

What ellipsis can do for phases and what it can't, but not how.

Lobke Aelbrecht (Ghent University – GIST)

1. Introduction

Over forty years of ellipsis studies have made ellipsis into a hot topic in generative linguistics. Several different kinds of ellipsis have been distinguished, for instance, VP-ellipsis, sluicing, gapping, stripping, NP-ellipsis and many more. There has been much debate on the syntactic licensing of ellipsis, and on the recoverability of the antecedent. Studying silence is very much a topic in itself and it has proven an interesting one.

This paper, however, will not address one specific elliptical phenomenon, or deal with the licensing or recoverability issues. Instead it focuses on the use of the gained insights on ellipsis for other domains in linguistics. Especially in recent years, it has become apparent that what we know about the elements that are missing in a sentence can be brought forward to support research on what *is* present. In other words, there are cases where ellipsis provides support for research in other domains of syntax, or other fields in linguistics and cognition. The current paper zooms in on one such case, namely the merits of ellipsis research in the domain of phase theory. We will explore an approach according to which ellipsis is the flipside of phasal spell-out, and a problem with this view. The potential solution to this problem has consequences for how we conceive phases.

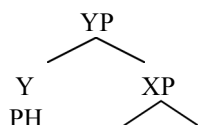
2. Ellipsis and phases

The idea that a sentence is not built up in its entirety, but can be split up into different meaningful chunks of structure that together form the utterance, has been around for a while, and in his (2000, 2001, 2005) works Chomsky proposes to capture this intuition with the notion of phases: a clause consists of several derivational domains, headed by certain heads, which are called phase heads. After a phase head is merged, it sends its complement – the phasal domain – off to PF, for spell-out. At that point the domain becomes inaccessible for narrow syntax. This condition is known as the Phase Impenetrability Condition or PIC. Schematised this looks like (2), where Y is the phase head and XP is its phasal domain.

- (1) **Phase Impenetrability Condition (PIC, Chomsky 2000:108)**

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

- (2)



→ Merger of Y sends XP off to PF, for Spell-out
→ XP becomes inaccessible to syntactic operations

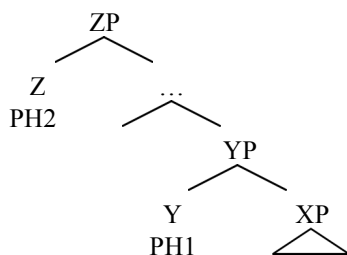
The PIC ensures that movement happens cyclically, i.e., a constituent cannot move up in one fell swoop, for instance from its base position in an embedded clause to the [Spec, CP] of the matrix clause, but needs to move through intermediate phase edges, i.e., the specifiers of the phase heads. Only this way can it avoid being sent to Spell-out already; hence, being frozen for syntactic operations (i.e., cyclic movement, Chomsky 2000, 2005).

The revised version of the PIC, given in (3), alternatively states that a phasal domain is accessible to syntax until the *next* phase head is merged (Chomsky 2001). In other words, merger of a phase head triggers the Spell-out of the domain of the previous phase head lower down, as illustrated in (4).

- (3) **Revised Phase Impenetrability Condition (PIC2, Chomsky 2001:12-14)**

Given phases ZP and HP, the domain of H is inaccessible to operations at ZP, only H and its edge are.

- (4)

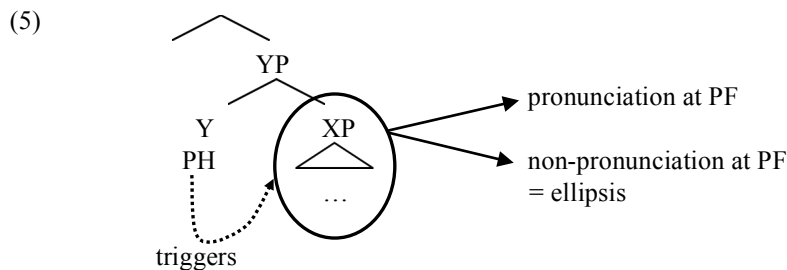


→ Merger of Z sends XP off to PF, for Spell-out
→ XP becomes inaccessible to syntactic operations

This revision has consequences for the analyses of several phenomena, but for the purposes of this introduction, I continue to apply the original version. The difference between the two will become relevant later on in the paper, however.

If phase theory implies that a certain part of the syntactic structure is sent to PF upon merger of a specific head, it is tempting to see ellipsis as a special kind of Spell-out, namely non-pronunciation. Several researchers have used the notion of phase to determine the domain targeted by ellipsis. Holmberg (2001), and following him, Gengel (2007), Yoshida & Gallego (2008), Gallego (2005, 2009, 2010), Müller (2011), Rouveret (2012), Wurmbrand (2012), Harwood (2013, to appear), and Bošković (2014) for instance, have proposed that what is targeted by ellipsis is in fact always the phasal domain (traditionally the complement of the phase head, but according to some, the entire phase). This paper presents one way of uniting phases and ellipsis, and one problem for which none of the proposals so far provides a straightforward solution, as far as I know.

The temptation of linking up ellipsis and phases lies in the fact that both ellipsis and phase theory affect the spell-out of certain domains and rely on the merger or presence of a specific trigger. For ellipsis this trigger is the licensing head (Zagona 1982, 1988; Lobeck 1995; Merchant 2001; Johnson 2001; Gergel 2006; Aelbrecht 2010, among many others), while in phase theory the merger of a phase head sends off its complement to PF.¹ Suppose now that ellipsis licensors are in fact phase heads, as proposed by Gengel (2007). This would lead to the scenario in (5): take XP to be a phasal domain, i.e., the complement of a phase head. When the phase head (PH) is merged, XP is sent to PF, where it has the choice of being pronounced or not. From that point on, XP is inaccessible to syntax, in accordance with the PIC.



This provides us with elegant approaches to VP-ellipsis and sluicing. For instance, one could say that VP-ellipsis always elides the VP, and that sluicing elides TP, exactly because these constituents are the complement to phase heads little *v* and *C*, respectively (see Gengel 2007, Gallego 2009, 2010).

According to this intuitive viewpoint ellipsis is the flipside of spell-out: a phasal domain is sent to PF after merger of the phase head, for either Spell-out or non-Spell-out. One advantage, pointed out by Gallego (2009) is that we only need to postulate one set of heads with an effect on Spell-out: phase heads. He says that the [E]-feature would be an intrinsic property of phase heads only, and that unlike for Merchant (2001, 2004) there is no need to explain why not just any head can in principle bear an [E]-feature.

If it is true that ellipsis and phasal Spell-out are two sides of the same coin, this might not only help forward research on ellipsis, it also gives us an extra tool to explore phasehood: if a constituent can be elided, it must be a phasal domain. In other words, work on ellipsis might give us additional insights into phases. For instance, it is widely known that NPs can be elided:

- (6) a. Marshall ate Lily's dolphin sandwich, and Barney ate Robin's [~~dolphin sandwich~~].
 b. I prefer these bunny burgers, but she likes those [~~bunny burgers~~] better.

If the phases and ellipsis accounts are right, this provides arguments in favour of a DP phase (see also Gengel 2005 and Bošković 2014, to appear).

Such a view on ellipsis and phases, though very attractive, poses some problems, however. A first problem is that ellipsis sites seem to differ depending on which elliptical phenomena are considered. For instance, VP-ellipsis (VPE) has been widely argued to elide *vP* (see Aelbrecht & Harwood 2013, however, for an alternative view), while British English *do* (see (7)a) would elide a smaller part of the verbal chunk, namely VP (Baltin 2007; Aelbrecht 2010); and Merchant (2008) argues that Pseudogapping (see (7)b) includes the Voice projection in its ellipsis site, unlike VPE, as the latter allows for Voice mismatches and the former does not.

- (7) a. Luis will run the race and Nana will do [_{VP} ~~run the race~~] too.
 b. Pippa loves apples more than Lili does [_{VoiceP} ~~love~~] pears.

¹ Or, in the case of the revised PIC, the higher phase head triggers the lower phase head to send its complement to PF.

If one wants to retain the phase view on ellipsis sites, one needs to adopt a variable view on phases as well. This has been proposed already by Bobaljik & Wurmbrand (2005), Den Dikken (2007), Van Craenenbroeck & Van Koppen (2012), Wurmbrand (2012), Harwood (2013, to appear) and Bošković (2014, to appear) for instance, who develop a dynamic phases account, and link this again to ellipsis. Therefore, this problem might not be so major after all.

However, there is another problem. Although this intuition about ellipsis and phases would preferably be on the right track, Section 3 will show that it is unfortunately not as simple as it looks.

3. Extraction contrasts casting doubt

One problem with the phases and ellipsis account I address in more detail is the fact that there are extraction differences between ellipsis and non-ellipsis: some phrases that can move in non-ellipsis are not allowed to be extracted from the ellipsis site (i.e., a case of ellipsis bleeding movement). If ellipsis is simply the non-spell-out of a phasal domain, such differences are not expected: if it can move out of a phase in non-ellipsis, why can't it in ellipsis? I illustrate these extraction differences with data from Dutch modal complement ellipsis (MCE, see Aelbrecht 2010).

3.1. The data: Dutch MCE

Let us look at some examples. Dutch MCE is an elliptical phenomenon reminiscent of English VP-ellipsis: the infinitival complement of a modal verb can be elided, as in (8)a. A difference with English VPE, however, is that this is only allowed with (deontic) modal verbs, not with aspectual auxiliaries, see (8)b,c.

- (8) a. Ik wil naar je optreden komen, maar ik **kan** niet [~~naar je optreden komen~~].
I want to your gig come but I can not to your gig come
'I want to come to your gig, but I can't.'
- b. * Hij zei dat hij naar Berlijn was gegaan, maar hij **was** niet [~~naar Berlijn gegaan~~].
he said that he to Berlin was gone but he was not to Berlin gone
'He said he had gone to Berlin, but he hadn't.'
- c. * Ik dacht dat ze had gehuild, maar ze **had** niet [~~gehuild~~].
I thought that she had cried but she had not cried
'I thought she had cried, but she hadn't.'

Aelbrecht (2010) applies several tests to these data to determine whether MCE involves deletion/non-pronunciation of syntactic structure, or rather a null proform. One of the tests involves extraction out of the ellipsis site: if an element can be extracted from an ellipsis site, there needs to be enough syntactic structure present to accommodate the base position of that element. If extraction is disallowed, the phenomenon is believed to involve a null proform, without internal structure.²

However, applying this test to Dutch MCE leads to paradoxical results: object extraction is impossible out of the MCE ellipsis site, which suggests that the ellipsis site is a null proform. Subjects – even derived subjects, which originate in object position – on the other hand, can be extracted, which points towards a deletion analysis. Let us look at the data. The example in (9) illustrates that objects cannot be extracted out of an MCE ellipsis site:

- (9) * Ik weet niet welke liedjes hij gespeeld heeft, maar ik herinner me wel welk
I know not which songs he played has but I remember me PRT which
liedje hij niet mocht.
song he not was.allowed.to
'I don't know which songs he played, but I do remember which song he wasn't allowed to.'

² This is the reason why, standardly, English VPE is analysed as deletion (see Lasnik 1995; Johnson 2001; Merchant 2001 and many more): it allows for extraction out of the deleted verb phrase (cf. Schuyler 2002).

- (i) a. I don't know who she wanted to invite, but I sure remember who she shouldn't.
b. I don't know who she wanted to invite, but I sure remember who she shouldn't [~~invite t_{who}~~].

Null Complement Anaphora (NCA), on the other hand, do not permit extraction, and have been argued to involve a null proform instead of deleted structure (see Depiante 2000). An example of NCA is given in (ii)a. The sentence in (ii)b shows that the object cannot be extracted from the ellipsis site, and (ii)c gives the structure with the null proform.

- (ii) a. I asked him to play my favourite song, but he refused.
Interpretation: ...but he refused to play my favourite song
b. * I don't remember which songs he played, but I do know which one he refused.
c. * I don't remember which songs he played, but I do know which one he refused *pro*_{VP}.

In short, extraction has been used as a test for syntactic structure under ellipsis: if an element can be extracted, the ellipsis site has to contain enough syntactic structure to host the trace or base copy; if extraction is impossible, the ellipsis site is believed to be a null proform instead.

This suggests that MCE should be analysed with a null proform instead of the full modal complement. However, subject extraction out of the ellipsis site is acceptable. In order to show this, we need to make a slight detour to the world of (Dutch) modals. Although traditionally, epistemic modals have been considered raising verbs, while root modals (both deontic and dynamic modals) are seen as control verbs (Ross 1969; Roberts 1985; Zubizarreta 1982, among many others), more recent research argues that deontic modals as well are in fact raising verbs (see Vanden Wyngaerd 1994; Barbiers 1995; Bhatt 1998 and Wurmbrand 2003). One of the arguments in favour of this claim is the fact that deontic modals can take weather expletives as their subject, like raising verbs and unlike control verbs, as is illustrated in (10).

- (10) a. Denk je dat het gaat regenen vannacht? - Het moet!/ Het mag niet!
 think you that it goes rain tonight it has.to it is.allowed not
 ‘Do you think it’ll rain tonight?’ – ‘It has to!/It can’t!’
- b. Het schijnt te regenen buiten. [Raising]
 it seems to rain outside
 ‘Apparently it’s raining outside.’
- c. * Het probeert te regenen vannacht. [Control]
 it tries to rain tonight

These data show that the subject of the modal in the sentence in (11)a actually originates below the modal, inside the complement clause selected by the modal, as illustrated in (11)b.³

- (11) a. Sanne moet morgen optreden.
 Sanne has.to tomorrow perform
 ‘Sanne has to perform tomorrow.’
- b. Sanne moet [_{TP} morgen t_{Sanne} optreden].

This means that the subject in an MCE clause also originates inside the modal complement, implying that it has been extracted from the ellipsis site. One could try to save the proform analysis for MCE by claiming that the proform only replaces as much as VP, and that the subject is therefore generated right above the ellipsis site. However, as the examples in (12) show, MCE is possible with unaccusative (12)a and passive (12)b complements as well, so the derived subject starts out inside the VP, in the complement position of V and raises up to the surface subject position. This extraction is only possible if MCE involves deletion of a full-fledged syntactic structure, not a null proform.⁴

- (12) a. Ik wil naar je optreden komen, maar ik kan niet [naar je — optreden t_{ik} komen].
 I want to your gig come but I can not to your gig come
 ‘I want to come to your gig, but I can’t.’
- b. De rok kan al worden gewassen, maar de bloes moet nog niet [worden t_{de}
 the skirt can already become washed but the blouse has.to still not become
 bloes gewassen].
 washed
 ‘The skirt can be washed already, but the blouse doesn’t have to (be) yet.’

Summing up, Dutch MCE displays a paradox when we try to determine its analysis: the object extraction facts suggest that a null proform is involved, while the grammaticality of subject extraction requires a full-fledged syntactic ellipsis site.⁵ Aelbrecht (2010) proposes that the latter approach is on the right track, and that the object extraction is banned for another reason. We explore that proposal in Section 3.2.

3.2 A way out of the paradox: derivational ellipsis

Providing a solution to this puzzle, Aelbrecht (2010) argues that

- (i) ellipsis is licensed via an Agree relation with a licensing head that is not necessarily adjacent to the ellipsis site, and
- (ii) ellipsis happens in the course of the derivation. This last point is crucial for the extraction data.

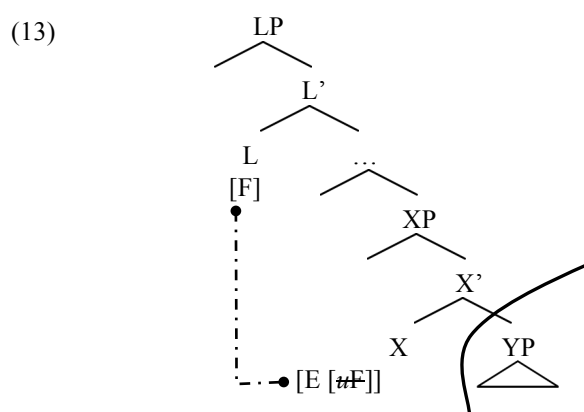
³ For reasons I will not go into here, Aelbrecht (2010) considers the complement of the modal to be a TP.

⁴ There are other arguments to show that the attempt to save the proform analysis sketched above does not work, for instance the fact that MCE elides aspectual auxiliaries suggests that MCE targets more than the VP.

⁵ This elliptical phenomenon does not stand alone: British English displays a kind of ellipsis that at first sight looks like regular VP-ellipsis with an additional *do*, but this phenomenon too gives paradoxical results when we consider its behaviour with respect to movement. Parallel to Dutch MCE, British English *do* does not allow for object extraction, but subjects are allowed to move out of the ellipsis site (see Chalcraft 2006; Haddican 2007; Baltin 2007, 2012; Aelbrecht 2010; Thoms 2010).

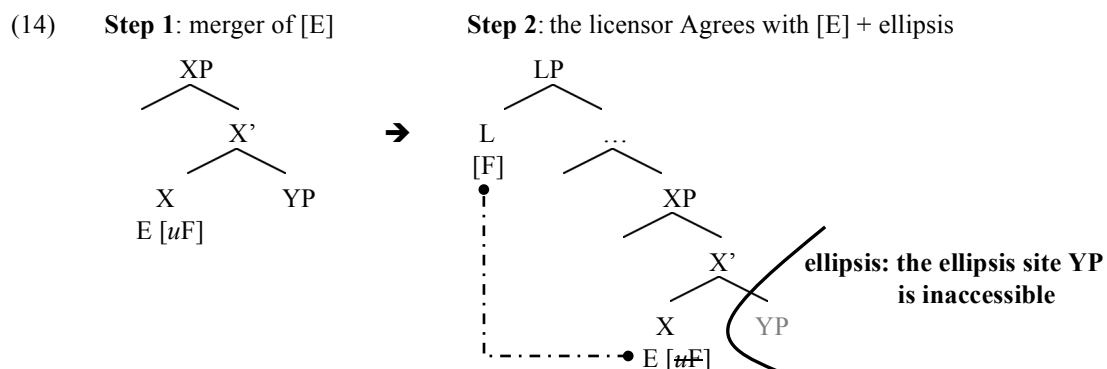
I present this analysis of ellipsis licensing here, focussing on the aspects used in the remainder of this paper. The details and further argumentation can be found in Aelbrecht (2010). First of all, Aelbrecht follows the traditional view that ellipsis is licensed by a licensing head, see Zagana 1982, 1988; Lobeck 1993, 1995; Johnson 2001; Merchant 2001, 2004; Gergel 2006 and many others (even though there are also approaches who contest this, cf. Chao 1987 and Thoms 2011). Secondly, she adopts Merchant's (2001) [E]-feature, which is a feature occurring on the licensor that marks its complement for ellipsis, i.e., non-pronunciation at PF.

This analysis implies that the ellipsis licensing head and the ellipsis site always stand in a head-complement relation to one another. However, Aelbrecht (2010) shows that this is not always the case: sometimes there can be material between the licensing head and the ellipsis site. Therefore she proposes ellipsis licensing to be the result of an Agree relation between the licensing head and the [E]-feature. In other words, Merchant's approach is slightly adapted so that the licensor and the ellipsis site do not have to be adjacent. [E] bears an uninterpretable feature, so that its occurrence in a sentence – and hence the ellipsis it causes – is only allowed if it can establish a checking relation with the ellipsis licensing head. For example, if L, an element of category F, is the licensor of a certain elliptical construction and X is the head bearing the [E]-feature, this yields the abstract representation of an elliptical sentence in (13) (see Aelbrecht 2010 for details).

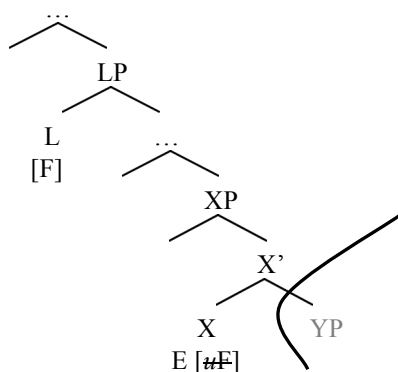


So far for the first part of the analysis. What is important is that this system allows the licensor and the ellipsis site to be non-adjacent. The exact technical implementations of it, namely the fact that it involves an Agree relation or the specifics of the [E]-feature are not important, and in fact, are something that we will try and revise later.

The second part of the analysis is the more crucial part: ellipsis happens derivationally. As soon as the licensor is merged and has checked the [E]-feature, the ellipsis site is sent to PF for non-pronunciation (see Aelbrecht 2010). At that point, the ellipsis site becomes unavailable for any syntactic operations (or at least all overt ones, if one makes a distinction between overt and covert movement).

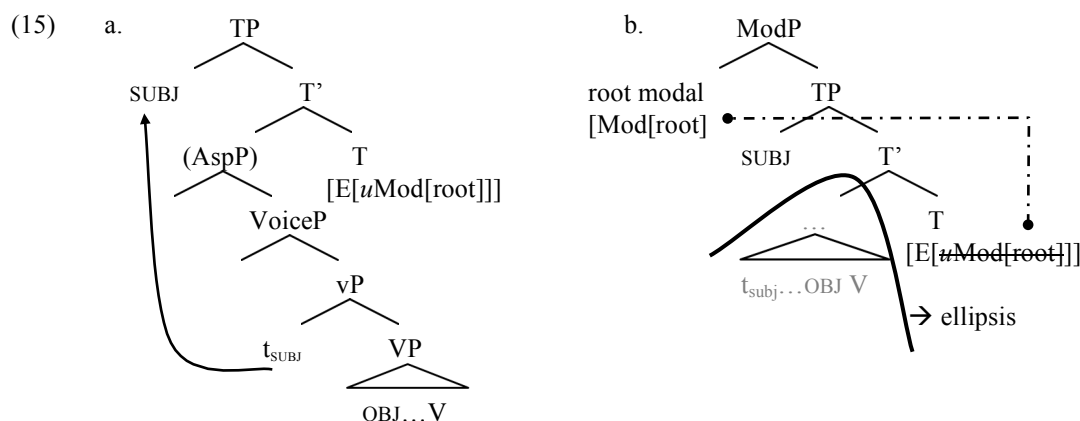


→ Step 3: the rest of the derivation



This solves the extraction problem we saw with Dutch MCE: an element can move out of the ellipsis site YP until the licensor is introduced into the structure, but not after that. In other words, anything that can escape ellipsis must have moved to a – final or intermediate – landing site between the ellipsis site and the licensor. That means that only phrases that move to a – final or intermediate – landing site between the ellipsis site and the licensor can be extracted out of the ellipsis site.⁶ As soon as the licensor is merged, the ellipsis site is sent to PF and is therefore frozen for (overt) movement.

Let us quickly revisit Dutch MCE and see how this system can be applied to it. Because this phenomenon only occurs in the presence of root modals in Dutch, Aelbrecht (2010) claims that these modals are the licensing heads. In other words, the [E] for Dutch MCE needs to check its uninterpretable feature against a root modal head. For reasons I will not go into here, Aelbrecht argues that the complement of Dutch modals are TPs, and that MCE does not elide the whole TP, but only the complement of the T head. This implies that [E] sits on T in the complement of the modal. The ellipsis mechanism applied to MCE in an abstract tree structure is depicted in (15): in (15)a we see the TP-complement of a modal, with a transitive embedded verb phrase and T – to the right of its complement in Dutch – bearing the [E]-feature. The subject moves to the embedded [Spec,TP], on its way to the surface subject position. In the following step in (15)b the root modal is merged into the structure. At this point the [E]-feature on T is checked and T's complement is sent to PF and hence, it is frozen for syntactic operations. Given that the subject is not contained in the ellipsis site, it survives, while the rest of the complement is elided. The object does not have an escape position between the ellipsis site and the modal, and is therefore always elided. This captures the ban on object extraction and the grammaticality of subject extraction in Dutch MCE (see Aelbrecht 2010 for details and argumentation).



3.3 Back to phases and ellipsis

This derivational account of ellipsis is of course reminiscent of the proposal made by Holmberg (2001), Gengel (2007), Yoshida & Gallego (2008), Gallego (2009, 2010) and several others mentioned above that takes ellipsis to be the flipside of phasal Spell-out: if ellipsis – shipping something off to PF for non-pronunciation – occurs during the derivation, it seems logical and intuitive that ellipsis targets exactly these chunks of the structure that are sent to PF at certain points anyway, namely phasal domains. Combining their proposal and mine is easy: the

⁶ Or to the specifier of the licensor itself.

[E]-feature always occurs on phase heads. Moreover, we adopt the revised PIC, which allows for material between the phase head and the phasal domain it sends to PF (i.e., the domain of the phase head lower down).

However, if we do that, we miss something crucial in the data. Recall that object extraction was impossible in Dutch MCE. The relevant example is repeated in (16).

- (16) * Ik weet niet welke liedjes hij gespeeld heeft, maar ik herinner me wel welk liedje
 I know not which songs he played has but I remember me PRT which song
 hij niet mocht.
 he not was.allowed.to
 ‘I don’t know which songs he played, but I do remember which song he wasn’t allowed to.’

Crucially, the sentence is perfectly acceptable without ellipsis: the object can move to [Spec,CP] just like in any other *wh*-clause in the non-elliptical counterpart of these sentences:

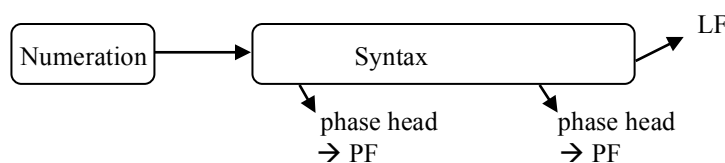
- (17) Ik weet niet welke liedjes hij gespeeld heeft, maar ik herinner me wel welk liedje
 I know not which songs he played has but I remember me PRT which song
 hij niet mocht $t_{\text{welk liedje}}$ spelen.
 he not was.allowed.to play
 ‘I don’t know which songs he played, but I do remember which song he wasn’t allowed to.’

In other words, the *wh*-movement that seems to be impossible under ellipsis is fine when the relevant part of the structure is pronounced. Crucially, these data illustrate that there can be a contrast between ellipsis and non-ellipsis in opacity for extraction: a *wh*-object can move to [Spec,CP] in a non-elliptical sentence, but it cannot in its elliptical counterpart. If ellipsis is nothing but the flipside of phasal spell-out, that is, if ellipsis and cyclic Spell-out are instantiations of the exact same process involving phases, these data remain unexplained.⁷

So although ellipsis and phases seem to be closely linked, it is not the case that whenever the appropriate domain is sent off to Spell-out, there is a choice between pronunciation or non-pronunciation. In non-elliptical sentences, all elements that need to undergo further operations move to the phase edge – the escape hatch – before the phasal domain is sent to PF. In an elliptical construction with limited extraction such as MCE, on the other hand, ellipsis – i.e., sending part of the structure off to PF, thereby freezing it for narrow syntax – does *not* allow for such an escape hatch. In other words, the difference between ellipsis and non-ellipsis is not simply decided at PF; there is a difference in the syntax.

Aelbrecht (2010) argues that ellipsis occurs when the ellipsis licensing head is merged, while sending off a phasal domain to PF happens when the next phase head is introduced into the structure.⁸ The derivational schemas in (18) and (19) show that in ellipsis there is an additional point at which a part of the structure is sent to PF, namely when the licenser is merged.^{9, 10, 11}

- (18) No ellipsis: Spell-out only triggered by phase heads



⁷ Bošković (2014) proposes an alternative solution for the extraction restrictions out of an ellipsis site, while still maintaining the link between ellipsis and phase theory. He postulates a dynamic approach to phases where it is either the entire phase or the complement of the phase head that is sent to PF, and argues that A'-extraction out of an ellipsis site is only possible in the latter case.

Note, however, that this idea actually loses the intuition that ties ellipsis to phasal Spell-out if there is an arbitrary choice between targeting the entire phase or the phasal complement; and Bošković does not provide any justification as to why ellipsis should be constrained to these two domains.

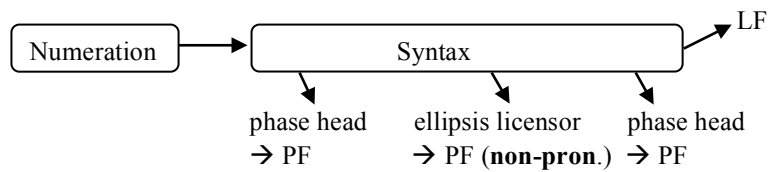
⁸ She does not exclude that an ellipsis licenser can be a phase head in certain cases.

⁹ Note that it is possible to have multiple occasions where the structure branches off to LF as well.

¹⁰ By indicating the result of ellipsis at PF as **non-pron**(unciation), I do not mean that that part of the structure is not pronounced at that point. This notation only indicates that an ellipsis site is marked for ellipsis, i.e., lexical insertion is prevented.

¹¹ It is important to note that ellipsis must override 'Spell-out' (see also Müller 2011 on this problem). For instance, in the case of sluicing, where a whole TP remains unpronounced, the embedded clause-internal phasal domain (or even a complement clause further down) would already be sent to PF for Spell-out, but the command ellipsis triggers of not pronouncing – i.e., the non-insertion of lexical items – overrules the previous 'default' option at PF, which is lexical insertion.

- (19) Ellipsis: Spell-out triggered by ellipsis licenser and by phase heads.



Summing up, although it is tempting to draw a parallel between phases and ellipsis, an important implication of the extraction contrast is that the ellipsis site cannot automatically be the same as the phasal domain, or, better, that ellipsis is not just a side-product of phases, otherwise there would not be any movement differences between spell-out and non-spell-out.

However, the intuition behind the phases and ellipsis approach is worth giving another chance: the next section explores whether it is possible to rescue this view while at the same time capturing the extraction problem. If both ellipsis and phases affect Spell-out, maybe they both target the same chunks of syntactic structure, but not automatically with the same trigger.

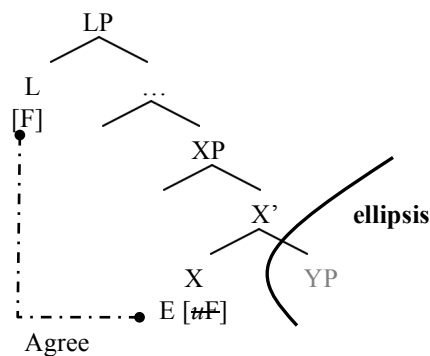
4 One step beyond: same chunk, not always same trigger?

We have seen that an approach to ellipsis as the flipside of Spell-out at PF cannot account for the movement differences found between ellipsis and non-ellipsis: for one and the same chunk of the structure, which has been sent to PF by one and the same head, it cannot be the case that the choice between pronunciation and non-pronunciation is always only made at PF. But is there a way in which we can modify the ‘ellipsis and phases’ approach to make it work, and still keep the intuitive advantage? In this section I speculate about a potential link between ellipsis and phases, although I admit that many things are left to be worked out properly. In a nutshell, I propose the following:

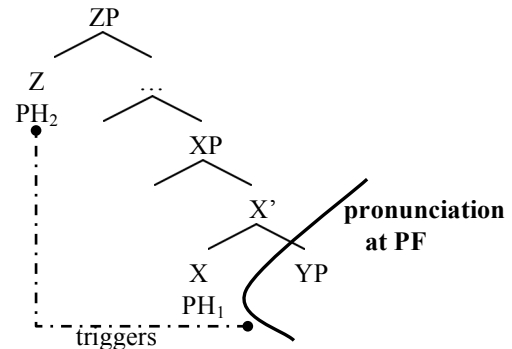
- (20) a. Phasal Spell-out and ellipsis target the same chunk, namely the entire phase.
 b. Phasal Spell-out and ellipsis do not always have the same trigger.
 c. Phasal Spell-out and ellipsis operate through the same mechanism, Agree.

The system for ellipsis licensing proposed by Aelbrecht (2010) is very close to how Phase Theory works: ellipsis occurs upon merger of a licensing head, which triggers a lower constituent (the ellipsis site) to be sent to PF (for non-pronunciation). This is reminiscent of the (revised) Phase Impenetrability Condition (Chomsky 2001): merger of the next phase head into the structure triggers transfer to PF of the lower phasal domain. This is clear from the abstract structures for phasal spell-out and ellipsis we arrived at earlier. According to Aelbrecht (2010) merger of the licenser establishes an Agree relation with an [E]-feature on a lower head, which triggers the complement of this head to be sent to PF marked for non-pronunciation, see (21)a. In (21)b we see that, according to the revised PIC, merger of a phase head triggers the complement of a lower phase head to be sent to PF.¹²

- (21) a. Derivational ellipsis



- b. Derivational Spell-out



¹² Note that the structure for the first PIC looks more like the original ellipsis licensing: according to that PIC, merger of a phase head triggers phasal transfer of its complement; and under the standard Merchant-inspired view on ellipsis licensing the licensing head triggers ellipsis of its complement.

There are two points I want to discuss with regards to these structures. A first point has to do with the fact that in (21) both the targeted chunks of the structure are the *complements* of a certain head; and the second point involves the mechanism that is used to trigger the operations. I start with the first issue.

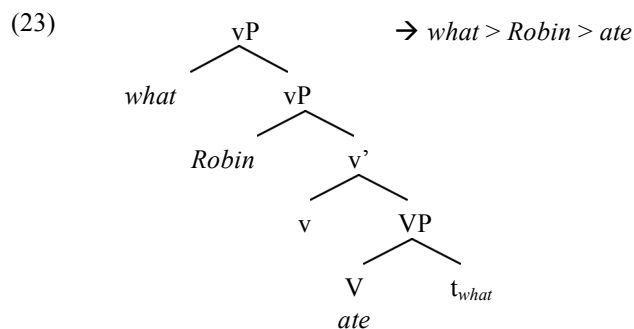
4.1 The target

An intuitive advantage to the ‘phases and ellipsis’ approaches is that ellipsis targets the chunks of structure that are considered the domains sent to Spell-Out anyway at certain points in the derivation. It would be nice if we could keep that idea in the analysis. For instance, both ellipsis and phase theory could target the complement of the phase head. However, this implies that the phase edge would always be available for the necessary extractions out of the phasal domain, both in spell-out and ellipsis, which means we cannot capture the extraction contrast between the two. Therefore I adopt the view, explored by several people, that phasal spell out affects the entire phase, not just the complement of the phase head (Holmberg 1999, 2001; Fox & Pesetsky 2005; Richards 2007, 2010; Fowlie 2010; Wurmbrand 2012; Harwood 2013, to appear; Bošković 2014).

A thorn in the side of phase theory has always been the fact that it is not the whole phase that is sent to PF, but only the complement of the phase head. Several linguists have therefore explored the option of sending the entire phase to PF. The disadvantage of this view is that it seems to deprive us of an escape hatch. However, whilst it is empirically obvious why we need this escape hatch, it has always been a conceptually flawed stipulation. Fox and Pesetsky (2005) and Fowlie (2010) provide an elegant solution to this issue: they argue that merger of a phase head *does* trigger the complete lower phase, including the phase edge, to be sent to PF. All elements that still have features to be checked, which are by that point already situated in the phase edge of the lower phase, will move up to the higher phase edge before that, and the reason for this is linearization. Completion of a phase entails that the linear order of the elements is set in this specific way, and therefore elements that have to undergo further movement have to make sure that they precede all other elements in their original phase. If not, the linearization rules for the sentence will be contradictory. Thus, elements move from phase edge to phase edge when the next phase head is merged, to avoid premature Spell-out. We will see below that certain kinds of ellipsis send the phase to PF (for non-pronunciation) before the elements have moved to the higher phase head, and hence, cannot be extracted. Let us look at a simple *wh*-question:

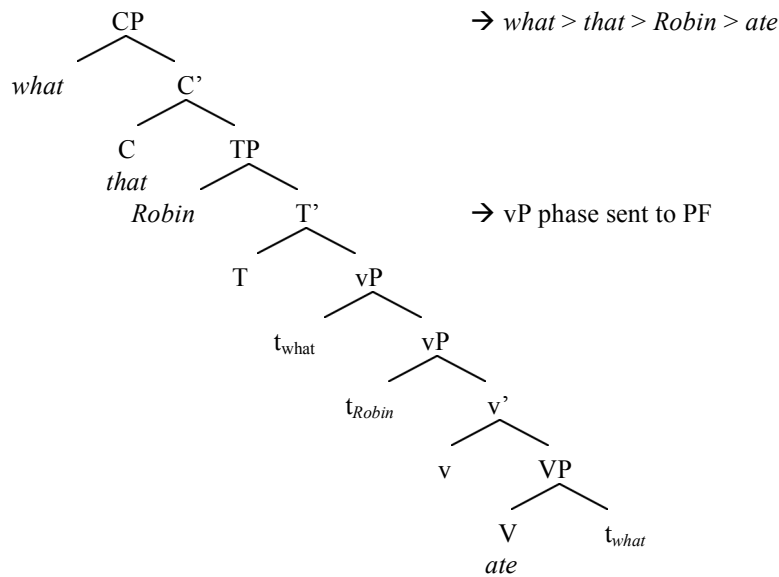
(22) What did Barney say that Robin ate t_{what} ?

What originates in the complement position of the VP, so within the most embedded phase, and it needs to end up preceding all other words at linearization. In the simplified structure in (23), it first moves to the phase edge – let us say that is [Spec,vP] – so that the linearization of the elements in this phase is *what* > *Robin* > *ate*.



When the next phase head *C* is merged, *what* is attracted to its edge (because it still has not reached its final landing site and checked its features) and the lower phase vP as a whole is sent to PF. Again, *what* precedes all other elements in the new linearization rule (see (24)). If *what* had not moved to the phase edge at this point, it would follow *that* and *Robin* in the new linearization rule. This already contradicts the first linearization rule, according to which *what* precedes *Robin*, and would also get the wrong linearization at the end of the derivation, because the *wh*-word *what* is supposed to precede *that* (and all other lexical items that are still to be merged). In other words, if *what* does not move to the phase edge, the derivation will generate contradictory linearization rules.

(24)



The same happens in the matrix clause: *what* moves to the specifier of the matrix vP, and then finally to its surface position, to ensure that in no linearization rule *what* follows the other elements and a contradiction occurs.¹³

The crucial point of this account that I want to use here is the fact that the whole phase is sent to Spell-out, including what we call the phase edge, and not just the complement of the phase head.¹⁴ If we view phases in this way, we can re-establish the link between phases and ellipsis.

4.2 The trigger

If we look at the two structures above, it is striking that both operations are triggered by merger of a certain head into the structure. It is tempting to consider the triggering mechanism to be the same. A difference is that in ellipsis, there is an Agree relationship between the licensor and the head selecting the ellipsis site (according to Aelbrecht 2010 at least), while there seems to be no such relationship between the phase heads in Phase Theory.

However, Svenonius (2004) discusses a potential view on phases and the trigger for spell-out that is very similar to what we see here for ellipsis. According to this view,

“a phase is spelled out when all uninterpretable features on its head are checked. For example, if a phase head H has uninterpretable features then HP will not have a coherent interpretation at one or the other interface. Assume that **some higher head Z merges and values those features, allowing HP to be spelled out**; call Z the trigger. **If the trigger also has features that attract XP out of HP, then by assumption this occurs simultaneously with the checking of features on HP, and extraction is possible.**” (Svenonius 2004: section 4 – my emphasis)

Svenonius uses the revised PIC combined with an Agree relationship between the phase heads: merger of the higher phase head allows it to check the uninterpretable features on the lower phase head, which triggers the lower phase to be sent to spell-out.¹⁵ The higher phase head can also come with extra features to at the same time check and attract an XP in the lower phase, thereby allowing for extraction.¹⁶

This checking of the features on a phase head could be parallel to the checking in ellipsis. In both cases, sending a chunk of structure to PF is triggered by an Agree relation. As we have seen, the problem with the

¹³ See Fox & Pesetsky (2005) for a more thorough and in-depth discussion.

¹⁴ Other solutions are of course possible for full phasal spell-out and the issue of the escape hatch. The exact implementation is not the main focus of this paper.

¹⁵ Note that under this analysis too, it is the whole phase that is sent to Spell-Out, not only the complement of the phase head. An important point that Svenonius makes is that both phase heads have uninterpretable features, which are checked against one another: it is because of an uninterpretable feature on the higher phase head that this head looks down, to check it on the lower phase head, and at the same time checks an uninterpretable feature there. If the lower phase head indeed also checks a feature on the higher one, this raises the question, however, of which uninterpretable feature is checked on the higher phase head when the next phase head up is merged. There must be a specific feature on each phase head that can only be checked by the next phase head up. It remains unclear what these features could be and how exactly this system can work. A lot of this is still speculative.

¹⁶ It is unclear at this point whether these features are specific features, or some sort of edge features, though.

‘phases and ellipsis’ approach presented above was that the trigger can not always be the same, because the timing of the PF transfer should sometimes differ in order to capture the extraction contrast. But the chunk of structure could very well be the same in both cases, as I tentatively proposed above, and following Svenonius, both could be triggered by an Agree relationship. In short, both ellipsis and phasal spell-out could be targeting the same chunk, and be triggered by the same mechanism, just not always by the same trigger.

5. Pushing it even further?

5.1 The same feature

The proposal so far has both ellipsis and phases target the same chunk, namely the entire phase, and the mechanism is in both cases Agree, but the trigger can differ: it is usually the next phase head that sends off the lower phase to PF, but in some ellipses it is a non-phase head that establishes the Agree relationship and marks the phase for non-pronunciation. Let us now see whether we can push the common elements between ellipsis and phases even further. Suppose that it is even the same feature that is checked. This expands the original proposal:

- (25)
- Phasal Spell-out and ellipsis target the same chunk, namely the entire phase.
 - Phasal Spell-out and ellipsis do not always have the same trigger.
 - Phasal Spell-out and ellipsis operate through the same mechanism, Agree, *and value the same feature(s), but with a different value.*

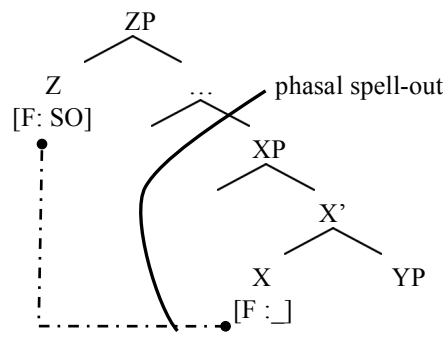
That implies that the feature checked in ellipsis is not necessarily an [E]-feature specific for ellipsis. Let us tentatively assume the following:

- (26)
- Each phase head bears a phase-specific feature F.¹⁷ Once this feature is valued, the phase is sent to PF (following Svenonius 2004).
 - F can be valued by the higher phase head, for “spell-out”. However, phase heads can also act as ellipsis licensors, in which case the value they assign to F is “ellipsis”.
 - Only phase heads can assign value “spell-out”, but some ellipses are not licensed by a phase head, but by a non-phase head: this head can value F as well, but only for “ellipsis”.

In other words, phasal (non-)spell-out is triggered by the valuation of a phase-specific feature by the higher phase head (which thus acts as the ellipsis licensor), but some ellipses have an ellipsis licensor that is not a phase head, a head that can also check the feature of a lower phase head and trigger non-spell-out of the phase. Ellipsis thus targets the same chunk as phase theory, and checks the same feature. The (potential) difference between the two is the head doing the valuation, and therefore the timing of when the chunk is sent off. This will prove important in ellipses with limited extraction.¹⁸

We now explore how this proposal would work technically. Let us first consider phasal spell-out. Take Z and X to be phase heads. The unvalued phase-specific feature on X – which we come back to later – is F and can be valued for spell-out (SO) by Z. When this happens, XP is sent to PF.

(27) Phasal spell-out

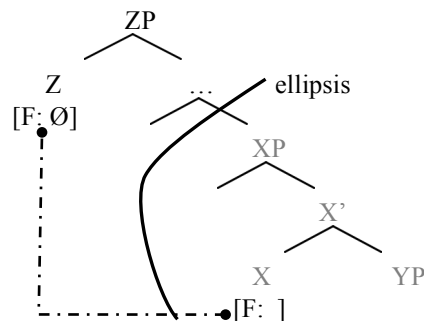


¹⁷ With ‘phase-specific’ I do not mean ‘specific to phase heads’, but ‘specific to that phase’. This is more easily conceived if one views phases in the light of Grohmann’s (2003) prolific domains, as will be discussed later.

¹⁸ The present proposal might at first sight seem like a step towards a system without an [E]-feature (Merchant 2001), but in fact, it is not. Under this account there is no *feature* specific for ellipsis, as the same feature also triggers phasal Spell-out, but there still has to be a *value* of this feature that is specific to ellipsis, that marks a constituent for non-pronunciation rather than pronunciation. Although the [E]-feature – or in this case an [E]-value – has its merits and gives us a way of providing unified analyses for different elliptical phenomena, it is not something we ultimately want to keep in the system. There must be some deeper connection between the element that seems to have to be present for ellipsis to happen (what we call the licensing head) and the chunk of the structure that remains unpronounced. See Thoms (2011, 2012) for a view on ellipsis licensing without an [E]-feature, and without a licensing head.

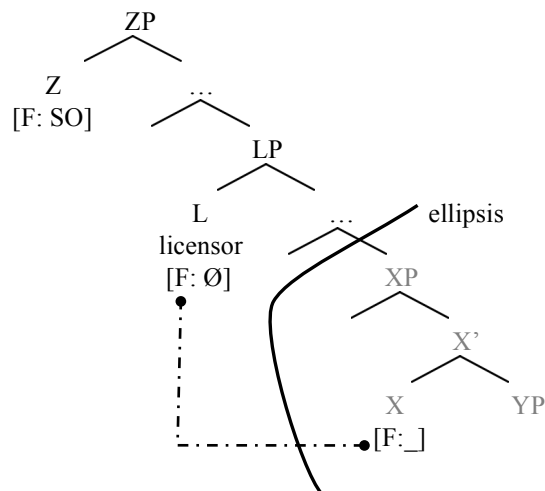
In ellipses without limited extraction, such as English VPE and sluicing, the phase head acts as a licenser (see later): the feature F on X is valued by Z, just as in (27), but the value is ‘non-spell-out/ellipsis’. Since the phase head can attract all unsatisfied elements to its edge (see Svenonius 2004), the extraction possibilities are the same irrespective of whether the chunk is pronounced or not.

(28) Ellipsis licensed by a phase head (no limited extraction)



In ellipses with limited extraction, such as Dutch MCE (and British English *do*), on the other hand, the feature F on X is valued by a head different from the next phase head. This head, the licenser L, has only value “ellipsis” to assign to F and lacks the extra feature(s) that a phase head has to allow for extraction (as it is not a phase head). That implies that the only extraction that is possible is movement triggered by features between the ellipsis site and the licenser. The phase head higher up only has the value “spell-out” to assign in this case, so that if there is no licensing head present in the structure, no ellipsis occurs.

(29) Ellipsis licensed by a non-phase head (limited extraction)



If phases are indeed sent to PF when the higher phase head checks a feature on the lower phase head, then what we should start looking into is the relation between phase heads. Naturally, this relies on research about what determines a phase and a phase head, on a conceptual level. Also, one needs to look into ellipsis licensers and their relation with the ellipsis sites, and whether ellipsis sites can always be considered phases.¹⁹

5.2 Implementation

Up until now this proposal has remained rather abstract, so that the next logical step is to apply it to the actual clausal structure. It has been argued already that the clause is divided into several layers: a predicate or thematic part, a referential layer, which places the property expressed by the predicate in space and time, and an information-structural layer. Roughly, these correspond to the VP layer (plus some functional projections), the TP (or FinP) layer and the CP layer (see also Grohmann 2003, who calls them *prolific domains*). If we want to say these chunks of structure correspond to phases, we would actually have three phases in a clause (see also

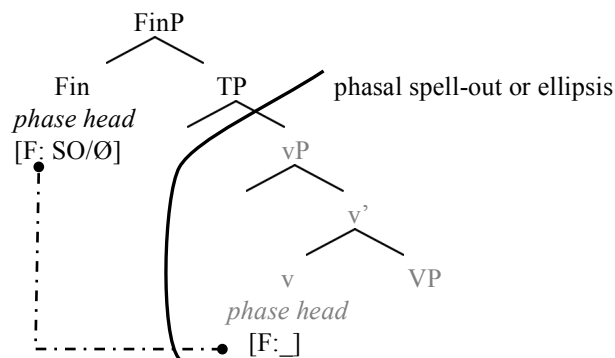
¹⁹ With NP ellipsis, this is already a bit harder to argue, as people have proposed that DPs are phases, not NPs, but DPs cannot be elided.

Fowle 2010). In that case we would follow Branigan (2005), Lopez (2009), Richards (2010) and Van Craenenbroeck & Van Koppen (2012) for instance, who argue that FinP is a phase as well, and that it corresponds to the referential layer of the clause. In other words, there are three phases in the clause: the thematic or predicational phase, which contains the core elements of the utterance (i.e., the predicate and its arguments), the FinP phase, which places this predicate in time and space and gives it referential value, and finally the CP phase, corresponding to clause-typing and information structure.²⁰

Suppose now that the highest head of each of these chunks has to establish a relationship with the highest head of the chunk below it, to connect the chunks to each other. Thus, Fin has to establish a relationship with *v*,²¹ by checking a certain feature F on *v*, perhaps a feature having to do with its referentiality. Once this relationship is established, the thematic phase can be sent to PF. And in turn, the highest C head – Force for instance – will have to establish a relationship with Fin, checking another feature F', and sends off the referential phase to PF.

Let us apply this to different kinds of ellipsis. For English VPE, this would mean that we can in fact stick to the phases and ellipsis approach: suppose that VPE is licensed by the Fin head, and it is the predicate phase that is left unpronounced (see Harwood 2013; Aelbrecht & Harwood 2013). The same chunk of structure is indeed sent off to PF by the same trigger in ellipsis and non-ellipsis, and it can either be pronounced or not pronounced (in the presence of a salient antecedent). Such an approach predicts no differences in extraction possibilities between VPE and the non-elliptical counterpart, which is what we find. This is schematized in the structure in (30), here taking the ellipsis site to be *v*P for simplicity's sake (but see Aelbrecht & Harwood 2013 for a different view based on a more elaborate auxiliary system).

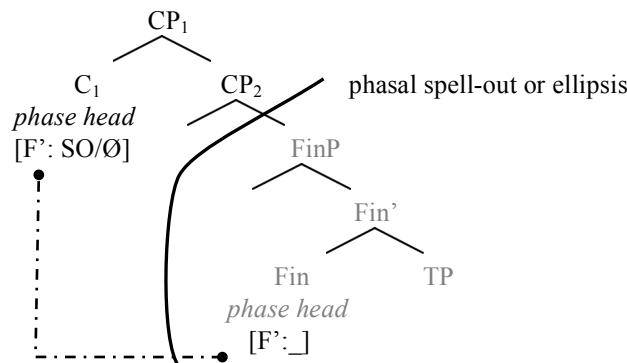
(30) English VPE



For languages without VPE, one could say that their Fin head is a phase head as well, but not a licensor: it can only assign the value “spell-out” to the feature on *v*.²²

A similar relationship between the information-structural layer and the referential layer could allow for sluicing and other kinds of FinP ellipsis. FinP ellipsis would then be licensed by an Agree relationship with the C head and leave the referential phase unpronounced. Again here, the same chunk of structure is sent to PF by the same trigger in ellipsis and non-ellipsis and there are no extraction differences.

(31) Sluicing



²⁰ Note that the exact size of what is contained in which domain or phase might be language-specific to a certain extent. For instance, Harwood (2013) argues that the predicational layer in English reaches as far as the progressive projections, but that in Dutch the perfect projections might be included in it as well.

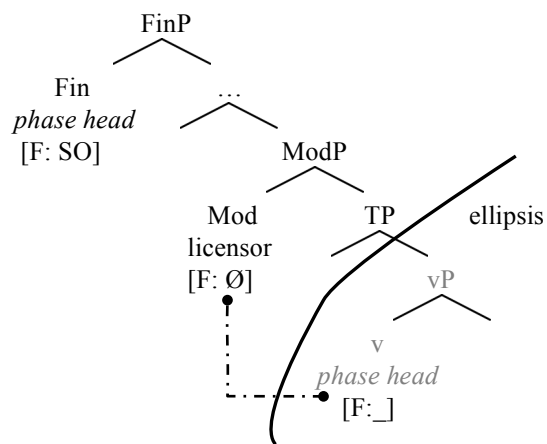
²¹ Or as Aelbrecht and Harwood (2013) claim, *v_{prog}*, as they argue that the predicational phase includes the progressive projections. See also Harwood (2013, to appear) and many others for a divide between the progressive layer and the other aspectual projections (Perfect).

²² Of course, this does not *explain* the limited distribution of VPE across the world's languages; it merely describes it.

This feature F' would have to be a different one from the feature F that Fin itself values on the v phase head lower down. I tentatively suggested earlier that maybe these features to be valued on Fin by C and on v by Fin are clause-typing/information-structural and referential/deictic, respectively. However, for the time being, I remain vague about what these features are.

The two ellipses discussed above both have no extraction contrast between ellipsis and non-ellipsis. As for kinds of ellipsis that do exhibit such an extraction contrast, the licenser – i.e., the head assigning the value “ellipsis” to feature F – cannot be the next phase head (unlike for sluicing and VPE). It has to be a head that can establish the necessary relationship with the lower phase head as well, before the higher phase head is merged. For instance, in MCE, the modal is the licensing head and establishes a relationship with the thematic layer of the embedded clause in the absence of the Fin phase head (as the complement of a modal is TP).²³ Since Mod is not a phase head, elements needing to move to a higher position for feature checking have not yet raised to a phase edge to escape ellipsis. This explains the limited extraction out of the ellipsis site. In non-ellipsis (in the absence of a root modal, or in the case where the modal complement is simply spelled out), it is the higher phase head (Matrix Fin) that establishes the relationship, and values the feature on v for Spell-out. In this case, all extraction is allowed, as the chunk is sent to PF at a later point in the derivation.²⁴

(32) Ellipsis with limited extraction



Of course, this proposal is merely a suggestion of how the phasal ellipsis approach could be implemented while at the same time capturing the limited extraction data in certain ellipses. In order to work out this idea, we need to look at both phases and phase heads, and ellipsis sites and licensers. Then we can investigate the relationship between the different structural chunks, or phases, and determine how this relationship should be captured in a formal way. I defer this to future research.

A pressing issue for the account developed here is how to regulate which heads are licensers apart from the phase heads. How is this determined? Furthermore, there are all the issues with the specific ellipsis cases, and many other questions remain. But this proposal might take the discussion on both phases and ellipsis licensing along a different path.

6 Conclusion

Summing up, I have shown in this paper that ellipsis, while being an interesting topic in itself, can also provide us with important insights on the architecture of the grammar in general, and especially on the link between syntax and PF. More specifically, I have discussed the intuitively attractive approach that throws ellipsis in with

²³ Note that this might not be entirely compatible with Aelbrecht’s (2010) analysis of Dutch MCE as it stands. In her analysis, it is indeed a projection lower than TP that is elided, but it looks like the non-finite perfect auxiliary is included in the ellipsis site as well. This might be problematic, since the perfect projection is not generally considered to be part of the thematic phase in English (see Aelbrecht & Harwood 2013). However, Bošković (2014) and Harwood (2013) argue that the perfect projection may very well be part of the thematic phase in Dutch.

²⁴ A slightly different way of looking at this could be to claim that it normally is a property of phase heads only to value the feature F on the lower phase head, and that this value is automatically either « spell-out » or « ellipsis ». Languages differ, however, in having so-called defective phase heads that can only assign value « spell-out ». For instance, in Dutch, French, Italian and the many other languages that do not allow for VP-ellipsis, their Fin phase head is defective, and the thematic phase cannot be left unpronounced. In (some of) these languages, however, the root modals, which are non-phase heads, can assign value « ellipsis » to the thematic phase.

phases. Although the extraction contrast presents this account with a serious problem, I have tried to save the ellipsis and phases account, by proposing that ellipsis and phases target the same chunk of structure, namely the entire phase, and that the mechanism involved in both cases is an Agree relationship. The extraction contrast we find in certain ellipses forces us to assume, though, that it is not always phase heads that trigger the ellipsis, that send off the lower phase to PF for non-pronunciation. There are other heads as well that can act as licensors. I also speculated that perhaps these different triggers value the same feature on the lower phase head. If the link between phases and ellipsis can be restored, both domains benefit from research done in the other domain as well.

References

- Aelbrecht, Lobke. 2010. *The Syntactic Licensing of Ellipsis*. Amsterdam/New York: John Benjamins.
- Aelbrecht, Lobke & Will Harwood. 2013. To be or not to be elided: VP ellipsis revisited. Ms, Ghent University.
- Baltin, Mark. 2012. Deletion versus Pro-forms: a false dichotomy? *Natural Language and Linguistic Theory*, 30: 381–423.
- Barbiers, Sjef. 1995. The syntax of interpretation. PhD dissertation, Leiden University.
- Bhatt, Rajesh. 1998. Obligation and Possession. In *The Proceedings of the UPenn/MIT Workshop on Argument Structure and Aspect*, MITWPL 32, H. Harley (ed), 21-40.
- Bobaljik, Jonathan and Susi Wurmbrand. 2005. The domain of agreement. *Natural Language and Linguistic Theory* 23.4: 809-865.
- Bošković, Željko. 2014. Now I'm a phase, now I'm not a phase: On the variability of phases with extraction and ellipsis. *Linguistic Inquiry*.
- Bošković, Željko. To appear. Phases beyond clauses. In Lilia Schürcks, Anastasia Giannakidou, Urtzi Etxeberria and Peter Kosta (eds.), *Nominal Constructions in Slavic and Beyond*. De Gruyter.
- Branigan, Phil. 2005. The phase theoretic basis for subject-aux inversion. Ms. Memorial University.
- Chalcraft, Faye. 2006. Do-Doubling in West Yorkshire English. Paper presented at the Dialect Syntax workshop, Amsterdam. <http://www.dialectsyntax.org/wiki/Papers>.
- Chao, Whynn. 1987. On ellipsis. PhD dissertation, University of Massachusetts, Amherst.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Massachusetts: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: the framework. In *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, eds. Roger Martin, David Michaels and Juan Uriagereka, 89–155. Cambridge, Mass: MIT Press.
- Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. Michael Kenstowicz, 1-52. Cambridge, Mass: MIT Press.
- Chomsky, Noam. 2005. On Phases. Ms. MIT.
- Craenenbroeck, Jeroen van and Anikó Lipták. 2008. On the interaction between verb movement and ellipsis: new evidence from Hungarian. 2008. In *Proceedings of the 26th West Coast Conference on Formal Linguistics*, ed. C. B. Yang and H. J. Haynie, 138-146. Somerville, MA: Cascadilla.
- Craenenbroeck, Jeroen van and Marjo van Koppen. 2012. How to void a phase: Anti-intervention effects with clitic doubling in Dutch dialects. Paper presented at the Complementizer Agreement Workshop, Ghent University.
- Dikken, Marcel den. 2007. Phase Extension: Contours of a Theory of the Role of Head Movement in Phrasal Extraction. *Theoretical Linguistics* 33:1, 1-41.
- Fox, Danny and David Pesetsky. 2005. Cyclic Linearization of syntactic structure. In *Object Shift*, ed. Katalin É. Kiss. Special issue of *Theoretical Linguistics* 31(1-2): 1-46.
- Fowlie, Meaghan. 2010. More multiple multiple spell-out. In *Proceedings of GLOW 31 Principles of Linearisation workshop*. Berlin: Mouton de Gruyter.
- Gallego, Ángel. 2005. Phase sliding. Ms, University of Barcelona and University of Maryland.
- Gallego, Ángel. 2009. Ellipsis by Phase. Paper presented at the XIX Coloquium on Generative Grammar, Euskal Herriko Unibertsitatea Vitoria-Gasteiz.
- Gallego, Ángel. 2010. *Phase theory*. Amsterdam/Philadelphia: John Benjamins.
- Gengel, Kirsten. 2007. Focus and Ellipsis: A Generative Analysis of Pseudogapping and other Elliptical Structures. PhD Dissertation, University of Stuttgart.
- Gergel, Remus. 2006. Interpretable Features in vP-Ellipsis: On the Licensing Head. In *Proceedings of Console XIV*, Sylvia Blaho, Erik Schoorlemmer & Luis Vicente (eds.). <<http://www.sole.leidenuniv.nl>>
- Grohmann, Kleanthes. 2003. *Prolific Domains: On the Anti-Locality of Movement Dependencies*. Amsterdam:

- John Benjamins.
- Haddican, Bill. 2007. The Structural Deficiency of Verbal Pro-forms. *Linguistic Inquiry*, 38: 539–547.
- Harwood, William. 2013. *Being progressive is just a phase: dividing the functional hierarchy*. PhD dissertation, Ghent University.
- Harwood, William. To appear. Being progressive is just a phase: celebrating the uniqueness of progressive aspect under a phase-based analysis. *Natural Language and Linguistic Theory*.
- Holmberg, Anders. 1999. Yes and No in Finnish: ellipsis and cyclic spell-out. *MIT Working Papers in Linguistics* 33.
- Holmberg, Anders. 2001. The syntax of yes and no in Finnish. *Studia Linguistica* 55: 141-175.
- Johnson, Kyle. 2001. What VP-ellipsis can do, and what it can't, but not why. In *The handbook of contemporary syntactic theory*, Mark Baltin & Chris Collins (eds), 439-479. Blackwell.
- Lasnik, Howard. 1995. Verbal morphology: Syntactic Structures meets the minimalist program. In *Evolution and Revolution in Linguistic Theory: Essays in Honor of Carlos Otero*, ed. Hector Campos and Paula Kempchinsky, 251-275. Georgetown University Press.
- Lobeck, Anne. 1995. *Ellipsis: Functional Heads, Licensing and Identification*. Oxford: Oxford University Press.
- López, Luis. 2009. *A derivational syntax for information structure*. Oxford: Oxford University Press.
- Merchant, Jason. 2001. *The syntax of silence. Sluicing, islands and the theory of ellipsis*. Oxford: Oxford University Press.
- Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27(6):661-738.
- Merchant, Jason. 2008. An asymmetry in voice mismatches in VP-ellipsis and pseudogapping. *Linguistic Inquiry* 39, 169-179.
- Müller, Gereon. 2011. *Constraints on Displacement: A Phase-Based Approach*. Amsterdam/New York: John Benjamins.
- Richards, Marc. 2007. Dynamic Linearization and the Shape of Phases. *Linguistic Analysis* 33: 209-237.
- Richards, Marc. 2010. Deriving the Edge: What's in a Phase? *Syntax* 14(1): 74–95.
- Roberts, Ian. 1985. Agreement Parameters and the Development of English Modal Auxiliaries. *Natural Language and Linguistic Theory*, 3: 21-58.
- Rouveret, Alain. 2012. VP ellipsis, phases and the syntax of morphology. *Natural Language & Linguistic Theory* 30, 897-963.
- Svenonius, Peter. 2004. On the Edge. In David Adger, Cécile de Cat, & George Tsoulas (eds.), *Peripheries: Syntactic Edges and their Effects*: 261-287. Kluwer: Dordrecht.
- Thoms, Gary. 2010. Verb-floating' and VP-ellipsis: towards a movement account of ellipsis licensing. *Linguistic Variation Yearbook* 10: 252-297.
- Thoms, Gary. 2011. Verb-floating and VPE: towards a movement account of ellipsis licensing. *Linguistic Variation Yearbook* 2011.
- Thoms, Gary. 2012. Towards a movement theory of ellipsis licensing. Paper presented at UiLOTS, Utrecht.
- Wurmbrand, Susi. 2003. *Infinitives: Restructuring and Clause Structure*. Berlin: De Gruyter.
- Wurmbrand, Susi. 2012. Seminar on Agree, Merge & Phasehood. University of Connecticut.
- Wyngaerd, Guido Vanden. 1994. *PRO-legomena. Distribution and Reference of Infinitival Subjects*. Berlin: Mouton de Gruyter.
- Yoshida, Wasaya & Ángel Gallego. 2008. Phases and Ellipsis. Paper presented at the 27th West Coast Conference on Formal Linguistics.
- Zagona, Karen. 1982. Government and proper government of verbal projections. PhD dissertation, University of Washington.
- Zagona, Karen. 1988. *Verb Phrase Syntax: a Parametric Study of Spanish and English*. Dordrecht: Kluwer.