ ⟩]]

    b.   *... [$_{CP}$ C$^0_{[\sim Q]}$ Beth does**n't** <u>think</u> [$_{CP}$ **which article** C$^0_{[-Q]}$ ⟨ ~~Phil read x~~ ⟩]]

• **Sluicing is *Wh*-Movement.**   The bare *wh*-remnant of canonical sluicing moves to a position local to its interpreting C$^0_{[+Q]}$.

(67)   Wh-*movement is interpreted by a local C^0 and avoids intervention effect*

    a.   ... [$_{CP}$ C$^0_{[-Q]}$ Beth asked [$_{CP}$ **which article** C$^0_{[+Q]}$ ⟨ ~~Phil did**n't** read x~~ ⟩]]

    b.   ... [$_{CP}$ C$^0_{[-Q]}$ Beth did**n't** ask [$_{CP}$ **which article** C$^0_{[+Q]}$ ⟨ ~~Phil read x~~ ⟩]]

6 Conclusion

• **Sluicing-Like Constructions in English.**   *Wh*-in-situ phenomena in English give rise to sluicing-like constructions.

(68)   A: Anne invited someone.

   B: Yeah, and you think ~~Anne invited~~ **who**?

• **Movement Plus Deletion.**   Bare *wh*-remnants are derived by way of a Move-and-Delete derivation (Ross 1969, Merchant 2001).
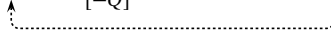
> **Scramble-and-Delete**
> *Wh*-scrambling extracts the *wh*-remnant from an elided clausal constituent.

(69)   ... and $[_{CP}$ $C^0_{[\sim Q]}$ you think $[_{CP}$ **who**$_1$ $C^0_{[-Q]}$ $\langle_{IP}$ ~~Anne invited x_1~~ $\rangle$]] ?

• **Ellipsis-Licensed Displcement.**   Clause-bounded *wh*-scrambling chains are exceptionally pronounced at the higher copy under ellipsis (Richards 1997, Temmerman 2013, Gribanova & Manetta 2016).

> **Exceptional Chain Realization**
> Covert partial *wh*-scrambling is pronounced exceptionally high in the context of ellipsis.

(70)   a.   ... and $[_{CP}$ $C^0_{[\sim Q]}$ you think $[_{CP}$ <~~who~~> $C^0_{[-Q]}$ Anne invited **who**]] ?

   b.   ... and $[_{CP}$ $C^0_{[\sim Q]}$ you think $[_{CP}$ **who** $C^0_{[-Q]}$ $\langle_{IP}$ ~~Anne invited <who>~~ $\rangle$]] ?

Acknowledgements

References

Abe, Jun. 2006. Licensing conditions in ellipsis. In *A minimalist view of components in generative grammar 2*, 1–49. Sendai: Gakuin University.

Abe, Jun. 2015. *The in-situ approach to sluicing*. Amsterdam: John Benjamins Publishing Company.

Abels, Klaus. 2019. Movement and islands. In *The Oxford Handbook of Ellipsis*, ed. Tanja Temmerman & Jeroen van Craenenbroeck. Oxford, UK: Oxford University Press.

Abels, Klaus, & Veneeta Dayal. 2022. On the syntax of multiple sluicing and what it tells us about *Wh*-scope taking. *Linguistic Inquiry* 1–49.

Barros, Matthew, Patrick D. Elliot, & Gary Thoms. 2014. *There is no island repair*. Ms., Rutgers University, University College of London, and University of Endiburgh.

Bartels, Christine. 1999. *The intonation of english statements and questions: A compositional interpretation*. New York, NY: Routledge.

Beck, Sigrid, & Marga Reis. 2018. On the form and interpretation and of echo *Wh*-questions. *Journal of Semantics* 35:369–408.

Biezma, María. 2020. Non-informative assertions: The case of non-optional *wh*-in-situ. *Semantics & Pragmatics* 13.

Bobaljik, Jonathan David, & Susi Wurmbrand. 2015. Questions with declarative syntax tell us what about selection? In *50 years later: Reflections on Chomsky's Aspects*, ed. Ángel J. Gallego & Dennis Ott, 13–19. Cambridge, MA: MIT Working Papers in Linguistics.

Cable, Seth. 2010. *The grammar of Q: Q-particles, Wh-movement, and Pied-Piping*. Oxford, UK: Oxford University Press.

Cheng, Lisa Lai Shen. 1991. On the typogoy of wh-questions. Doctoral Dissertation, MIT, Cambridge, MA.

Chomsky, Noam. 1993. A Minimalist Program for Linguistic Theory. In *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger*, ed. Ken Hale & Samuel J. Keyser, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz. Cambridge, MA: MIT Press.

Gärtner, Hans-Martin. 2002. *Generalization transformations and beyond: Reflections on Minimalist Syntax*. Berlin, DE: Akademie Verlag.

Gribanova, Vera, & Emily Manetta. 2016. Ellipsis in *wh*-in-situ sluicing in Hindi-Urdu and Uzbek. *Linguistic Inquiry* 47:631–668.

Griffiths, James. 2019. A Q-based approach to clausal ellipsis: Deriving the preposition stranding and island sensitivity generalisations without movement. *Glossa* 4:1–41.

Griffiths, James, Anikó Lipták, & Güliz Güneş. 2022. *On reprise fragments*. Talk given at the NYU 'You're on Mute' Ellipsis Seminar, New York, NY.

Hamblin, C.L. 1973. Questions in Montague English. *Foundations of Language* 10:41–53.

Hankamer, Jorge. 1979. *Deletion in coordinate structures*. New York: Garland.

Hasegawa, Nobuko. 2006. Sluicing and truncated *wh*-questions. In *In search of the essesnce of language science: Festschrift for Professor Heizo Nakajima on the occassion of his sixtieth birthday*, ed. Yubu Suzuki, Keizo Mizuno, & Kenichi Takami, 453–470. Tokyo: Hituzi Shobo.

Huang, James C.-T. 1982. Logical relations in chinese and the theory of grammar. Doctoral Dissertation, MIT, Cambridge, MA.

Kimura, Hiroko. 2010. A wh-in-situ strategy for sluicing. *English Linguistics* 27:43–59.

Kotek, Hadas. 2019. *Composing questions*. Cambridge, MA: The MIT Press.

Larson, Richard K. 1987. "Missing prepositions" and the analysis of English free relative clauses. *Linguistic Inquiry* 18:239–266.

Lechner, Winfried. 2004. *Ellipsis in comparatives*. Berlin: Mouton de Gruyter.

Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands and the theory of ellipsis*. Oxford: Oxford University Press.

Merchant, Jason, & Andrew Simpson, ed. 2012. *Sluicing: Cross-linguistic perspectives*. Oxford, UK: Oxford University Press.

Nishiyama, Kunio, John Whitman, & Eun-Young Yi. 1996. 1996. In *Japanese/korean linguistics 5*, ed. Noriko Akatsuka, Shoichi Iwasaki, & Susan Strauss, 337–351. Stanford, CA: CSLI Publications.

Ott, Dennis. 2018. VP-fronting: Movement vs. dislocation. *The Linguistic Review* 35:243–282.

Overfelt, Jason. 2021. Stripping and VP-Ellipsis in reduced temporal adverbs. *Syntax* 24:462–509.

Pesetsky, David. 2000. *Phrasal movement and its kin*. Cambridge, MA: The MIT Press.

Pires, Acrisio, & Heather Lee Taylor. 2009. The syntax of wh-in-situ and common ground. In *Proceedings from the Annual Meeting of the Chicago Linguistic Society 43*, ed. Malcolm Elliot, James Kirby, Osamu Sawada, Eleni Staraki, & Suwon Yoon, volume 2, 201–215.

Reinhart, Tanya. 1998. *Wh*-in-situ in the framework of the Minimalist Program. *Natural Language Semantics* 6:29–56.

Richards, Norvin. 1997. What moves where when in which language. Doctoral Dissertation, MIT, Cambridge, MA.

Richards, Norvin. 2010. *Uttering trees*. Cambridge, MA: The MIT Press.

Ross, John R. 1969. Guess who? In *Papers from CLS 5*, ed. Robert I. Binnick, Alice Davison, Georgia Green, & Jerry Morgan, 252–286. Chicago, IL: Chicago Linguistics Society.

Sobin, Nicholas. 2010. Echo questions in the Minimalist Program. *Lingusitic Inquiry* 41:131–148.

Takahashi, Daiko. 1994. Sluicing in Japanese. *Journal of East Asian Linguistics* 3:265–300.

Temmerman, Tanja. 2013. The syntax of dutch embedded fragment answers: On the PF-theory of islands and the WH/sluicing correlation. *Natural Language & Linguistic Theory* 31:235–285.

Weir, Andrew. 2014. Fragments and clausal ellipsis. Doctoral Dissertation, UMass Amherst, Amherst, MA.

Wurmbrand, Suzi. 2017. Stripping and topless complements. *Linguistic Inquiry* 48:341–366.

Appendix A : Intervention Effects and Clause-Boundedness

• **Scramble into Position.**   Phonologically in-situ *wh*-constituents undergo scrambling to a position in which they are interpretable (see Kotek 2019, Abels & Dayal 2022).

(71)   *Root in-situ* wh-*constituents scramble locally*
$[_{CP}\ C^0_{[\sim Q]}\ \ldots\ [_{vP}\ \text{<wh>}\ \ \ldots\ \textbf{wh}\ \ldots\ ]]$

(72)   *Embedded in-situ* wh-*constituents scramble to the edge of their clause*
$[_{CP}\ C^0_{[\sim Q]}\ \ldots\ [_{CP}\ \text{<wh>}\ C^0 \ldots\ [\ \ldots\ \textbf{wh}\ \ldots\ ]]]$

• **Selective Intervention Schema.**   *Wh*-in-situ can avoid intervention effects from tauto-clausal negation, but not negation in a higher clause.

(73) $[_{CP}\ C^0_{[\sim Q]} \ldots [_{CP}\ \textbf{wh}\ \ldots \textbf{not} \ldots [\ \ldots x \ldots]]]$ (74) $*[_{CP}\ C^0_{[\sim Q]} \ldots \textbf{not} \ldots [_{CP}\ \textbf{wh}\ [\ \ldots x \ldots]]]$

• **Clause-Bounded *Wh*-Scrambling.**   Selective intervention effects suggest that phonologically in-situ *wh*-constituents undergo clause-bounded scrambling. (Kotek 2019, Abels & Dayal 2022)

(75)   *Pair-list interpretation disrupted by island-external negation*

   a.   Which linguist believed $[_{DP}$ the rumor $[_{CP}$ that we did**n't** invite **which philosopher** $]]$?

   b.   *Which linguist did**n't** believe $[_{DP}$ the rumor $[_{CP}$ that we invited **which philosopher** $]]$?

(76)   *Pair-list interpretation disrupted by clause-external negation*
   a.   Which newspaper reported [_{CP} that Obama would**n't** support **which candidate**] ?

   b.   *Which newspaper did**n't** report [_{CP} that Obama would support **which candidate**] ?

Appendix B : Predicting *Wh*-Remnant Pseudogapping

• **Possible Overgeneration with VP-Ellipsis.**   Exceptionally high pronunciation of movement chain under ellipsis should be more widespread than it appears to be (Abels & Dayal 2022).

(77)   *So, Marcel can read the book and you think [_{CP} **the what** Tina can [_{vP} ⟨ ~~read x~~ ⟩]] ?

• *Wh*-**Remnant Pseudogapping.**   VP-Ellipsis does permit exceptionally high pronunciation, but necessarily at the edge of the predicate.

(78)   So, Marcel can read the book and you think [_{CP} Tina can [_{vP} **the what** ⟨ ~~read x~~ ⟩]] ?

• **Some Assumptions.**   This is an expected contrast given:

   – *Successive-Cyclicity* : Scrambling successive-cyclically moves through Spec,vP.

   – *Predicate Ellipsis* : Predicate ellipsis targets the VP.

• **Exceptionally Intermediate Pronunciation.**   VP-Ellipsis should permit pronunciation in an intermediate position but not in the initial position.

   – *Canonical Sluicing* : PF cannot receive unambiguous instruction to pronounce the highest copy of the *wh*-constituent.
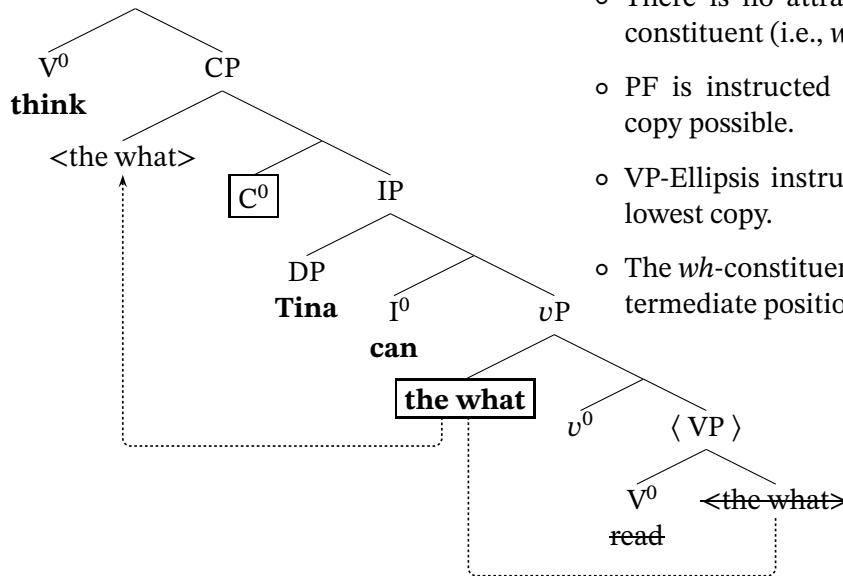
   (79)   a.   *... and you think **the what** Tina can?
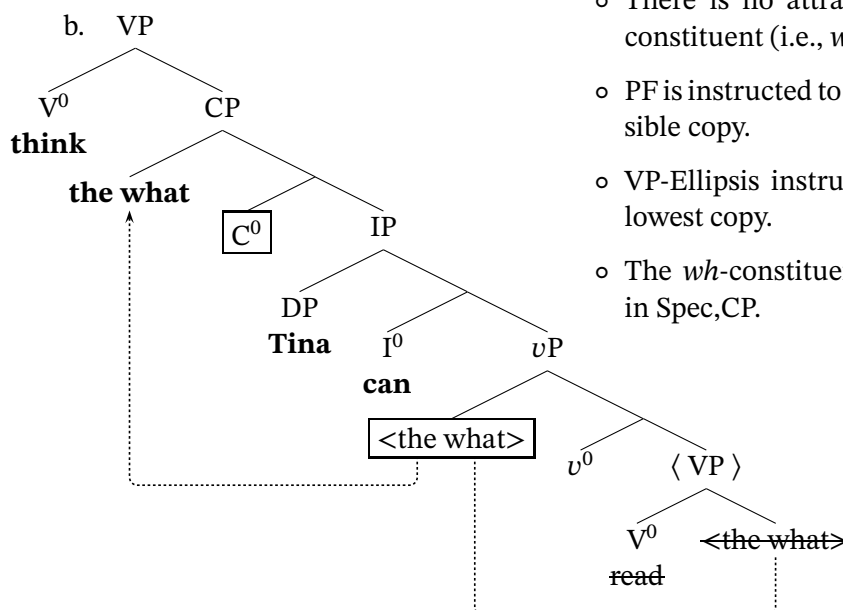
   b.   VP

   ○ There is no attracting feature for the *wh*-constituent (i.e., *wh*-scrambling).

   ○ PF is instructed to pronounce the lowest possible copy.

   ○ VP-Ellipsis instructs PF to delete only the lowest copy.

   ○ The *wh*-constituent cannot be pronounced in Spec,CP.

– Wh-*Remnant Pseudogapping* : PF receives unambiguous instruction to pronounce the lowest copy of the *wh*-constituent, which is an intermediate copy.

(80)   a.   ... and you think Tina can **the what**?

b.   VP

○ There is no attracting feature for the *wh*-constituent (i.e., *wh*-scrambling).

○ PF is instructed to pronounce the lowest copy possible.

○ VP-Ellipsis instructs PF to delete only the lowest copy.

○ The *wh*-constituent is pronounced in the intermediate position.

• **Selective Intervention Again.**   Selective intervention effects suggests that syntactic movement still targets the edge of the embedded clause.

(81)   So, you think Marcel ca**n't** read the book and
[$_{CP}$ C$^0_{[\sim Q]}$ you think [$_{CP}$ <the what> Tina can't [$_{vP}$ **the what** ⟨ read <the what> ⟩]]] ?

(82)   *So, you think Marcel can read the book but
[$_{CP}$ C$^0_{[\sim Q]}$ you don't think [$_{CP}$ <the what> Tina can [$_{vP}$ **the what** ⟨ read <the what> ⟩]]] ?