Phase-by-phase computation of prominence in ellipsis and PP stranding island alleviations

Adam Szczegielniak
Rutgers University

This paper argues that wh-remnants in sluicing can undergo local focus-driven movement to the nearest phase edge. On the basis of Polish data, the proposed analysis aims to account for the asymmetries between regular wh-movement and sluicing as far as: preposition stranding effects, superiority effects, and island effects. The proposal has an impact on how we analyze focus licensing, linearization, and wh-movement.

1. Introduction

Merchant (2000) observed that the distribution of wh-remnants in sluicing correlated with the distribution of wh-phrases in regular wh-movement. Languages that do not allow wh-movement out of a PP in question formation do not allow in sluicing the presence of bare wh-remnants when they are case-marked by a PP. In examples (1a,b) we see that question-forming wh-movement cannot strand a preposition but is fine with PP pied piping. In example (1c) we see that a sluice with a simple wh-remnant also cannot have the preposition dropped.

(1) *a. Maria gadała z kimś ale nie wiem kim Maria gadała z
Mary talked with someone but not know whom Mary talked with
'Mary talked with someone but I don't know whom Mary talked with.'

\footnote{1 Thanks to …}
b. Maria gadala z kimś ale nie wiem z kim Maria gadala t Mary talked with someone but not know with whom Mary talked 'Mary talked with someone but I do not know with whom Mary talked.'

c. Maria gadala z kimś ale nie wiem *(z) kim Mary talked with someone but not know with whom 'Mary talked with someone but I do not know (with) whom.'

Parallels between wh-movement and sluicing remnant distribution have led Merchant (2001) to argue that the wh-remnant is derived via wh-movement that moves it out of the syntactic structure that undergoes subsequent ellipsis (understood as a PF operation of suppressing phonological expression of a constituent that has syntactic structure). Counter-examples to the parallelism between wh-movement and sluice remnant licensing have been shown to involve complex D-linked wh-remnants (Szczegielniak 2008).

(2) *a Maria gadala z którym mężczyzna ale nie wiem którym1 Mary talked with some man but not know which Maria gadala z t1 mężczyzną Mary talked with man 'Mary talked with some man but I do not know which man she talked with.'

b. Maria gadala z którym mężczyzną ale nie wiem z którym Mary talked with some man but not know with which mężczyzną Maria rozmawiała t man Mary talked with 'Mary talked with some man but I do not know which man she talked with.'

c. Maria gadala z którym panu ale nie wiem (z) którym Mary talked with some man but not know (with) who 'Mary talked with some man but I do not know (with) who.'

We can see from the contrast between (2a) and (2b) that wh-movement of a D-linked phrase cannot strand a proposition, just like wh-movement of a simple wh-expression. Crucially, in (2c) we observe that a sluicing
remnant can appear optionally with, or without, the proposition that licenses its case. The data in (2) breaks the parallelism between wh-movement in questions and wh-movement in sluicing. Szczegielniak (2008) proposed that (2c) can be accounted for by assuming that the underlying structure of the sluice was a copula-less cleft as in (3) with the wh-remnant receiving focus prominence marking.

\(?3\) Maria gadała z którym mężczyzną ale nie wiem którym to-
Mary talked with some man but not know which it
z mężczyzną gadała
with man talked
'Mary talked with some man but I do not know with which man it
was she talked.'

This approach has been criticized in Nykiel (2013) on the assumption that the cleft is not a grammatical continuation in Polish. The argument is primarily based on judgment questionnaire data that unfortunately does not test the whole structure in (3), but just the subordinate CP that is sluiced in isolation. There is distinct possibility that the subordinate in isolation is degraded just as string ‘whether she danced’ is bad English unless it is a subordinate to matrix CP. However, Nykiel (2013) criticism is well placed because of example (4) below, which provides clear evidence that the analysis in Szczegielniak (2008) cannot be the whole picture. Example (4) differs from (3) in that what moves is not just the wh-part of the D-linked structure, but the whole DP. In (4a) we see that the remnant can be a D-linked wh-expression consisting of the wh-word and the nominal. In (4b) we see that a cleft continuation is completely ungrammatical when we move the whole D-linked complex. It appears we are left with no grammatical continuation for sluices like (4a). I will assume following Szczegielniak (2008) that an ellipsis construction can have more than one possible underlying structure. Sluiced structures are not limited to being generated via wh-movement or cleft formation, but can also have well formed derivations that involve local movement to phase edge. These are possible since ellipsis does not have the same linearization constraints as non-ellided structures do.
PHASE-BY-PHASE COMPUTATION OF PROMINENCE IN ELLIPSIS AND PP STRANDING ISLAND ALLEVIATIONS

(4) a. Maria gadała z którymś mężczyzną ale nie wiem (z) którym
Mary talk with some man but not know (with) which
mężczyzną
man
'Mary talked with some man but I do not know (with) which
man.'

*b. Maria gadała z którymś mężczyzną ale nie wiem [którym
Mary talked with some man but not know which
mężczyzną], {to z tą gadała}
man it with talked
'Mary talked with some man but I do not know with which man
it was she talked.'

The data in (4) unambiguously shows that a cleft continuation is
impossible for some cases of PP omission in sluicing even when the
remnant is D-linked. Furthermore, Nykiel (2013) points out that not all
non D-linked wh-remnants exclude the possibility of omitting the
preposition. When the antecedent DP is complex enough, a simple wh-
remnant can omit its case-licensing preposition as shown in (5a). In
example (5b) we see that a cleft continuation is also impossible.

(5) a. Byłaś ubrana w coś czerwonego tamtej nocy,
were dressed in something ACC red ACC that night
ale nie pamiętam (w) co.
but not remember (in) what ACC
‘You were dressed in something red that night, but I don’t
remember (in) what.’

*b. Byłaś ubrana w coś czerwonego tamtej nocy,
were dressed in something ACC red ACC that night
ale nie pamiętam co to w czerwonego byłaś ubrana
but not remember what ACC in red ACC were dressed
that night
‘You were dressed in something red that night, but I don’t
remember what it was.’
This paper assumes that the contrast in (4) and (5) is not necessarily an argument against the idea that the ellipsis site contains a fully-fledged syntactic structure. I believe that we can maintain the insight that elided structures have syntactic structure provided we examine the difference between constraints on syntactic structure containing PF material and constraints on syntactic structure without PF material. The idea is that focus/prominence licensing of a sluice remnant is phase based but its sensitivity differs from non-elided structures due to differences in linearization constraints. Ellipsis structures have more leeway than overt PF expression since linearization is not a factor in establishing Information Structure. Furthermore, complexity of the antecedent does matter, as observed in Nykiel (2013). I suggest complexity of the remnant determines its ability to project a phase that can have a focus head. A lexical item needs to have enough structure to project its own phase and allow local focus raising to license ellipsis. The claim is that simple wh-expressions and pronouns lack sufficient functional architecture to become a phase, but a complex wh-expression has enough structure to project a phase and allow local movement below the P head.

(6) PP stranding alleviation complex d-linked wh as in (4a)

The proposal predicts that complex enough sluice remnants can move locally to a phase edge within the ellipsis site to be focused, and linearized as following the antecedent. Simple wh-expressions do not project as easily their own Focus phrase hence local movement below PP is not possible unless additional complexity is added. For example adjectival modification forces the presence of an articulated extended lexical domain that can carry a focus phase head as in (7).
(7) PP stranding of complex nominal like in (5)

The idea is that the remnant of ellipsis can undergo local movement to the edge of a local phase headed by focus and be spelled out there. Support for such an approach will come from the behavior of multiple wh expressions in sluicing, island alleviation asymmetries, discontinuous ellipsis, and focus licensing properties.

2. Sluicing in Polish

As I have shown in example (4a), sluicing structures in Polish omit the proposition that case licenses a wh-remnant. Preposition omission is possible in conjunction to island alleviation effects. For example, in order to be licensed by regular wh-movement, the sluice in (8) needs the wh-word move out of a relative clause island and strand a preposition.

(8) Oni zatrudnili jakiegoś językoznawcę który koresponduł z jakimś filozofem, ale nie wiedza (z) którym
They hired some linguist who corresponded with some philosopher but not know (with) which
'*They hired a some linguist that corresponded with some philosopher but I do not know which linguist with which philosopher.'

Example (8) shows us that PP-omission in sluicing does not interact with island alleviation strongly suggesting a common underlying mechanism for both. This is furthermore supported by the fact that only sluicing allows both island alleviation and the ability to license a remnant without a case licensing PP. In cases of sprouting, or VP ellipsis, there is no option to drop the preposition, as can be seen in (9) for sprouting, and in
for VP ellipsis that has a PP external argument (in (10) I assume the copula ‘be’ optionally raises out of vP to T since it can also be dropped).

(9) Jola zasnęła w jakimś teatrze, ale nie wiem *(w) którym
    Jola slept in some theatre, but not know (in) which (loc)
    ‘Jola fell asleep in some theater, but I do not know which.’

(10) W domu będzie nam ciepło ale *(w) lesie nie będzie
    in house is us(dat) warm but in forest (loc) not will
    ‘It will be warm for us in the house but not in the forest.

The above data gives the impression that sluicing allows more freedom as far as remnant distribution than any other ellipsis. Moreover, the examples suggest that regular wh-movement is more constrained than wh-remnant distribution. As much as the first observation might be correct, the latter one would be a simplification. There are cases where the distribution of wh-remnants in sluicing is more constrained than the distribution of wh-expressions in regular questions. One example is multiple wh-constructions, which in languages like Polish do not obey superiority restrictions (11a,b). However, even though sluicing with two or more wh-remnants is possible, multiple wh-sluices do not permit superiority variations (Stjepanović 2000) as shown in (12b).

(11) a. Ja zastanawiam się kto do kogo podszedł
    I wonder refl who to whom approached
 b. Ja zastanawiam się do kogo kto podszedł
    I wonder refl to whom who approached
    ’I wonder who approached whom.’

(12) a. Ja widzę, że któryś chłopak podszedł do któregoś samochodu,
    I see that some boy approached to some car
    ale nie wiem który chłopak do którego samochodu
    but not know which boy to which car
??b. Ja widzę, że któryś chłopak podszedł do któregoś samochodu, 
I see that some boy approached to some car 
ale nie wiem do którego samochodu który chłopak 
but not know to which car which boy 
'*I saw that some boy approached some car but I do not know
which boy which car.'

Sensitivity to superiority is interesting not only because regular wh-
movement is not sensitive to it, but also because even if there was a
possible cleft continuation for sluices, it would not account for the
contrast in (12) since, as pointed out in Szczegielniak (2008), we cannot
have multiple clefts in Polish. The derivation in (12) cannot be attributed
to clefts or wh-movement.

Multiple wh-sluices are also more restricted than single wh-sluices as far
as preposition stranding. When we have two wh-remnants the preposition
cannot be dropped as seen in (13).

(13) Ja widzę, że któryś chłopak podszedł do któregoś samochodu, ale
I see that some boy approached to some car but
nie wiem który chłopak *(do) którego samochodu
not know which boy (to) which car
'*I know that some boy approached some car but I do not know
which boy which car.'

Finally, multiple sluices can be more constrained than single remnant
sluices as far as Island alleviation. In some constructions island
violations are alleviated, but in other similar structures they are not.
Consider the example in (14a) where both remnants are from within the
relative clause island, and (14b) where only one remnant is inside an
island. Surprisingly island alleviation is possible when both wh-remnants
are within the relative clause island as in (14a), but when one of the
remnants is outside the island, as in (14b), the structure is ungrammatical
(island shown in curly brackets).
(14) a. Oni zatrudnili lingwistę który podarował jakąś książkę.
They hired a linguist who gave some book.

jakiemuś profesorowi, ale nie wiem [której książce],
which professor but not know which book

some professor but not know which book

oni zatrudnili lingwistę [który]
they hired linguist who

gave

'??They hired a linguist who gave some book to some

profesor but I do not know which book to which professor.'

??b. Oni zatrudnili jakiegoś lingwistę który zna jakiś dialek,
They hired some linguist who knows some dialect but

ale nie wiem [jakiego dialekta],
not know which dialect

[któremu profesorowi] oni zatrudnili lingwistę [który]
[which professor they hired linguist who]

gave

'*They hired some linguist who knows some dialect but I do

not know which dialect which book.

The generalization from (14) is that multiple wh-remnants can alleviate

island violations provided that both remnants originate from within the

same island, or as I will argue be contained in the same minimal phase. It

has to be noted that if we have two remnants that originate form different

islands then alleviation is again impossible.

*(15) Oni zatrudnili jakiegoś lingwistę który zna jakiś dialek bo
They hired some linguist who knows some dialect because

ciągle czyta jakąś książkę o nim ale nie wiem [jakim dialektem]
constantly reads some book about it but not know which dialect

[jaką książkę], [który zna tą] [bo ciągle czyta tą o nim]
which book which knows because always reads about it

'*They hired some linguist who knows some book since he always

reads some book about it but I do not know which dialect which

book.'

In example (15), the two remnants would have to raise from their own

relative clause islands (the second would have to raise out of two relative
clause islands to be precise). This kind of Island alleviation is not possible.

I propose that the contrast in (14) and (15) is accounted for by assuming that linearization of ellipsis of remnants has to take place at the edge of the minimal phase containing both. Let me suggest the following generalization as far as the distribution of multiple wh-remnants in sluicing.

(16) Multiple ellipsis remnants have to raise to the minimal phase that contains both of them.

The trigger for this movement is linearization. When we have two XP’s that are remnants of ellipsis they need to be linearized with respect to each other. Following Fox and Pesetsky (2005), I assume that linear assignment is carried out at the phase level. In non-elided structures linearization of multiple wh-expressions does not require that every wh-expression raise to a common minimal phase edge. This is because wh-expressions can linearize indirectly with respect to another via other heads. In the case of sluicing, the only expressions that need to be linearized are the wh-remnants, there are no other heads. When there is one remnant no linearization within the sluice is needed, the only order that has to be established is with respect to the non-elided expression, which I will argue is done by default. However, when there is more than one remnant, order needs to be established directly between the remnants before they can be linearized with the non-elided parts of the expression.

In example (14a) the minimal phase that contains both remnants is the vP phase inside the relative clause. As shown in (17a), both wh phrases need to raise to the edge of that phase and have their respective linear order computed. They do not move out of the relative clause but are sent to PF as non deleted when the phase is spelled-out. In example (14b), repeated as (17b) below, the two remnants do not have a common minimal phase within the relative clause. This means that the lower wh-expression originating within the relative clause has to raise out of the relative clause in order to share a common phase edge position with the higher remnant. The smallest common phase that both remnants can share is the vP of the matrix clause.
(17) a. two wh-remnants - both embedded in an island:

…ale nie wiem oni zatrudnili lingwistę {który, but not know they hired linguist who

[FP[której książkę], [któremu profesorowi]2 [vP podarował t1, t2]]

which book which professor gave

b. two wh-remnants – both not embedded in a island:

*…ale nie wiem oni [FP[jakiego lingwistę]1 [jaki dialekt]2

but not know they which linguist which dialect

[vP zatrudnili t1 {który [[vP zna t1]]}]

hired who knows

Below is a summary of the facts that have been established. In two cases we have an unclear picture indicated by ‘no/yes’. Simple remnants can strand prepositions but only if they are complex enough. Island alleviation.

<table>
<thead>
<tr>
<th>(18)</th>
<th>wh move</th>
<th>D-linked</th>
<th>non-D linked complex</th>
<th>non-D linked simple</th>
<th>2xwh same phase</th>
<th>2xwh different phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP stranding</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>RC Island alleviation</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Superiority alleviation</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

I propose that sluicing, or for that matter any other type of ellipsis, does not have the ability to alleviate movement constraints. Structures derived via sluicing only appear to defy constraints on movement because sluicing remnants have the option of raising to a local positions due to looser restrictions on linearization. I define a minimal local position as:

19. The minimal local position that a single remnant has to raise to is the closest phase-periphery. A minimal local position for multiple remnants is the phase-edge of the minimal phase that contains all the remnants.
The question arises why in sluicing structures movement to a minimal local position is sufficient? In order to address this question let me provide an account of ellipsis as phase-based suppression of PF material.

3. **Discontinuous Ellipsis**

Let us assume that ellipsis is suppression of PF material. In phase-based model, suppression of phonological material needs to happen at spell-out. Following Merchant (2001) Gengel (2007), let me assume that PF suppression is triggered by an [E] feature that is present on a phase head whose complement is elided. PF suppression implies suppression of the linearization algorithm since there is nothing to linearize. Ellipsis suppresses all phonological information with the exception of the remnant(s). Remnants need to be linearized with respect to the antecedent (I use this term broadly to refer to anything spelled out that is not a remnant. In the case of sluicing this will include also the matrix clause taking the wh CP as its complement, which technically is not an antecedent to ellipsis). In cases when there is more than one remnant, multiple remnants need to be linearized with respect to each other before they are linearized with respect to the antecedent part of the expression.

The sequence where we need to linearize remnants with respect to each other prior to any other linearization stems from the assumption that linearization of syntactic structure is carried out on a phase level. Phases containing remnants of ellipsis are spelled out before the antecedent is even introduced. Consider a structure like in (20) which corresponds to a single wh-sluice in (4a).

(20) **ANT [CP1…. [vP1… [PP [DP1 wh1+NP…]]]**

Spelling out the DP1 phase once vP1 is completed means sending an un-linearized wh-expression to PF. Once the first antecedent phase is spelled out, the wh-remnant is already processed in PF and remains un-linearized. Note that, based on the discussion up until now, we cannot assume that the wh-moves out of PP to Spec-CP1, nor can we assume a cleft-like structure of the ellipsis site. There is no possibility to move the remnant to the highest phase that is being elided, and linearization should fail. The remedy which I propose is that an Ellipsis feature on C1 is not
only responsible for PF suppression it also imposes a linear order on anything that has been ‘spared’ PF suppression. The linear order that it imposes for sluicing is given in (21). The effect is the antecedent always precedes the ellipsis site when the phase containing the \( E \) feature is spelled out. This is a welcome result since both CP and vP ellipsis have the requirement that the antecedent precede the anaphor that is elided.

(21) Antecedent < remnant

The computation becomes more tricky when we have more than one remnant, as in (22) below.

(22) \[ \text{ANT } [\text{CP1} \ldots [\text{vP1} \ldots [\text{DP1 } \text{wh1}] \ldots] \ldots [\text{CP2} \ldots [\text{vP2} \ldots [\text{DP2 } \text{wh2}] \ldots]]]] \]

The linear ordering via (21) imposed by \( E \) would give us:

(23) a. Antecedent< wh1
    b. Antecedent< wh2

The order between the remnants is undefined and the computation will crash. Obviously, sluicing allows multiple remnants, hence we need a mechanism that allows us to establish their relative order. We again cannot assume that the \( wh \)-expressions raise to the topmost CP since, if that were the case, we would observe a lack of superiority effects as in regular \( wh \)-movement in Polish. I propose that in the case of two remnants both have to raise to the nearest common phase edge. In the case of (14a) that will be vP1. This is where both \( wh \)-remnants are spelled-out. I assume movement to vP1 obeys superiority, meaning the lower \( wh \)-remants tucks-in below the higher one.²

(24) \[ \text{ANT } [\text{CP1} \ldots \text{[Wh1 Wh2 vP1} \ldots \text{[DP1 } t1] \ldots] \ldots [\text{CP2} \ldots [\text{vP2} \ldots \text{[DP2 t2}] \ldots]]] ] \]

² Such an approach implies that superiority is somehow reflex of linearization algorithms. Unfortunately, it is beyond the scope of this paper to discuss the nature of \( wh \)-movement in superiority violating languages.
Movement of both remnants to the closest common phase predicts two crucial facts that differentiate multiple remnant sluicing from single remnant sluicing. One difference is that with multiple remnants PP stranding type effects are not possible since this would require wh-movement out of a PP. The other difference is that island alleviation requires both remnants to originate within an island that has a phase head dominating them. Only in such a configuration both remnants can move to a common phase head edge without crossing an island.

A possible downside of such an analysis is that the resulting structure involves ellipsis of a non-constituent. In (24), the complement of C1 is not entirely elided, since the edge of the vP1 phase contains two remnants that are pronounced. It is clear that we need additional assumptions in order to allow for discontinuous ellipsis. Discontinuous ellipsis is needed independently of multiple wh-sluicing. In example (25a) below, taken from Bruening (2015), we have two remnants that cannot be generated via movement as shown in (25b).

(25)  a. I disproved theories held by Wittgenstein this year and I disproved theories held by Einstein last year

    *b. [Einstein]₁ [last year]₂ , I disproved theories held by t₁ t₂

Examples like (25) show that we need to have a mechanism to elide a non-constituent because movement cannot evacuate the remnants from the ellipsis site. This mechanism is movement to a local phase-edge which allows remnants to be linearized vis a vis each other. In (25), a tentative analysis involves movement of ‘Einstein’ to a nearest phase edge, possibly the DP itself, where it is linearized as following the antecedent. The adverbial adjunct is added once the structure is complete via Late Insertion. As such, it cannot disrupt the existing linearization word order between the antecedent and the DP remnant. That is only possible if adjuncts remnants follow the argument remnant.

(26) Antecedent < DP remnant < adjunct

This is why the example below is ungrammatical, although in theory the adjunct should be able to attach at the beginning of the clause as in the antecedent.
This year I disproved theories held by Wittgenstein and last year I disproved theories held by Einstein.

Having shown that a mechanism for discontinuous ellipsis is required for reasons independent of Polish sluicing, let me provide an outline of why phase edges play an important role in licensing ellipsis remnants. I propose that phase heads are endowed with interface features that include, among others: linearization, focus/alternatives marking, Ellipsis, Givenness, prominence. In non-elided structures a phase complement at spell-out has its linear structure ‘frozen’ since spell-out sends it to PF. Elements on the edge of a phase head and the phase head itself are not spelled-out until the next cycle. Phase based linearization has been argued by Fox and Pesetsky (2005) to force cyclic wh-movement. For example, a wh-phrase inner argument of a verb needs to move to the vP phase-edge in order to linearize as above the verb at that point in spell-out, so as to maintain consistency when the CP is spelled out as shown in (28). Without the movement in (28a), the linear ordering would be inconsistent on a phase-by-phase basis.

\[
\text{(28) } \begin{align*}
\text{a. } \text{wh}_1 \text{ vP } \ldots \text{V t}_1 \ldots & \quad \text{wh}<\text{V} \\
\text{b. } \text{wh}_1 \text{CP } \ldots \text{t}_1 \text{vP } \ldots \text{V t}_1 \ldots & \quad \text{wh}<\text{C}, \text{C}<\text{V} \text{ implies wh}<\text{V}
\end{align*}
\]

Based on such an approach, we see that in the case of sluicing linearization can be reduced to a simple rule where the remnant is linearized after the antecedent. The tricky part is when we have two remnants. Following the logic of Fox and Pesetsky (2005), two remnants need to establish a respective linear order as soon as they are both being spelled out at PF, this means as soon as the minimal phase containing them both is spelled out.

The need to move both remnants to a common phase predicts the inability of dropping the PP in multiple sluices. The minimal common phase for both wh-expressions in (29) is the vP phase. In order to linearize the PP complement, wh has to raise to a higher phase, it can only do so by being pied piped with the PP.
Linearization, however, is not the sole trigger of remnant movement. It interacts with another driving force, namely focus marking. Remnants need to be marked as focused. I assume even the wh-ones have to be focus licensed. I propose that every phase can be headed by a focus head (Bošković 2014). However, I suggest that in elided structures the focus head does not need to be on the same phase head that licenses ellipsis. This leads us to the discussion on discontinuous ellipsis.

5. Phase heads: Focus, Ellipsis, Linearization

Phase heads have been argued by Kratzer and Selkirk (2007) to be the locus of prominence computations for languages like German. The idea is that prominence is assigned to the highest constituent in a phase. For example, in German VP internal PP’s lack stress in the presence of a direct object, but are stressed when there is no direct DP object (data from Kratzer and Selkirk 2007, stress in bold)

(30) dass ein Jünge [FP [DP eine Géige],] [vP t₁ [PP im Supermarkt] kaufe]

I will argue that this is because the topmost XP in a vP undergoes movement to a focus phrase that is the phase head of the vP phase. Movement of the highest XP to Spec-F is discourse neutral focus, which can be overridden by discourse requirements. The above analysis captures the observation that in neutral contexts the topmost XP in vP is prominent. Crucially, I assume that F is the vP phase head. I adopt the intuition in Bošković (2014), that the topmost projection of a given lexical extension is a phase head. A focus head, when present, is going to be the topmost head of a Lexical Projection.

I would like to extend idea of a focus head being a phase head to other lexical projections. Crucially, I want to explore the idea that we have
focus inside a nominal lexical projection that has a wh-expression. Focus within the DP is clearly visible in examples like (31) below, where the adjective can be argued to raise to Spec-Focus, which is a phase head. The idea that Focus is a phase head which also carries an E feature is supported by the fact that the second iteration of the noun 'farmer' can be deleted. This is predicted when ellipsis is assumed to be deletion of a phase complement (Gengel 2007, Bosković 2014).

(31)  Jan zobaczył [FP₁ amerykańskiego [N rolnika]] a nie
       Jan saw American farmer but not
       [FP₂ francuskiego [N rolnika]
       French farmer
'Jan saw an American farmer but not a French farmer.'

Following Rooth (1992) and subsequent work, I assume ‘American farmer’ has an Alternatives semantics. Its ordinary semantic value is: \( \lambda x [\text{American}(x) \land \text{farmer}(x)] \) (a function mapping an individual \( x \) to the proposition that \( x \) is both American and a farmer). However, the focus semantic value is the set of properties that is in the form of ‘\( P \) farmer’. I assume, following Rooth (1992), that \( P \) is an intersective modifier: \( \{ \lambda x [P(x) \land \text{farmer}(x)] | P : E \rightarrow \text{propositions} \} \). The same holds for ‘French farmer’. However, there is one distinction. The phase head F2 is endowed not only with a focus feature but also an Ellipsis feature which is contingent on part of its complement being discourse marked as Given. In this case the discourse part within the DP that is Given is the nominal ‘farmer’. This is why it can be deleted.

I propose to build on Rooth’s proposals that Focus involves short distance movement, and propose that a focused XP raises to its local phase head which is a focus head. This movement can be both covert or overt depending on the language. In English it will be covert. The approach I propose exploits the idea that every phase can be headed by a focus head that can carry focus features, ellipsis features, as well as trigger linearization. Focus driven movement can be to a local phase edge. In most cases, focus movement can be covert XP movement since alternatives are computed post-syntactically. However, in cases of ellipsis, this movement is overt since not only does the remnant need to
be focus marked but it also needs to be linearized. Let me suggest the following principle that captures the relationship between ellipsis and focus movement to Spec-F.

(32) Focus marked elements in Spec-F, F being a phase head, do not undergo PF suppression via E feature on a higher phase head, but are linearized on spell-out.

In other words, focus marking allows an XP to survive PF suppression. Linearization with one remnant is not an issue since I have argued for a default linearization where a remnant follows the antecedent. Multiple remnants need to move to a common phase periphery, unless they are adjuncts and have the option of late attaching.

I believe there is evidence independent of ellipsis that focus marking involves short distance movement. Focus movement does not appear to be island sensitive, for example focus marked XPs can be associated with the focus particle only across an island (focus association shown in bold).

(33) He only investigated the question whether you know the man [CP who chaired [the board]].

In the above example, the focused DP is associated across a relative clause island with the focus particle only. The relationship cannot involve LF movement of the DP to the position of only. The lack of island sensitivity is reminiscent of wh-sluice island alleviation. And I argue it has the same underlying mechanism – movement to a local phase edge. We cannot claim that there is no movement at all in the case wh-sluicing. Sensitivity to PP-stranding, superiority, lack of island effects with certain multiple wh-remnants indicate that there is movement, just not in the same shape and form as in overt wh-constructions. The main reason I have argued is less stringent linearization requirements. Another reason I suggest is that the wh-sluice remnant needs to move into a focus position to become a remnant. Non-wh focus movement also does not exhibit island restrictions, but it is also movement constrained. For example, focus is known to trigger crossover violations as seen in (34).

(34) We only expect [the woman he loves] to betray [him].
Kratzer (1991) shows that in the above example the bound variable reading is impossible. There is no reading where we expect nobody but John to have the property ‘∀v_{e,t} [the woman v_{e,t} loves betraysv_{e,t}]’.

On the other hand, a referential reading is possible. It is possible to get a reading where we expect nobody but John to have the property: ‘∀v_{e,t} [the woman John loves betrays v_{e,t}]’.

The proposal made here, where focus is movement to the nearest phase edge, reconciles the crossover facts with island insensitivity of focus. Movement in (33) is local enough not to cross the relative clause island barrier. A full nominal DP has its own Focus head that heads the DP phase. The nominal can raise at LF with the local DP to a Spec-F position and be licensed as focused via association with the particle only. The case is different in (34). Pronouns do not project a full nominal structure and cannot be headed by an inherent focus head. The closest position for the focused pronoun to raise at LF will be the vP phase headed by a focus head. Such movement triggers crossover effects since it crosses the trace of the subject DP that contains the co-indexed pronoun.

My proposal that focus movement can be to a local phase edge gives two predictions. We can fix the crossover structure by focusing the higher pronoun instead. This can be seen in (35), where both a bound and referential readings are possible.

(35) We only_{K} expect [him]_{K} to be betrayed by the woman he_{i} loves.

We can also fix crossover effects by embedding the pronoun in a more local phase as in (36).

(36) Prompt: What should we expect in a situation where Jim's female lover is determining whether one of his (Jim's) subordinates may be in a position to divulge confidential information about him (Jim, or all of the men in the hierarchy).

We only_{K} expect [the woman_{K} he_{i} loves] to investigate [the question of whether someone will [_{FP} [\overset{\text{vP \ betray \ [him]_{K}}}{\text{FP}}]]]

Example (36) has a bound reading on the pronoun, and no island violation. Focus is assigned via local covert movement of the focused
pronoun to Spec-F of the verbal complex headed by ‘betray’. There is no crossover, exactly what a local focus movement analysis would predict.

5. Conclusion

The paper argues that sluicing remnants can be derived via short movement to a local phase head that licenses focus. It allows for instances of discontinuous ellipsis that is phase constrained. Ellipsis does not allow PP stranding alleviation, or island alleviation. However, because of less stringent linearization than non ellipsis, movement of the remnant can be short enough to avoid the triggering of islands.

References


adam.szczegielniak@rutgers.edu