# Having Space to Sprout: Failed Sprouting in Sub-clausal Ellipses

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## 1. Introduction

In Merchant's (2001) influential analysis of Sluicing constructions, like those in (1), the remnant *what* is extracted out of an elided clausal constituent.[1]

(1) a. Sue will read **SOMETHING**, but I forget **WHAT**$_1$ $\langle_{IP}$ ~~Sue will read $x_1$~~ $\rangle$
b. Sue will READ, but I forget **WHAT**$_1$ $\langle_{IP}$ ~~Sue will read $x_1$~~ $\rangle$

Sluicing, as well as other constructions to be explored below, descriptively come in two types, following terminology from Chung et al. (2011). Merger Sluicing is seen in (1a), where the remnant has an overt correlate *something* in the first conjunct. Sprouting refers to (1b), in which there is no overt correlate to the remnant. In what follows, I motivate and account for the following, under-explored generalization:

(2) Sprouting from an ellipsis site E is not permitted if E is sub-clausal.

Section 2 introduces relevant data from a variety of ellipses to motivate this generalization.

In section 3 I introduce the relevant technology employed in the proposed analysis. We will adopt a focus-based semantic condition on the recovery and redundancy of antecedents of the kind found in Rooth 1992b and others. We will see that the inherent flexibility built into this model will allow us to capitalize on an emerging trend recognizing that different kinds of ellipsis may be subject to different conditions on where an antecedent may be found (e.g., AnderBois 2011, Griffiths 2019, Overfelt 2020, Weir 2014). The analysis is built on the following two proposals:

i.) Predicate ellipsis, but not clausal ellipsis, must recover an antecedent from the overt syntax.
ii.) Sprouting ellipsis, but not merger ellipses, must recover an antecedent from a (possibly implicit) question meaning in the discourse.

Given these claims, which are motivated in section 4, it is argued that the generalization in (2) can be understood as a failure to recover a suitable antecedent for an ellipsis site. That is, these conditions on antecedent recovery give rise to an irreconcilable conflict in cases of sprouting from an elided predicate.

Assuming that the generalization in (2) and the analysis are on the right track, section 5 demonstrates the new-found diagnostic utility of sprouting. If, as claimed, being an instance of clausal ellipsis is a necessary—though not sufficient—condition on sprouting, the availability of sprouting would indicate the possibility for the ellipsis of a clausal constituent. The unavailability of sprouting, on the other hand, might indicate the impossibility of predicate ellipsis. I briefly present Stripping and Modal Complement Ellipsis as a pair of case studies. Section 6 summarizes and concludes the paper.

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[1] All caps are used to indicate pitch accents. Strikethrough indicates elided content.

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## 2. A Constraint a Sprouting

Ellipses can be sorted into natural classes based on the size of the elided constituent. At a very high level, it is possible to distinguish between clausal ellipsis (CE), which involves the omission of a clausal constituent, and predicate ellipsis (PE), which involves omission of a sub-clausal constituent including the predicate and potentially one or more auxiliary projections.[2] Non-exhaustive lists containing representatives of CE and PE in their merger form are provided in (3) and (4), respectively.

(3) *Clausal ellipses with an overt correlate*

a. *Sluicing* (e.g., Merchant 2001)
Sue will read **SOMETHING**, but I forget **WHAT**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

b. *Fragment Answers*[3] (Merchant 2004)
Q: **What** will Sue read?
A: **The BOOK**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

c. *Stripping*[4] (e.g., Depiante 2000)
Sue will read **the ARTICLE**, but not **the BOOK**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

(4) *Predicate ellipses with an overt correlate*

a. *Wh-remnant VP-Ellipsis* (e.g., Schuyler 2001)
PAM will read **the ARTICLE**, but I forget **WHAT**$_1$ SUE will $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

b. *Contrastive Topic Remnant VP-Ellipsis* (e.g., Schuyler 2001)
PAM will read **the ARTICLE**, and **the BOOK**$_1$ SUE will $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

c. *Pseudogapping* (e.g., Gengel 2013)
Pam will read **the ARTICLE**, but she won't **the BOOK**$_1$ $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

These exemplars serve to illustrate an important point regarding each of the ellipses under consideration. Namely, each of the ellipses in (3) and (4) in principle permits $\overline{\text{A}}$-extraction from the ellipsis site.

As per the generalization in (2), where these two classes diverge is in the possibility for sprouting. A minimally differing sprouting variant of each construction is presented in (5) and (6) below.

(5) *Clausal ellipses with a sprouted remnant*

a. *Sluicing* (e.g., Chung et al. 2011)
Sue will READ, but I forget **WHAT**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

b. *Fragment Answers* (e.g., Weir 2014)
Q: Will Sue READ?
A: Yeah, **the BOOK**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

c. *Stripping* (e.g., Nakao et al. 2012)
Sue will READ, but not **the BOOK**$_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

(6) *Sub-clausal ellipsis with a sprouted remnants*

a. *Wh-remnant VP-Ellipsis*
*PAM will READ, but I forget **WHAT**$_1$ SUE will $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

b. *Contrastive topic remnant VP-Ellipsis*
*PAM will READ, and **the BOOK**$_1$ SUE will $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

c. *Pseudogapping*
*Pat will READ, but she won't **the BOOK**$_1$ $\langle_{VP}$ ~~read $x_T$~~ $\rangle$

[2] Space precludes discussion of the extensive literatures that can be found on the issues outlined here. I would refer the reader to van Craenenbroeck & Merchant 2013 for more discussion. Not discussed here are instances of NP-ellipsis, a topic about which I think Karlos Arregi for helpful discussion. One can find examples in Spanish and possibly English *one*-replacement that look convincingly like sprouting of adjuncts and complements from an elided NP. Incorporating these cases into the claims made here must be left for a future occasion.

[3] There is an extensive literature, including Stainton 2006, Progovac 2013 and Jacobson 2016, arguing that Fragment Answers do not involve ellipsis. Excluding these cases from our discussion would not effect the conclusions.

[4] Stripping is potentially a contentious addition to the list of CEs, as opposed to PEs. We consider this in section 5.

Again, it is in principle possible to extract material from both CEs (3) and PEs (4). This is so specifically for instances of merger ellipsis, wherein there is an overt correlate for the extracted element. The puzzle emerges from the observation that sprouting, which is possible from CEs, is not possible from PEs. An overt correlate is required for a remnant specifically when it has been extracted from an elided predicate.

## 3. The Flexible Recoverability of Ellipsis

The analysis to be presented in the following section claims that the impossibility of sprouting from PEs is the result of a failure to license ellipsis. More concretely, I suggest that in all such cases it is a failure to identify an antecedent that satisfies a focus-based semantic redundancy condition of the type proposed by Rooth (1992b).[5] We will adopt the specific formulation of this redundancy condition shown below:

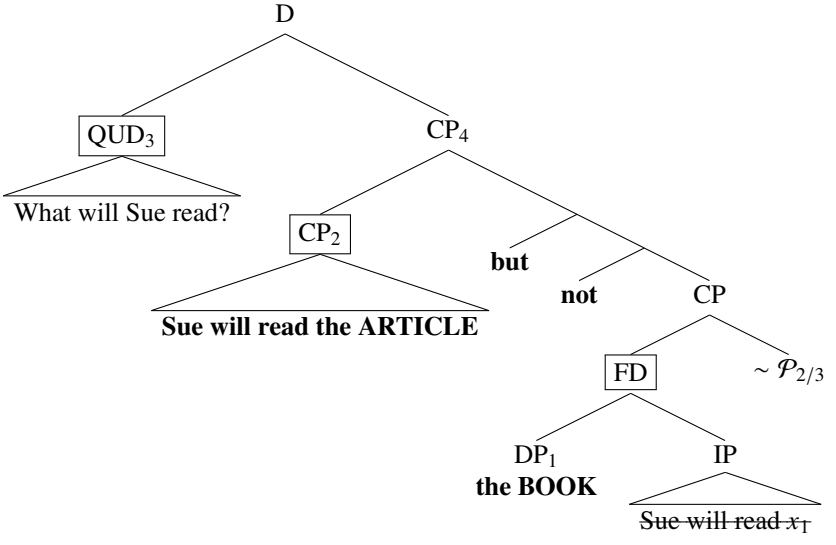
(7) *Redudancy Condition on Ellipsis*
Ellipsis of some XP is permitted only if:
i. there is a Focus Domain (FD) that contains XP,
ii. there is an Antecedent Constituent (AC), and
iii. $[\![ \text{ AC } ]\!]^o \subseteq [\![ \text{ FD } ]\!]^f$

This model of the redundancy condition on ellipsis is embedded within the Alternative Semantics framework of Rooth 1992a. This framework supposes that linguistic objects have both an ordinary semantic value $[\![ \cdot ]\!]^o$ and a focus semantic value $[\![ \cdot ]\!]^f$. The focus semantic value is calculated point-wise, like an ordinary semantic value, while also replacing focused constituents with their alternatives. The result is a set of alternative meanings that co-exist with the ordinary meaning of the utterance.

To illustrate, consider the case of Stripping and the associated representation in (8). Let us concern ourselves first only with the content of $CP_4$.

(8) a. Sue will read the ARTICLE but not the $BOOK_1$ $\langle_{IP}$ ~~Sue will read $x_T$~~ $\rangle$

b.




The Focus Domain (FD), which is a constituent that dominates the elided constituent, is determined by the level at which focus is interpreted. This in turn established by the point of adjunction of the focus interpretation operator ~ ("squiggle"). In the case of (8), this makes the FD the constituent immediately dominating the focus-marked remnant *the book*. The Antecedent Constituent (AC) is determined by the anaphoricity of the propositional variable $\mathcal{P}$ introduced by ~. The indexing $\mathcal{P}_2$ represents the recovery of the first conjunct $CP_2$ from the previously spoken content as the antecedent for the ellipsis.

The calculation of the redundancy condition from (7) using these pieces is shown below in (9).

[5] In the handout for the WCCFL talk I include several possible alternative approaches that are based on previous literature. Unfortunately, space precludes engaging with those ideas on this occasion.

(9) i. $[\![ \text{ FD } ]\!]^f = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{the book}) \}$
ii. $[\![ \text{ CP}_2 ]\!]^o = \{ \text{that Sue will read the article} \}$
iii. $[\![ \text{ CP}_2 ]\!]^o \subseteq [\![ \text{ FD } ]\!]^f$, ellipsis is permitted

The focus semantic value of the FD is the set of propositions computed by replacing the remnant *the book* with its possible alternatives. This is shown in an abbreviated form in (9i). The ordinary semantic value of $CP_2$, shown in (9ii), is a subset of the focus semantic value of the FD. Therefore, the redundancy relation is established and Stripping is permitted.

A suitable AC is successfully recovered from the overt syntax in the demonstration of Stripping above. For other types of ellipses, however, it has been argued that the AC is not recovered from the overt syntax, but from a possibly implicit question in the discourse. This idea has been developed in various forms by, among others, AnderBois (2011) and Barros (2014) for Sluicing and by Weir (2014) for Fragment Answers. I adopt an approach that makes use of the Question Under Discussion (QUD). This presupposes that discourses are structured into questions to be resolved and utterances that are intended to resolve them (e.g., Büring 2003, Roberts 2012). The question that the discourse is actively trying to resolve at any given moment is the QUD. QUDs should be seen as a salient linguistic objects with, at minimum, the logico-semantic content of a question.

Among the benefits to be had from the framework adopted from Rooth (1992a,b) for interpreting focus and establishing redundancy is the in-principle flexibility it provides for the recovery of an antecedent. The propositional variable $\mathcal{P}$ is designed to be anaphoric to various kinds of linguistics objects. This includes, among other things, the validating question in question-answer pairs—the QUD in our terminology. This means that, for the purposes of ellipsis licensing, we should expect that anything to which $\mathcal{P}$ can be anaphoric could potentially serve as an antecedent for ellipsis, including the QUD.

I claim that this is precisely the case. An antecedent can in principle be recovered from either the overt syntax or a (possibly implicit) QUD. This claim will have more bearing in the following sections. For now, let us consider the proof of concept by considering a version of (8) in which the discourse object $QUD_3$ is recovered as the antecedent. The calculation of redundancy is provided below:

(10) i. $[\![ \text{ FD } ]\!]^f = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{the book}) \}$
ii. $[_{\text{QUD}} \text{ What will Sue read? } ]_3$
$[\![ \text{ QUD}_3 ]\!]^o = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{what}) \}$
iii. $[\![ \text{ QUD}_3 ]\!]^o \subseteq [\![ \text{ FD } ]\!]^f$, ellipsis is permitted

The relevant difference lies in the indexing of $\mathcal{P}_3$, which indicates that the question meaning in $QUD_3$ has been recovered as the antecedent for ellipsis. Still following Rooth (1992a), the meaning of a question can be modeled as a set of alternative propositions representing possible congruent answers. Assuming that it is the *wh*-constituent *what* that varies as part of the computation of alternatives, the ordinary semantic value of $QUD_3$ is the set of propositions in (10ii). This is a subset of the focus semantic value of the FD, meaning redundancy is established and Stripping is permitted.

In sum, recovering the QUD as the antecedent could in principle deliver the same result as recovering a constituent from the initial conjunct. The goal moving forward is to define the limits on this in-principle flexibility regarding the recovery of an antecedent in a way that derives the facts above.

## 4. Conflicting Antecedence Conditions

As noted above, there is an emerging literature converging on the idea that different types of ellipsis may be subject to different conditions regarding the recovery of an antecedent (AnderBois 2011, Griffiths 2019, Overfelt 2020, Weir 2014). I present two such conditions: one on PE and one on sprouting. The analysis argues that the inability to sprout from PEs is a reflection of the conflict between these conditions.

### *4.1. The Effect of Size*

Several researchers have reported results revealing that the antecedence conditions on ellipses may differ on the basis of the size of the elided constituent. AnderBois (2011) observes that Sluicing, but not

VP-Ellipsis, has a dispreference for recovering an antecedent from the content of appositives. This leads to the conclusion that Sluicing, but not VP-Ellipsis, must be anaphoric to inquisitive content (the QUD in our terms). Griffiths (2019: sec.4) reaches a similar conclusion based on the acceptability of Sluicing, but not VP-Ellipsis, in exceptive questions.

For ease of exposition, I demonstrate the relevant asymmetry with data adapted from Weir (2014):

(11) Q: Which of the Beatles wrote Margaritaville?
A1: #Jimmy Buffett $\langle_{IP}$ ~~x wrote Margaritaville~~ $\rangle$
A2: Jimmy Buffett did $\langle_{VP}$ ~~write Margaritaville~~ $\rangle$

The intended intuition is that the Fragment Answer in A1 inherits the presupposition, incorrectly, that Jimmy Buffett was a member of the Beatles. For Weir (2014), this reflects the fact that ellipsis here must involve anaphoricity to the QUD. That VP-Ellipsis, on the other hand, does not give rise to the same infelicity suggests that is not subject to any such requirement. It would seem that it is at least possible to recover an antecedent from somewhere other than the QUD (cf. Kehler 2015).

As part of accounting for the puzzle at hand, I am making the stronger claim that PE in fact cannot recover an antecedent from a question meaning in the discourse, viz. the QUD. While this is a possibility for CE, it is necessary for PE to recover an antecedent from a constituent in the overt syntax, in the way originally proposed by Hankamer & Sag (1976).

Consistent with our goals, the reason for this difference comes down to a limit on the ability to satisfy the redundancy condition on ellipsis in (7). Basically, a linguistic object with a question meaning will not provide a suitable antecedent for an elided predicate. Consider the case of Pseudogapping below in (12), where the remnant is assumed to target a midfield position (e.g., Gengel 2013, Thoms 2016).

(12) *Sue will read the ARTICLE but she won't [[ the $\text{BOOK}_1$ $\langle_{VP}$ ~~read $x_T$~~ $\rangle$] $\sim \mathcal{P}_3$ ]
i. $[\![ \text{FD} ]\!]^f = \{ p : p = \text{read } x \mid x \in Alt(\text{the book}) \}$
ii. $[_{QUD}$ What will Sue read? $]_3$
$[\![ \text{QUD}_3 ]\!]^o = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{what}) \}$
iii. $[\![ \text{QUD}_3 ]\!]^o \not\subseteq [\![ \text{FD} ]\!]^f$, ellipsis is not permitted

Interpreting focus at the level of the remnant *the book* results in an FD that is the focus alternative set of the predicate in (12i).[6] The attempted antecedent here is again the QUD *What did sue read?*. The claim is that the ordinary semantic value of the QUD cannot be a subset of the focus semantic value of a predicate. The intended effect, which will see in section 5, is that PEs, including Pseudogapping, must instead recover an antecedent with a predicate meaning, which is to be found in the overt syntax.

### *4.2. The Effect of Sprouting*

In Overfelt 2020 I propose that there are different antecedence conditions on merger and sprouting ellipses. Sprouted ellipses, but not merger ellipses, must rely on the QUD for an antecedent. I suggest here that the reason for this asymmetry, like the one above, can ultimately be understood via the redundancy condition in (7). In short, implicit arguments, regardless of their assumed representation (see Bhatt & Pancheva 2017), do not provide salient focus alternatives for overt constituents. This means that an implicit argument in fact cannot serve as the correlate for a remnant of ellipsis. If this were possible, for instance in (5a), it would presumably also be possible in (6a). The relevant facts would therefore remain unexplained.

That said, it is possible to find independent evidence for this claim outside the domain ellipsis from additive *too*. Additive *too* is commonly treated as a focus sensitive operator which presupposes the existence of a distinct salient alternative to a focus marked element in its scope (see Winterstein 2011, Ahn 2015, and references therein). With this in mind, observe that, on the additive interpretation of *too*, the variants of the sentence in (13a) are infelicitous.

[6] Space precludes a discussion of what ensures that focus is interpreted at the level of the predicate in (12). If focus could be interpreted at the level of the clause, the QUD would incorrectly provide a suitable AC for licensing ellipsis. There are various ways to force $\sim$ to adjoin immediately above the focused element, but it must be stipulated here.

(13) a. #Kim read (something) and she read the BOOK too.
b. Kim read the MAGAZINE and she read the BOOK too.

Neither *something* nor an implicit argument of *read* manages to provide a distinct salient alternative to *the book*. This can be contrasted with (13b), where *the magazine* serves this role.

Coming back to sprouted Stripping, we now expect that the inability for an implicit argument to serve as an alternative to the remnant should disrupt the calculation of redundancy. This is shown in (14):

(14) * [$_{CP}$ Sue will read ]$_2$ but not [[ the BOOK$_1$ ⟨$_{IP}$ ~~Sue will read $x_T$~~ ⟩] ~ $\mathcal{P}_2$ ]
i. $[\![ \text{ FD } ]\!]^f$ = { $p : p$ = that Sue will read $x \mid x \in Alt($the book$)$ }
ii. $[\![ \text{ CP}_2 ]\!]^o$ = { that Sue will read }
iii. $[\![ \text{ CP}_2 ]\!]^o \not\subseteq [\![ \text{ FD } ]\!]^f$, ellipsis is not permitted

The ordinary semantic value of the first conjunct is argued to not be a subset of the focus semantic value of the FD. Thus, redundancy is not established and ellipsis is not permitted in this representation.

Of course, the string is (14) is grammatical. The idea that we are working toward is that this is due to the in-principle flexibility that ellipses have in recovering an antecedent. While the syntax fails to provide an appropriate AC here, one is ultimately provided by the QUD. We turn to this immediately.

### *4.3. The Solution*

We have introduced three ideas up to this point. The first is that ellipses can in principle recover an antecedent from either the overt syntax or the QUD. In addition to this, the previous section introduced to two instances in which this flexibility is limited: one with PE and one with sprouting. The claim made and defended here is that it is the irreconcilable confluence of these limits on the recovery of an antecedent that precludes sprouting in cases of PE. To facilitate the analysis, the data from section 2 to be accounted for are provided in the table below:

| | Merger | | Sprouting | |
|---|---|---|---|---|
| Clausal Ellipsis | ✓ | (sec.3) | ✓ | (16) |
| Predicate Ellipsis | ✓ | (17) | * | (18)/(19) |

**Table 1:** Availability of merger and sprouting as a function of the size of the elided constituent

Let us begin with CEs. It was demonstrated in section 3 how the redundancy condition in (7) is able to make use of either a syntactic constituent or the QUD to license merger CE. However, as argued in section 4.2, an instance of ellipsis that involves sprouting precludes the recovery of a syntactic antecedent. The recourse, I claim, is to recover an antecedent from the QUD. The relevant question is where this QUD comes from and how it is identified.

A QUD can, of course, be proffered explicitly. This is one way to view the discourse in (8). However, it has long been recognized that QUDs can also be raised and addressed while being left implicit in the discourse. The exchange in (15) illustrates one such case of this.

(15) Q: What will Sue do?
A: Sue will read ⇝ $\left\{ \begin{array}{l} \underline{\text{What will Sue read}}\text{, When will Sue read,} \\ \text{Where will Sue read, With whom will Sue read, } \ldots \end{array} \right\}$
And before you ask, she will read the BOOK.

The question in Q explicitly proffers the QUD, to which an initial answer *Sue will read* is provided in A. This initial response seems to conversationally implicate a family of potential follow-up questions (see also Büring 2003). Given that Sue will read, it becomes possible to inquire further about the details, including the what, the when, and the where of it. That such questions have become salient and are waiting to serve as the QUD is made clear by A's continuation. One is able to acknowledge the possibility of further inquiry and in fact answer any of these questions without proffering them explicitly. Which of these potential follow-ups serves as the subsequent QUD is inferred from the focal structure of A's utterance

(e.g., Büring 2003, Roberts 2012, Rooth 1992a). Presented with *she will read the BOOK*, this could only be a congruent answer for the question *What will Sue read?*.

We are now prepared to return to our example of sprouted Stripping. This is provided in (16), where a conversationally implicated QUD is recovered as the antecedent.

(16) Sue will read, but not [[ the $\text{BOOK}_1$ $\langle_{\text{IP}}$ ~~Sue will read $x_{\text{T}}$~~ $\rangle$] $\sim \mathcal{P}_3$ ]

i. $[\![ \text{FD} ]\!]^f = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{the book}) \}$

ii. Sue will read $\rightsquigarrow \left\{ \begin{array}{l} [_{\text{QUD}} \underline{\text{What will Sue read}} ]_3, \text{When will Sue read,} \\ \text{Where will Sue read, With whom will Sue read, } \ldots \end{array} \right\}$

$[\![ \text{QUD}_3 ]\!]^o = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{what}) \}$

iii. $[\![ \text{QUD}_3 ]\!]^o \subseteq [\![ \text{FD} ]\!]^f$, ellipsis is permitted

In a way similar to what was shown above, the first conjunct *Sue will read* conversationally implicates a family of potential follow up questions. In this case, it is the remnant *the book* that signals *What will Sue read?* as the QUD. Now salient in the discourse, this question meaning can serve as the antecedent for ellipsis. As shown, this provides a suitable AC for establishing redundancy.

We turn now to instances of PE, beginning with merger type. In section 4.1 it was argued that PEs cannot employ the QUD as antecedent. Part of licensing an instance of Pseudogapping, it was claimed, requires identifying a syntactic constituent with which redundancy can be established. In cases of merger Pseudogapping, like in (17), this is accomplished with the predicate of the first conjunct.

(17) Sue will $[_{\text{VP}}$ read the ARTICLE $]_2$ but she won't [[ the $\text{BOOK}_1$ $\langle_{\text{VP}}$ ~~read $x_{\text{T}}$~~ $\rangle$] $\sim \mathcal{P}_2$ ]

i. $[\![ \text{FD} ]\!]^f = \{ p : p = \text{read } x \mid x \in Alt(\text{the book}) \}$

ii. $[\![ \text{VP}_2 ]\!]^o = \{ p : p = \text{read the article} \}$

iii. $[\![ \text{VP}_2 ]\!]^o \subseteq [\![ \text{FD} ]\!]^f$, ellipsis is permitted

Finally, we account for the failure of sprouted PE. It is not possible in (18) to recover a suitable AC from the syntax. As an instance of sprouting, a syntactic constituent will not satisfy redundancy.

(18) *Sue will $[_{\text{VP}}$ read $]_2$ but she won't [[ the $\text{BOOK}_1$ ~~read $x_{\text{T}}$~~ ] $\sim \mathcal{P}_2$ ]

i. $[\![ \text{FD} ]\!]^f = \{ p : p = \text{read } x \mid x \in Alt(\text{the book}) \}$

ii. $[\![ \text{VP}_2 ]\!]^o = \{ p : p = \text{read} \}$

iii. $[\![ \text{VP}_2 ]\!]^o \not\subseteq [\![ \text{FD} ]\!]^f$, ellipsis is not permitted

The recourse that is available to sprouted CEs shown in (16) is to rely on the QUD for an antecedent. We have established, however, that this is not possible for PEs. The desired result is that the QUD will also not satisfy redundancy. This is presented in (19):

(19) *Sue will read, but she won't [[ the $\text{BOOK}_1$ ~~read $x_{\text{T}}$~~ ] $\sim \mathcal{P}_3$ ]

i. $[\![ \text{FD} ]\!]^f = \{ p : p = \text{read } x \mid x \in Alt(\text{the book}) \}$

ii. Sue will read $\rightsquigarrow \left\{ \begin{array}{l} [_{\text{QUD}} \underline{\text{What will Sue read}} ]_3, \text{When will Sue read,} \\ \text{Where will Sue read, With whom will Sue read, } \ldots \end{array} \right\}$

$[\![ \text{QUD}_3 ]\!]^o = \{ p : p = \text{that Sue will read } x \mid x \in Alt(\text{what}) \}$

iii. $[\![ \text{QUD}_3 ]\!]^o \not\subseteq [\![ \text{FD} ]\!]^f$, ellipsis is not permitted

In sum, the inability to sprout from an elided predicate is the result of an inability to recover a suitable antecedent, either from the syntax or from the QUD, that permits ellipsis.

## 5. Sprouting as a Diagnostic

Granted the results thusfar, we find ourselves in a position where sprouting becomes diagnostic of the size of an elided constituent. If being CE is a necessary, although not sufficient, condition on sprouting, the availability of sprouting would indicate the availability of CE. On the other hand, the unavailability of sprouting may indicate the necessity for PE. This section presents two case studies to this effect.

### *5.1. Stripping in English*

Several modern approaches to Stripping constructions such as (3c) treat them as the coordination of clauses and as instances of CE (Depiante 2000, Kolokonte 2008, Thoms 2016). Others have argued that Stripping (and its kin) either may or must involve coordination of smaller constituents—including AspPs, AgrPs, and VPs—and instances of PE (Johnson 2019, Konietzko 2016, Lechner 2004). Given the reasoning just laid out above, the availability of sprouted Stripping that we have seen throughout is an indicator that Stripping in English at least can be derived by instances of CE.

If this is correct, we should expect the availability of sprouting to correlate with other indicators of CE. Examples like (20), which is adapted from Siegel 1987 and Johnson 2019, I believe are one such case.

(20) Ward can't eat caviar and his guest too.
   a. $\neg\Diamond(P \wedge Q)$ : "It's not possible for Ward to eat caviar and for his guest to eat caviar."
   b. $\neg\Diamond P \wedge \neg\Diamond Q$ : "Ward can't eat caviar and also his guest can't eat caviar."

The example of Stripping in (20) is ambiguous. The interpretation in (20a) can describe a scenario in which there simply is not enough caviar for both individuals to have some. This is an interpretation expected to arise when coordination has scope under *can't*, resulting in the ellipsis of a sub-clausal constituent *eat caviar*. In (20b) we see an interpretation that describes a scenario, for example, in which both individuals have a dietary restriction that prevents either from eating caviar. This interpretation would be the result of the ellipsis of a constituent including *can't eat caviar*. This is consistent with a syntax involving clausal coordination and an instance of CE.

The minimally differing example in (21), which is not ambiguous in the way above, is intended to support the claim that this ambiguity depends on the level of coordination.

(21) Ward can't eat caviar and probably his guest too.
$\neg\Diamond P \wedge \neg\Diamond Q$ : "Ward can't eat caviar and probably also his guest can't eat caviar."

Assuming that the epistemic adverb *probably* composes very high on the clausal spine (e.g., Ernst 2009), its presence implicates coordination of clausal conjuncts. The expectation, which is borne out, is that (21) receives only the interpretation produced by CE of a constituent containing *can't eat caviar*.

### *5.2. Modal Complement Ellipsis in Catalan and French*

In a number of languages the complement of root modals can be omitted. To presuppose the analysis, this has come to be referred to as Modal Complement Ellipsis (MCE), following Aelbrecht 2010.[7] A relevant example from Catalan is provided below.

(22) La Maria pot llegir el llibre pero l' Elena no pot ⟨ ~~llegir el llibre~~ ⟩
the Maria can read the book but the Elena not can read the book
'Maria can read the book but Elena cannot.' (Catalan)

Among the questions asked about MCE concerns the size of the elided constituent. It has been argued that MCE may delete a VoiceP (Dutch, Aelbrecht 2010; Czech, Gruet-Skrabalova 2020) or a TP (French, Dagnac 2010; Spanish, Fernández-Sánchez 2021). The question becomes even more interesting when we take into account the possibility of restructuring; the infinitival complement of modals comes in various sizes cross-linguistically and in Catalan (e.g., Picallo 1990).

Here too, sprouting can serve as a diagnostic for the size of the elided constituent. The availability of sprouting would indicate the availability of CE. The unavailability of sprouting might be a symptom of PE. With this in mind, let us consider the following cases of French MCE (23) and Catalan MCE (24).[8]

[7] Depiante (2000) argues that similar constructions in Spanish are not ellipsis, but Null Complement Anaphora. The ability to extract material from the deletion site, seen in (23) and (24), is taken as evidence for ellipsis. See Fernández-Sánchez (2021) for the same argument applied to Spanish.

[8] Thank you to Anne Dagnac for very helpful and insightful discussion of the French data. Thank you to Ricard Viñas de Puig and Elena Benedicto for very helpful and insightful discussion of the Catalan data.

(23) Il ne vote jamais **(contre un candidat)**, mais **contre Don**$_1$, il pourrait ⟨$_{TP}$ ~~… $t_T$~~ ⟩
he PRT votes never against a candidate but against Don he could
'He never votes (against a candidate), but against Don he could.' (French)

(24) La Maria pot llegir ***(l' article)**, pero **el llibre**$_1$, (ella) no pot ⟨ ~~… $t_T$~~ ⟩
the Maria can read the article but the book she not can
'Maria can read (the article) but the book, she can't.' (Catalan)

Observe first that French and Catalan both permit extraction out of the MCE site. However, only French permits sprouting. The remnant *el llibre* 'the book' in Catalan must have an overt correlate. This contrast can be taken to indicate that French and Catalan may differ in the possible size of the constituent that is elided in MCE. Namely, French MCE can target a clausal constituent but Catalan MCE may not.

To the extent that this is correct, we should again expect to find that the availability of sprouting correlates with other indicators of the size of the elided constituent. One such indicator includes the voice and reflexivity mismatches investigated by Merchant (2013) and Sailor (2014), among others. In brief, PEs permit a mismatch in the voice of the ellipsis site and an antecedent while this is not possible for CEs. Interestingly, French MCE disallows voice mismatches according to Dagnac (2010: 165). Catalan, on the other hand, does allow voice mismathces; see (26).

(25) *Ce probleme aurait dû [ être résolu ], mais visiblement personne n' a pu ⟨$_{TP}$ ~~…~~ ⟩
this problem should be resolved but obviously nobody PRT could
'This problem should be solved but obviously nobody could ~~solve it~~.' (French)

(26) Aquest problema hauri de [ ser resolt ], però ningu (no) ha pogut ⟨ ~~…~~ ⟩
this problem should be resolved but nobody NEG could
'This problem should be resolved, but nobody could ~~resolve it~~.' (Catalan)

While not perfectly conclusive, these data are converging on the idea that MCE in Catalan can target a sub-clausal constituent and, moreover, a constituent below VoiceP. This is a potentially surprising finding given that VP-Ellipsis is generally thought to be absent from Catalan (e.g., Picallo 1990). Fully, exploring this finding is outside the scope of this paper. However, I think the discussions by Fernández-Sánchez (2021) and Gruet-Skrabalova (2020) each provide promising beginnings for further investigation.

## 6. Conclusion

We have seen evidence that sprouting is subject to a constraint that restricts it to instances of clausal ellipsis. I presented an account for these facts that begins from the claim that antecedents for ellipsis can in principle be recovered from the syntax or an implicit question meaning. Different kinds of ellipses, however, may be subject to limits on this flexibility for antecedent recovery. It was shown how these limits may conspire to block the licensing of ellipsis, specifically in the case of sprouting from an elided predicate. Moreover, it was argued that these are all expected consequences of the model of focus-based semantic redundancy that we find in Rooth 1992a,b.

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