

A prosodic account of Fragments

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Section 1. Introduction

The aim of this thesis is to provide a novel account for the linguistic phenomenon that is commonly referred to as ‘fragments’. I will provide a novel account, utilising the syntax-prosody interface, to account for the fact that fragments appear to be derived from a larger structure. I aim to deal with some of the inadequacies of previous syntactic analyses, and to provide an account that may be better reflected in the data. The analysis that I will detail in this thesis will treat the deletion we find in fragments as prosodic deletion: such an approach has not been attempted so far. Importantly, whilst the main focus of this thesis is investigating the deletion in fragments, we will see that we may also be able to account for further cases of ellipsis, such as sluicing, right node raising and gapping. This is significant since this would remove the need to provide alternative analyses for different elliptical structures.

The structure of the thesis is as follows. In chapter 2 I will give a brief outline of the phenomenon under investigation. I will provide the background of the theoretical analysis which I will be arguing against throughout this thesis, namely the movement plus deletion account (Merchant 2004, Weir 2014). After reviewing evidence for movement in fragments, I will show that in many cases movement appears to be unmotivated. I will thus provide counterevidence for the movement aspect of previous analyses. This counterevidence will consist of both specific arguments against the justifications provided for a movement approach, plus general empirical issues with such an account.

In section 3 & 4 I will develop an account of fragments which takes them to be in-situ elements, and propose that deletion eliminates other clausal material at PF. In section 3 I will outline Bruening’s (2015) prosodic account of non-constituent coordination, on which I will fundamentally base my analysis on. In section 4, I will outline the specific theoretical framework which I will be working with, a model of the syntax-prosody interface. As the first step to providing a prosodic analysis of fragments I will first extend Bruening’s prosodic analysis to both gapping and right node raising due to the similarities these constructions share with non-constituent coordination. In doing so I will adapt Bruening’s analysis in order to account for a larger set of data which will ultimately provide me with the tools to form an analysis of fragments. I provide a prosodic analysis of fragments, extending Bruening’s analysis to account for a large variety of fragment answers. In doing so I introduce some optimality theoretic constraints (some novel, some already discussed in previous research) which will help me to constrain my analysis whilst accounting for many of the problematic

data I discuss in section 2. Since sluicing is discussed throughout this thesis, I also include this in my analysis once I have resolved the data for fragments. I show that my analysis can deal with sluicing in a simple, straightforward manner, whilst I argue that swiping may also be dealt with in a similar manner.

As a consequence of the proposals put forward in both sections 3 and 4, we must consider broader questions such as the timing of ellipsis at the interface. I address these issues, and make a cautionary proposal for the timing of ellipsis, which relies on breaking up the interface to two separate components: the syntax-prosody interface and the prosody-phonology interface.

Section 2. The analysis of Fragments

2.1. What are Fragments?

In this thesis I will be dealing with fragments, so called because they appear to be fragments of a larger chunk of speech, which are to be commonly found in the responses to questions, such as those in examples (1) to (5).

- (1) A: Where is John going tomorrow? B: To Moscow.
- (2) A: How did he get there? B: By car.
- (3) A: Why wasn't she at the party yesterday? B: She felt unwell.
- (4) A: When will you accept the possibility of resigning? B: Never in my life.
- (5) A: What did he do to the vase? B: Broke it.

In such examples, the answers contain only a subpart of the response, thus in (1) the full response would be 'John/ He is going to Moscow tomorrow'.

In addition to answer fragments, other forms of utterance have been regarded as lacking structure, such as those in examples (6) and (7). The full sentential counterparts would thus be 'Would you like a coffee?' for (6), and 'Take me to the airport please' for (7).

- (6) Coffee? (Context: guests have come round to the speaker's house, and the speaker is asking if the guests would like a cup of coffee)
- (7) To the airport please. (Context: taxi passenger to a taxi driver)

Fragments have been treated via two possible analyses in the existing literature: structural analyses and non-structural analyses. Structural analyses assume that fragments form part of a larger sentential utterance: they are derived from their full sentential counterparts, thus the answer to (1) corresponds to "He is going to Moscow". Under a non-structural analysis however fragment answers are not a sub-part of a bigger sentence but rather that they are in fact whole responses in their own right, and as such have been claimed to be non-sentential constituents (Stainton 2006, Valmala 2007).

In this thesis I side with approaches of the first type and follow those who provide evidence for fragments as small chunks of a clause. As a consequence of this assumption, I will not give too much background on non-structural approaches to fragments.

2.2. Structural approaches to Fragments

Within structural analyses, there are two possible approaches to the issue how fragments are derived and how/ where deletion takes place. One type of approach is Merchant (2004), who assumes that fragments are the result of the deletion of a syntactic constituent, with movement of the fragment out of that constituent. In this case then, syntax plays an important role in deriving fragments such as (8).

(8) [_{CP} [_{SpecCP} By car] [_{TP} ~~he got there~~ t]]

The other approach, such as Abe (2015), assumes that there is in fact no movement at all. The fragment is in-situ and thus it is not a syntactic constituent that is deleted but rather a syntactic non-constituent.

(9) [_{CP} [_{TP} ~~He got there~~ by car]].

In the remainders of this section, I will first examine arguments for structural approaches (2.2.1), outline the movement approach to Merchant (2.2.2, 2.2.3). In section 2.2.4, I introduce the in-situ approach. Section 2.3. will show that there are problems of the movement account of fragments. Following Abe in assuming that movement does not take place in the derivation of fragments, I will attempt to critically examine the claims for movement in Merchant (2004). My aim is to show that, at least for English, this movement process does not seem to be strongly motivated empirically, and that an alternative in-situ approach is also feasible.

One final note: due to the fact that Merchant's analysis of fragments (2004) is closely tied to his analysis of sluicing (2001), I will also make reference to sluicing at various points.

2.2.1. Evidence for a structural approach

Before I go on to provide the details of the analysis under scrutiny, it is important for present purposes to show why a deletion approach, rather than a non-sentential approach, is more able to deal with the phenomenon under question. In order to do this I will present a brief overview of the relevant facts.

2.2.1.1. Fragments and case

Merchant (2004) provides us with an extensive list of languages and accompanying examples which show that, in fragment answers, the appropriate morphological case is required. We can see this in the selected examples below, showing case marking in fragments in Greek (10) and German (11).

(10) A: Pjon idhe I Maria? (Greek)

who.ACC saw the Maria

Who did Maria see?

B: *O Giannis.

the Giannis.NOM

B: Ton Giannis.

the Giannis.ACC

(11) A: Wen sucht Hans? (German)

who.ACC seeks Hans

Who is Hans looking for?

B: *Dem Lehrer.

the.DAT teacher

B: Den Lehrer

the.ACC teacher

In the above examples, the case marking on fragment answers is the same case which we would find on their full sentential counterparts. Such case marking should only be possible if there was the appropriate syntactic structure to license that case. Case marking is a well-known connectivity effect present in many languages which mark morphological case.

Since English is the main language under investigation in this thesis, it is worth mentioning that we also see similar connectivity effects in English possessives (12)¹.

¹ Weir (2014) points out that, though morphological case is not necessarily at play here (rather, it is an example of the necessary pied piping of elements within a possessive marked DP), it is still a good example of connectivity effects at play.

(12) A: Whose car did you take?

B: John's

B: *John.

Before I continue to discuss further evidence for the analysis of fragments as part of larger utterances, I should note that the above facts are also found for sluicing. This is relevant since Merchant's analysis of fragments bears great similarities to his analysis of sluicing. In examples of sluicing, as we can see from the example below, the remnant must be case marked accordingly in languages which bear morphological case.

(13) Er will jemandem schmeicheln, aber sie wissen nicht { *wer / *wen
he wants someone.DAT flatter but they know not who.NOM who.ACC
/wem }.
who.DAT
'He wants to flatter someone, but they don't know who.'

We thus have a situation in which both fragments and sluicing remnants show case marking: such case marking should only be possible if there was the appropriate structure to license that case in the first place.

There have been attempts to deal with the issue of case connectivity by those who support the view of fragments as non-sentential elements, such as Valmala (2007). These solutions involve either assuming that the case feature is interpretable, which violates minimalist principles, or that there is some form of optionality, either on the case itself or the need to check this case. This optionality is problematic as it assumes that fragment answers do not bear an uninterpretable case feature, but their full sentence counterparts do (Valmala assumes that if the full sentence counterpart does not bear an uninterpretable feature the derivation crashes, and that if the fragment does bear an uninterpretable case feature the derivation also crashes). This is also problematic considering those languages which bear morphological case, since as we have seen, a given fragment must bear the appropriate case and is ungrammatical if this does not happen: it is thus not clear how these ungrammatical cases would be restricted by the grammar. Other proponents of fragments as non-sentential constituents such as Stainton (2006) fail to satisfactorily deal with the question of case almost entirely.

2.2.1.2. Fragments and Binding principles

As well as the evidence of connectivity effects regarding case, Merchant also notes that there are connectivity effects related to binding principles. We can see this in the example below, whereby the reply to the question in (14) is ruled out.

(14) A: Where is he_i staying?

B: *In John's_i apartment.

In this example, binding principle C seems to be at play here, which would seem to indicate that the fragment is part of a larger structure, as in (15).

(15) *He_i is staying in John's_i apartment.

If we were to assume that (14b) is a non-sentential constituent, rather than a fragment, then there is no reason why this example should be ungrammatical. If we assume that (14b) is instead part of a larger structure as in (15) then we have a perfect explanation as to why this should be the case. Such evidence can also be found for both binding principle A and B.

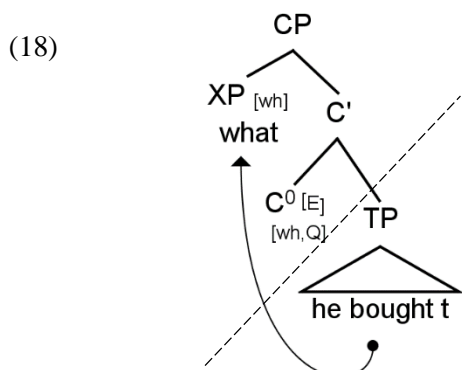
2.2.2. Merchant's (2004) analysis of fragments

Merchant fashions his analysis of fragments on that of sluicing in many ways. Sluicing is an elliptical structure which, similar to fragments, seems to be lacking in structure. In all cases of sluicing we find that the only element remaining from a seemingly larger structure is a wh element, as we can see in the examples below, taken from Merchant (2001).

(16) Jack bought something, but I don't know what ~~he bought~~.

(17) A car is parked on the lawn – find out whose ~~car is parked on the lawn~~.

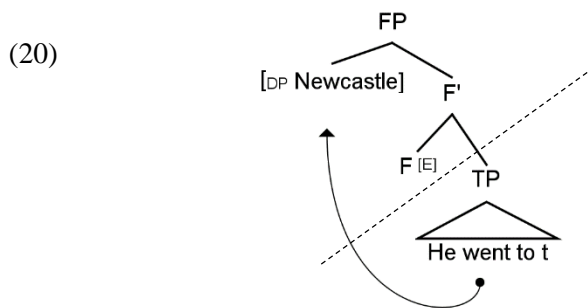
The wh element is unsurprisingly analysed as moving into SpecCP in the embedded clause. Once this movement has taken place, the entire TP is thought to be 'sluiced' or deleted: the example in (18) is the process of sluicing for (16).



In order to deal with the question of how such a process of ellipsis is licensed, Merchant relies on an ellipsis specific feature (E). This E feature, Merchant claims, has a specific lexical entry, which constrains the forms of ellipsis it can be involved in. In the case for sluicing, the lexical entry is as follows: $E_s [uwh^* , uQ^*]$, meaning that E possesses two strong features: an uninterpretable wh feature and an uninterpretable question feature. These features must be checked in the overt syntax against an interrogative C head that enter into a checking relation with E^2 .

Merchant's analysis of fragments is similar to that of sluicing: the remnant of the ellipsis undergoes movement to the left periphery and then the TP is subsequently deleted. This time however, the remnant of ellipsis moves to specFP, whilst it is the F head which hosts the E feature³. Merchant also assumes that the uninterpretable feature which subsequently needs to be matched on E is $[uF^*]$, whose interpretable counterpart is on F. Below (20) is an example of how this works in the syntax, which corresponds to the fragment answer in (19).

- (19) A: Where did John go yesterday?
 B: He went to Newcastle.



² As Merchant notes, whilst there is a particular E feature for sluicing, there are also corresponding features for other forms of ellipsis, such as VP-ellipsis and NP-ellipsis, which work in a similar manner. Crucially, he claims that whether a language has a particular brand of E is directly dependent upon on that language having a corresponding lexical entry: German does not have E_v and thus does not have VP ellipsis. Another crucial point is that ellipsis under this analysis simply implies that the entirety of the TP (or whatever projection is being elided) is simply unpronounced in the phonological component of the grammar (the dotted line is simply for illustration purposes. Merchant deals with the issue of recoverability of the ellipsis site by subscribing to the idea that this E feature ensures that what is being deleted is e-given: An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo existential type shifting, i. A entails $F\text{-clo}(E)$, and ii. E entails $F\text{-clo}(A)$ (Merchant 2001).

³ Merchant notes that this FP may be the FocusP in Rizzi (1997), whilst he also stipulates that certain sentences may have to be analysed as involving the fragment remnant in a position similar to Clitic Left Dislocation (CLLD).

Merchant's proposal for the derivation of fragments is not without problems. One ingredient that has received critique is the target of movement. Merchant's analysis hinges upon the claim that the remnant is fronted as a focused constituent and the E_f feature has an uninterpretable focus feature which needs to be checked. The problem with these claims is that there is no evidence for the presence of a focus feature elsewhere in English. Whilst topicalization is certainly prevalent in certain dialects of English (though this is not the case for my own, focus fronting seems to be solely restricted to Welsh English, most likely due to focus fronting being prevalent in Welsh. Fragments are universally focused elements, whether they be information focus as in (21) or contrastive as in (22), however in English the focused element is always in situ.

(21) Where did John go yesterday? Newcastle.

(22) Did Lisa go to Newcastle yesterday? No, Manchester.

It is thus difficult to see why there would be a focus feature which is only present in one specific elliptical structure.

There is one final issue with Merchant's theory that he fails to address: what part of the grammar determines whether the E feature is present in a derivation, and thus determines whether ellipsis will be operable? The novel account of Weir (2014) addresses this optionality issue directly, building upon Merchant's idea that the feature is indeed lexical in some way. He claims that the difference between the elliptical and non-elliptical version of the same structure is based on whether the E feature is present within the numeration: if it is present, then ellipsis will take place, if it isn't, then there is no ellipsis.

In opposition to Merchant's view that the movement operation takes place in narrow syntax, for Weir, this happens at PF, and is a form of last resort operation. He claims however that this movement is still "syntactic in nature" (p194). Additionally, for reasons of economy, this movement does not also take place at LF, which helps to explain the lack of interpretive effects if there is movement involved. Ultimately, the movement at PF is to save the focused element from the elliptical process: it moves to avoid being deleted/ unpronounced and is not the result of the need to check a focus feature. This seems to me to be an attempt to deal with the lack of movement of focused elements to the left periphery in English in general. The question of why this should be available at PF when it is not available at narrow syntax does not seem to be answered however. In fact, the problem with fragments seems to be shifted from narrow syntax to PF, but this does not necessarily resolve any of the issues under investigation. As Scheer (2010) notes, "Under the minimalist pressure, PF-sinking of syntactic problems has become a

natural and unquestioned move over the past decade”. Weir too relies on a version of the syntax-phonology interface which seems to be deeply simplified. There is no explicit mention of the mechanism under question, we just have to trust that this operation takes place somewhere within PF, even though underpinning this idea is the assumption that the syntactic structure survives throughout PF, and that the phonological component has direct access to such labels as CP and TP. This assumption is one that needs to be addressed in future analyses of this kind: it is important to address the limitations of PF, if any, and whether such an operation can take place at PF. By not addressing this issue, a theory which seems on the surface to be elegant and possible of dealing with large sets of data has to be credited as being empirically weak. This approach is one that is fundamentally different to the approach I will try to argue for throughout this thesis: I will be relying on a specific component of the grammar, the syntax-prosody interface, which maps the syntactic structure into the prosodic component so that it can be read by the phonological component. The details of this interface will be given in the following chapter.

2.2.3. Evidence for movement (Merchant 2004) and (Weir 2014)

2.2.3.1. Preposition Stranding Generalization

A strong argument for the movement approach to fragments and sluicing is the cross-linguistic generalization regarding preposition stranding (Merchant 2004). Those languages which do not generally allow preposition stranding also reject fragments which should logically contain a preposition, whilst the opposite is the case for those languages which do allow preposition stranding. We thus have a difference in fragments in languages such as English, which allows preposition stranding, and German, which doesn’t allow preposition stranding. We can see this difference in the examples below (taken from Merchant 2004).

(23) Peter was talking with someone, but I don’t know (with) who. (English)

(24) Anna hat mit jemandem gesprochen, aber ich weiß nicht, *(mit) wem. (German)
 Anna has with someone spoken but I know not with who.
 ‘Anna has spoken with someone but I don’t know who.’

We can see that in the English sluicing example, the presence of the preposition with the wh element is optional, and thus it is assumed that the preposition may either be left behind and be deleted along with the TP, or move with the wh element and avoid deletion. For German however, the preposition must always move with the wh element: it cannot be deleted. I should note that the above facts are also seen for fragments too, as we can see below (again taken from Merchant 2004).

(25) A: Who was Peter talking with? (English)
B: Mary.

(26) A: Mit wem hat Anna gesprochen? (German)
with who has Anna spoken?
B: *(Mit) dem Hans.
with the Hans.

This then seems to be a convincing argument for the deletion of TP: only in those languages which allow preposition stranding can the preposition be deleted in cases of sluicing and fragments.

2.2.3.2. Island effects

In the discussion of whether movement occurs in fragments (and sluicing), a common focus is the status of islands in the respective phenomena. In particular, the discussion centres on the ungrammaticality of certain answers, whose corresponding elements are contained within embedded clauses within questions. I have included an example from Merchant (2004) below to highlight this particular issue.

(27) A: Does Abby speak the same Balkan language that Ben_i speaks?
B: *No, Charlie_i.

It is assumed that the underlying reason for the ungrammaticality of 27b) is that it is an island to movement, and thus, since movement is involved in the derivation of fragments, (27b) cannot be a legitimate answer.

2.2.3.3. Complementizer deletion

Merchant notes that, in comparison with their full sentential counterparts, complementizers in CP fragments cannot undergo deletion.

(28) A: What does no one believe?

B: *(That) I'm taller than I really am.

(29) No one believes (that) I'm taller than I really am.

We can see that in (28b) the complementizer must be overt, whilst in (29) the complementizer is optional. Such effects are also seen in examples in which the CP has been left dislocated, such as in (30).

(30) *(That) I'm taller than I really am, no one believes.

Merchant claims that the above facts are a natural result of his analysis plus c-selection effects: A CP must be selected as the complement, the entire CP must move to the left periphery, and thus the complementizer must move along with the CP. Given such an analysis, the ungrammaticality of examples containing no complementizer is explained through there being no way for the complementizer to undergo deletion after it has moved along with the CP.

2.2.3.4. Deletion in Control infinitives

Merchant notes that there are also selectional effects regarding control and raising infinitivals. He goes on to show that 'to' infinitives are not possible as fragment answers under raising verbs but are possible under control verbs.

(31) A: How do people tend to behave?

B: *To procrastinate.

(32) A: What does she really want?

B: To get a job in Europe.

Similar to the instances of obligatory overt complementizers, Merchant claims that these facts are naturally accounted for under his analysis involving movement of the remnant. The possibility of the respective infinitivals occurring as fragments is claimed to be correlated with the possibility for such TPs to move to the left, such as in cases of clefts.

(33) *It's [to procrastinate] that people tend.

(34) It's [to get a job in Europe] that she wants.

Under a movement plus deletion analysis then, the above facts seem to be accounted for in a simple manner.

2.2.3.5. Strong pronouns in fragments

The last set of data presented for the movement of remnants concerns subject fragments, and their case which does not correspond to their full sentence counterparts (see data below).

(35) Who ate the last piece of cake?

Him / He did / He ate it.

Her / She did / She ate it.

Me / I did / I ate it.

Us / We did / We ate it.

Them / They did/ They ate it.

Merchant assumes that this pattern is on par with the distribution of weak/strong pronouns in various languages, such as German and Dutch, and that those examples which contain only a subject pronoun are cases of clitic left dislocation (CLLD), given in example (36).

(36) Who ate the last piece of cake?

Him, he ate it.

In German and Dutch only the strong form of the pronoun can be used in fragments, and is thus similar to the presence of the accusative form in English. We can see this from the Dutch example below⁴.

(37) A:Wie heeft ze gezien?

(Merchant 2004)

who has she seen?

B: Jou

you.strong

C: *Je

you.weak

Returning to Merchant's analysis of English pronoun fragments, the assumption is that they are cases of CLLD, and that the rest of the structure is simply deleted, as we can see below.

⁴Hoeksema (2014) also notes that Dutch has a unique first person pronoun (*ikke*) which is restricted to cases in which there is no finite verb, such as fragments, however he also claims that the regular form (*ik*) may also be used in such contexts.

(38) A: Who watered the plants?

B: Me, ~~I watered the plants.~~

With these assumptions, the facts in (35) can be taken to be evidence for movement.

2.2.4. In situ account of fragments (Abe 2015)

Unlike the accounts of both Merchant (2004) and Weir (2014), Abe (2015) argues for an in-situ approach for fragments, focusing specifically on Japanese. For Japanese Nishigauchi and Fujii (2006) follow Merchant in assuming that fragments are the result of movement to the left periphery, followed by the deletion of CP, which is highlighted in (39)⁵. The examples given here are from a question answer pair from Abe (2015, p3).

(39) A: Kanozyo-wa dare-ni atta no? B: John-ni desu.
 she-TOP who-DAT saw Q John-DAT be
 ‘Who did she see?’ ‘John’

(40) [FP [CP kanozyo-ga JOHN-ni atta no] desu]
 she-TOP John-DAT saw C be
 ‘She saw John’.

↓ focus movement

[FP JOHN-ni [CP kanozyo-ga <John-ni> atta no] desu]

↓ deletion

[FP JOHN-ni [CP ~~kanozyo-ga <John-ni> atta no~~] desu]

Abe (2015) however, assumes that the fragment stays in situ, with the whole CP being deleted: the fragment survives deletion under this analysis due to the fact that it is focused. Abe argues that the movement operation to be found in the analysis of Nishigauchi and Fujii (2006) is superfluous, since the focusing of ‘John’ is already encoded in situ. In support of this view he notes that such fragments are island-insensitive.

(41) [FP [CP kanozyo-ga JOHN-ni atta no] desu]

↓ deletion

[FP [CP ~~kanozyo-ga JOHN-ni atta no~~] desu]

Though Abe is not clear on how something escapes the deletion process (besides the fact that it is focused), such an analysis helps resolve the issue of deleting non-constituents As

we can see from the example above, a constituent is always deleted: ‘John-ni’ simply avoids being deleted within the deleted CP. In English, just like Japanese, we do not see overt focus movement at narrow syntax: for both languages focused elements stay within situ. It is possible then that such an analysis may be extended to languages such as English. The rest of this thesis is dedicated to finding out to what extent this is possible.

2.3. Problems for a movement approach to fragments

Thus far I have shown how a movement plus deletion approach to fragments works. I will now proceed to highlight certain issues with such an approach. I will provide data which seems to prove problematic for a movement account (Single word fragments), whilst I will critique certain aspects of the approach of Merchant (2004) and Weir (2014) based on the fact that, in my opinion, there is not enough empirical motivation (focus movement in English).

2.3.1. Lack of Motivation for Focus movement to the left periphery

As mentioned above in section 2.2.2., both Merchant (2004) and Weir (2014) rely upon the presence of focus movement in English in order to account for fragments. However, at least in English, focused elements always remain in situ; there is no requirement for a focused element to move. We can see this from the examples below.

(42) A: Who did you see yesterday?

B: *JOHN, I saw yesterday. / I saw JOHN yesterday.

(43) A: What did you eat?

B: *CHips I ate. / I ate CHIPS.

In no context in English is this form of focus movement possible, thus it is questionable to say the least to assume that focus movement is at the heart of the derivation of fragments. Clearly, if we are not dealing with focus movement, we would have to assume that there is some other motivation for the movement we see in fragments but then this leads us to another question of where it moves to and what that motivation is. Ultimately, this is one of the major flaws in a movement plus deletion approach, but Merchant’s (2004) analysis is not possible without relying on such exceptional movement.

2.3.2. Single-word fragments

One set of data that do not receive a straightforward analysis under movement-based approaches are fragments that consist only of a preposition, such as the examples below.

(44) A: Did you say you wanted to meet before 3pm?

B: No, after.

(45) A: Did the president vote for the new health bill?

B: No, against.

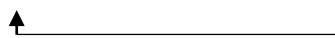
If we assume that the only possible elements which can undergo movement in fragments are phrases, and that head movement is not possible, then how can we account for the fact that prepositions, which are heads, can be found in fragment answers? What we see in both (44b) and (45b) contradicts the following statement by Weir (2014): “If a string cannot be targeted by a phrasal movement operation even in principle, it cannot appear as a fragment”.

Similarly problematic facts are fragments that solely consist of an adjective, such as that found in (46).

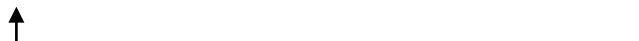
(46) Did she buy a green car? No blue.

To account for (44/45) one would need to argue that the prepositional phrases and adjectival phrases first move to the left periphery which subsequently undergo NP ellipsis. There would then be two elliptical processes at the heart of both (44b) and (45b): the deletion of the TP (after phrasal movement to the left periphery) and the deletion of the NP.

(47) NO, [CP [SpecCP ~~a blue car~~_i], [TP ~~she bought t_i~~]].



(48) NO, [CP [SpecCP ~~Against the new health bill~~_i], [TP ~~the president voted t_i~~]].



The problem with such an analysis is that this kind of DP ellipsis is unknown in the grammar of English. First, elidable nominal constituents can be NPs, but not DPs. Second, NP ellipsis is not licensed following adjectives like *blue* (Lobeck 1995), so it is expected that it is not licensed in (49), either:

(49) *John bought a green car but Mary bought a blue.

This suggests that examples such as (44)/ (45) do not contain NP ellipsis. In this case either ‘car’ must be present in the second conjunct or it must be replaced with ‘one’. Ellipsis is ruled out in this context however.

2.3.3. Lack of constituency in remnants

There are some examples which are highly problematic for Merchant’s (2004) analysis, simply because we find that in such cases, the remnants do not correspond to syntactic constituents (examples 50 and 51).

(50) A: Do you want to want to go to the cinema tomorrow?

B: [CP [TP [SpecTP I] [T ~~do~~] [NegP [Neg not] [AdvP [Adv really] [VP ~~want to go to~~ tomorrow]]]]].

(51) A: Do you think you will go to work tomorrow?

B: [CP [TP [SpecTP I] [T ~~will~~] [AdvP [Adv probably] [NegP [Neg not] [VP ~~go to work~~ tomorrow]]]]].

In both cases we are dealing with an adverbial phrase and a negative phrase, which cannot be assumed to form a single phrase on their own. It is thus impossible for the above examples to be analysed as being moved to the left periphery as a single unit. This is highlighted in the examples below, which show that when these elements are clefted, the example is ungrammatical.

(52) *It is not really that I want to go tomorrow.

(53) *It is probably not that I will go to work tomorrow.

Indeed, we could assume that they move as separate phrases, however we would then have to assume that there are two Focus projections to which both of the phrases can move. This is highly problematic. First of all, I have already argued against the reliance on Focus movement in general for English, since there is no evidence for its existence. Second, in order to account for the above examples, we would have to claim that there are two focus projections. In Italian, which has overt focus movement, there is only one Focus projection in the left periphery. We would thus have to assume that, at PF, there are more focus projections available to which fragments can move. Why this should be the case however is not clear.

2.4. In situ approach and a prosodic account of deletion

In sum, there are fundamental issues with both the theories of Merchant (2004) and Weir (2014) in their analysis of fragments, such as the exceptionality of focus movement (in English), or the proposal for ellipsis being licensed by an item in the lexicon (E). Since a prosodic analysis does not require the movement of the fragment before deletion takes place, I will lay out the arguments against a movement approach for fragments. If we can do away with the necessary requirement of movement, regardless of where this movement takes place, the theories of Merchant (2004) and Weir (2014) run into trouble. Without movement out of the TP it is no longer possible to stipulate the deletion of the entire TP as the fragment element would not be able to escape before deletion takes place. I will also try to prove, wherever possible, that the wholesale deletion of the TP is not viable for certain examples. In order to do this I will survey a wide array of examples of Fragments, to argue against both movement and TP deletion, and sluicing, to also argue against a TP analysis.

Considering Abe's (2015) approach to Japanese fragments in section 2.2.3, I will argue in section 3 that English fragments may also be analysed as remaining in-situ, in contrast with the movement approach of Merchant (2004) and Weir (2014). Specifically, I propose that the process of deletion takes place at the syntax-prosody interface and applies to clause in which the remnant is unmoved. I propose that, just like in Abe's analysis, focus plays an important role in deriving fragments: in both cases the focusing of an element allows that element to escape the deletion in a given constituent. Unlike Abe's analysis, I will not be arguing for the deletion of a constituent in the syntax, but rather a constituent in the syntax-prosody interface. By placing the deletion process in the realm of the interface, we avoid the problem of how a focused element actually avoids deletion when in a given constituent: this follows naturally from the constraints that are present at the interface. I will now proceed to review the evidence previously given for the movement approach to fragments in section 2.2.3, and show that in many cases such evidence is weak.

2.5. Reviewing the evidence for movement

2.5.1. Preposition Stranding Generalization

Though for most languages this correlation seems to be well reflected in the data, there is an interesting piece of counter-evidence to be found in Emirati Arabic (Leung 2014). Leung notes that in Emirati Arabic, whilst preposition stranding is not possible under *wh*-movement, he claims that there are cases of sluicing whose underlying structure contains a stranded preposition.

(54) John *ʃərab* *gahwa* [*wijja* *ħəd*], *bəs* *maa* *ʕərf* [*mənu*
John drank coffee with someone but not I.know who

~~John~~ *ʃərab* *gahwa* [_{PP} *wijja-ti*].

John drank coffee with

‘John drank coffee with someone, but I don’t know who.’

Leung claims that, unlike other languages which have been claimed to counter the Preposition Stranding Generalization, but which were later argued to be relying on pseudo-sluicing (*wh*-clefts in which there is no *wh*-movement), in Emirati Arabic, not all cases of sluicing with P-stranding can be analyzed as an instance of pseudo-sluicing. Emirati Arabic possesses two forms of sluicing construction: one with *wh*-movement and one with a *wh*-cleft, while P-stranding occurs in constructions that cannot be analyzed as involving *wh*-clefting

2.5.2. Island effects

Valmala (2007) notes that there cases in which we should see island effects if fragments truly undergo movement to the left periphery. This is highlighted in the examples below, whereby the embedded fragments are information focus, as opposed to the contrastively focused elements in (27a).

(55) A: I heard that Ben left the party cause some girl_i wouldn’t dance with him.

B: Yeah, Susan_i.

(56) A: I heard they want to hire a linguist who speaks a/some Balkan language_i.

B: Yeah, Albanian_i.

The above examples are completely grammatical, which would lead some to suggest that the issue with (27a) is the fact that the fragment is contrastively focused. However, Valmala (2007) also points to examples which contain contrastively focused elements. Example (57) is one such example, and Valmala claims that its grammaticality entails the ability to disambiguate the possible elements which the fragment could be linked with in previous discourse, in this case through the use of the preposition *to*.

(57) A: Did Bill leave the party because he wanted to avoid having to talk to Susan_i?

B: No, to Mary_i.

If we take into account the availability of (57b), the ungrammaticality of (27b) could be reasonably reduced to the impossibility of disambiguating which referent in the previous discourse it should be contrasting with: for some reason, if there is ambiguity over which referent a fragment is referring to, the first referent seems to be the default referent. Thus, (57b) is a possible response since there is only one prepositional phrase with which it can contrastively refer to, however in (27b) the fragment could refer to either the matrix subject or the subject in the relative clause. Others have also noted the possibility of fragments whose referent is deeply embedded in previous discourse (Stainton 2006, Weir 2014). Weir ultimately refrains from relying on islands for the purpose of analysing the availability of fragments. He states that context (in his work this is referred to as the question under discussion – QUD) and the possibility of non-isomorphism between ellipsis site and antecedent (it is claimed that, in some cases, a cleft may be the underlying structure of a fragment answer) lead him to the conclusion that “the task of working out whether a given ellipsis site contains an island or not becomes extremely hard”.

(58) A: Abby speaks the same Balkan language that someone (in this room) speaks.

B: Yeah, Ben it is.)

It is thus unclear if we can learn anything from examples such as (27), since the grammaticality of embedded fragments seems to rely on a multitude of factors, many of which are difficult to truly discern. It would seem that, if we take into account all available data, there is no conclusive evidence for movement within fragments. Before I move on from this discussion I would like to briefly mention the status of multiple fragments. Merchant (2004)

also claims that multiple fragments are impossible when their correlates in previous discourse are embedded within an island (example 59), however I would like to follow Weir (2014) in assuming that, if the context that is provided allows for the correct reading, then multiple fragments are entirely possible. We can see this from the example given below.

(59) A: Which committee member wants to hire someone who speaks which language?

B: *Abby Greek, and Ben Albanian.

(60) A: I heard that two lecturers are each looking to recruit a linguist who speaks a specific language.

B: Yeah Rizzi, Greek, and Chomsky, Albanian.

It is clear then that many examples which have been shown to be ungrammatical, and have been used as evidence for a movement approach, are ungrammatical for other reasons. I subsequently follow Weir (2014) in arguing that islands cannot be used to suitably diagnose movement happening in the derivation of fragments.

2.5.3. Complementizer deletion

Though a purely syntactic analysis seems to resolve the issue of the obligatory nature of overt complementizers in fragments, these facts can also be derived in other means. Such cases will be discussed in chapter 3 under a prosodic analysis of fragments.

2.5.4. Deletion in control infinitives

Data containing deletion in infinitives do not necessarily lend any support to a movement plus deletion analysis either. First of all, there are empirical problems. The cleft examples in section 2.2.3.4. (repeated below for convenience) are equally ungrammatical to many speakers (including me), and thus movement of a control complement is not grammatical under normal circumstances.

(61) *It's [to get a job in Europe] that she wants.

Merchant equates the possibility of control infinitive fragments to the possibility of moving control infinitives: since movement is in fact not possible (at least for me), this is largely problematic.

Another area concerns differences between the following two fragments:

(62) A: What does she want?

B: To go to the cinema.

(63) A: What does she want to do?

B: *To go to the cinema.

Under Merchant's (2004) analysis, both (62b) and (63b) should be equally grammatical, since they should both contain the same underlying structure: 'She wants to go to the cinema'. However, we find that (63b) is actually ungrammatical.

2.5.5. Strong pronouns in fragments

Whilst Merchant proposes a CLLD structure for the analysis of certain fragments, CLLD is not a productive structure in English, unlike languages such as Spanish and Italian. To propose a structure which is only present in fragment answers (present only in one specific elliptical environment) does not seem desirable. Additionally, as noted by Griffiths & Liptak (2011), the fronted element in CLLD structure are topicalized elements and not focused elements, whilst fragments are strictly focused.

An entirely different explanation, which is exempt from the above problem is to shift the problem to a different domain. It is possible to assume that nominative pronouns are unavailable as fragments. We could then stipulate a repair mechanism at PF which would take place once the elliptical process has occurred. As a consequence of this, at least for English, we would not have to assume that bare subject pronoun fragments are derived via a CLLD structure plus deletion. This example of case in English pronoun fragments is thus not a worthy counterexample to Merchant's analysis; at least in the sense that it is not evidence against the analysis of fragments as remnants of a larger utterance.

2.6. Conclusion

In this chapter, I have attempted to highlight the evidence for fragments being part of a larger syntactic structure. We have seen this in the presence of case in fragments, as well as in the ungrammaticality of certain fragments which can only be down to binding principles. In both of these cases, if we were not dealing with a larger syntactic structure, it would be difficult

to account for why case and binding principles should play such an important role. I have also attempted to highlight some of the issues regarding the movement plus deletion analysis of fragments: I argued that there may not be enough evidence in some cases to stipulate an ellipsis specific movement operation, at least in English.

Since we have seen that there are various issues with a movement plus deletion account, it is worth investigating whether an alternative account can deal with the relevant facts. If there is no movement process then deletion of the TP is impossible as this would then delete the fragments along with all other deleted material. The question that remains then, is how fragments are derived. If fragments are the result of deletion but this deletion is not influenced by the syntax, then we have to assume that it is determined by some level after syntax. I will attempt to provide a solution to this issue, arguing for an elliptical process at the syntax-prosody interface adopting and adapting Bruening (2015).

Section 3. A prosodic account of non-constituent coordination (Bruening 2015)

As we saw in the previous chapter, there seem to be some issues with a movement-based approach to fragments and sluicing. The analysis which I will put forward for fragments later in this thesis is adapted from a paper by Bruening (2015), in which he gives a prosodic analysis for non-constituent coordination (NCC for short). This analysis is novel in that it is the first such analysis to propose an account of fragment-type ellipsis that assumes that deletion targets a prosodic constituent rather than a syntactic constituent.

Non-constituent coordination stands for the coordination of two “strings that are not constituents” (Sag et al 1985), which is exemplified in examples (64) and (65) below.

(64) Mary caught a fish on Monday with a fly rod and on Tuesday with a spear.

(65) I claimed that I was a spy to impress John and an astronaut to impress Bill.

In the above examples we can see that the string that is conjoined to the first conjunct in (64) for example, ‘an astronaut to impress Bill’ is not a constituent as we can see from the left dislocated sentence in (66), which has led many to question what the structure of such examples might be.

(66) *An astronaut to impress Bill, I claimed I was.

Bruening highlights that this has previously been analysed syntactically in one of two ways: either the second conjunct is reduced via a process of Left Edge Deletion (Wilder 1997, Beavers and Sag 2004, Hofmeister 2010) or by a process similar to Merchant’s analysis of fragments (Frazier et al. 2012, Sailor and Thoms 2013), whereby the remnants are moved out of a specific projection and then that projection is subsequently deleted. Since the second analysis is more relevant to the movement analysis I argue against, I will give a brief background.

In a sentence such as example (64), remnants are analysed as moving to the left periphery, so ‘an astronaut’ and ‘to impress Bill’ would both move to somewhere within the CP. If we assume an analysis similar to Merchant’s, the phrases undergoing movement may move to SpecFP.

(67) And [FP [SpecFP on Tuesday_i] [FP [SpecFP with a spear_j] [TP ~~caught a fish t_i t_j]]]].~~

The reasoning for this would be that both of the remnants are contrastively focused, and thus are similar to fragments: under such an analysis it is the presence of focus which entails

the movement. One of Bruening's main arguments against such a proposal is the fact that movement is otherwise not licensed, similar to what we see in fragments. He thus gives examples such as (68) and (69), showing that the movement of a constituent to the left periphery is not possible, highlighting this against their non-constituent coordination counterparts.

(68) A: Jamie sorted his pictures of Venice on Friday and Rome on Saturday.

B: *Rome, Jamie sorted his pictures of on Saturday.

(69) A: Willie will dust his collection of trains on Thursday, and Fabergé eggs on Friday.

B: *Fabergé eggs, Willie will dust his collection of on Friday.

He also shows that categories which have been argued to be immovable (Sailor and Thoms 2013), such as TPs, can in fact take place in non-constituent coordination. Below is one such example.

(70) A: We'll decide whether or not to study Icelandic on Thursday and to take ballroom dance on Friday.

B: *To take ballroom dance, we'll decide whether or not on Friday.

He also provides an interesting argument against the movement analysis regarding the status of preposition stranding in non-constituent coordination. As we have seen from examples of sluicing, a wh-element may move outside of the TP and strand a preposition, which is subsequently deleted. We can see however that this is not possible in NCC (71).

(71) Mary caught a fish with a spear and a rabbit *(with) a snare.

It is not clear why, if we assume a movement analysis, the DP cannot move out of the TP and strand a preposition, such as what we see in sluicing and fragments. I should note however that Bruening claims that it is possible for only the preposition of the first remnant to undergo deletion. He gives the following example to show this fact.

(72) Mary read a book about Nixon at the airport and (about) Reagan *(at) the station.

In Bruening's proposal, examples of non-constituent coordination are the result of an operation applying at the prosodic level: this operation applies after narrow syntax and before what we know as PF. The proposal itself is born out of the fact that prosody plays an important

role in non-constituent coordination. For example, in (64) heavy stress is placed on ‘Monday’ in the first conjunct and ‘Tuesday’ in the second conjunct, whilst this is also the case for ‘fly rod’ and ‘a spear’. He believes these prosodic facts are evidence for prosody playing a crucial role in non-constituent coordination, thus reasoning that this process may take place at the syntax-prosody interface. The specific claim under this proposal is that prosodic ellipsis “targets the first prosodic phrase in the second conjunct, and deletes all but the head of that prosodic phrase”. The prosodic phrase which Bruening is referring to here is the phonological phrase (also known as intermediate phrase or major phrase). Below is Bruening’s prosodic analysis of example (73).

(73) (Mary) (caught a fish (on Monday)) (with a fly rod) and (~~caught a fish~~(on Tuesday))
(with a spear).

In example (73) ‘on Tuesday’ is claimed to be the head of the phonological phrase ‘caught a fish on Tuesday’. The head of a phonological phrase in this framework is a prosodic word, which is the level below the phonological phrase.

Given the background I have provided, it would seem that Bruening’s prosodic analysis of non-constituent coordination is on the right track. In order to investigate this proposal further however, I decided to carry out a short on-line questionnaire study with 28 native speakers of English all of whom were born in the U.K. in order to determine if the above analysis works for all cases of non-constituent coordination. In this study participants carried out two forms of tasks: one was a simple grammaticality judgement task whilst in the other they were asked if they were able to interpret the missing information given in brackets. Thus, in the following example, participants were asked if they interpreted the overall sentence as meaning ‘Jamie eats tuna salad sandwiches with mustard and TUNA SALAD wraps with mayonnaise.’

(74) Jamie eats tuna salad sandwiches with mustard and (~~wraps with mayonnaise~~).

In many cases, the results of my questionnaire support Bruening’s proposal for all but the head of a phonological phrase undergoing deletion, even in those cases in which the deleted element forms a long string. We can see this in example (75).

(75) Natalie watched a film about cars with Alex and (~~watched a film about~~ wildlife) (with James).

Since ‘wildlife’ is the head of the first phonological phrase of the second conjunct, all but this element undergo deletion. There are however cases in which the ungrammaticality of certain sentences is in stark contrast with what we would expect. This is highlighted by an example which is given by Bruening (2015) himself, but which was found by the majority of speakers questioned to be completely ungrammatical (76).

(76) ??Jamie eats tuna salad sandwiches with mustard and (~~eats tuna salad wraps~~) (with mayonnaise).

Interestingly, non-constituent coordination seems to be more degraded in those cases where a noun is modified directly by another noun (tuna salad wraps) in comparison to those cases which consist of nouns modified by a prepositional phrase (collection of trains), such as the sentence in (77).

(77) Richard will dust his collection of trains on Thursday and (~~dust his collection of cars~~) (on Friday).

It is worth mentioning that this may be due to the specific modifying elements which I tested: in some cases it is possible that the whole phrase itself may be considered a compound element, and thus partial deletion of a compound noun might be assumed to be more problematic.

Before I continue I should note that Bruening states that in all of the examples he deals with, VPs are coordinated and not CPs. Though this is not something I will not commit too much attention to, regardless of whether we analyse such examples as CP coordination or VP coordination, the above modified analysis is equally able to deal with both. If CPs are coordinated, and we thus assume that the subject of the second conjunct is deleted, this does not prove to be a problem for the new analysis. Since in English the subject in a clause is considered to be within its own phonological phrase, we can stipulate that this phonological phrase may also undergo deletion. We thereby have a situation where, if VPs are coordinated, the first phonological phrase is deleted, and if CPs are coordinated the first two phonological phrases are deleted. In both cases what is left are two phonological phrases which are contrastive with their counterparts in the first conjunct. For present purposes however I will simply assume that two VPs are conjoined.

Section 4. Developing a prosodic account of Fragments

4.1 The model of the syntax prosody interface

For the purposes of adopting Bruening's account to analyse fragments, we need to make his framework more precise and bring it in line with other theories of the syntax-prosody interface, including how the phrasing of prosodic constituents works at the interface. With such a theory it is possible for elements which are not syntactic constituents to undergo deletion, thus eliminating the reliance on an unnecessary movement operation in the syntax. Bruening does not detail the framework which he works within however, thus it is appropriate for me to show just how the building of constituents works in the syntax-prosody interface. We shall also find that, when we consider the specifics of such a framework, Bruening's analysis will have to be adapted slightly in order to account for a broad range of examples.

One question regarding any approach assuming that deletion is sensitive to prosodic headedness is how do we identify the head at the prosodic level? I will follow Hartmann (2000, p15) in assuming that the extension of a phonological phrase is linked to the direction of syntactic branching: "in a right-branching language, the phonological phrase extends to the left of its head $H\phi$, and in a left-branching language it extends to the right of its head. In English, for instance, which is a right-branching language (Hartmann 2000), the phonological phrase extends to the left side of its head". As a consequence of this, since English is a right branching language (Hartmann 2000), we find that the head is at the end of the phonological phrase, which coincides with Bruening's approach whereby all elements in the phonological phrase besides the head undergo deletion.

The input to the syntax-prosody interface is the syntax itself, however how does the syntax-prosody interface 'read' the syntax? The prosodic hierarchy is built up of many different levels, as we can see below (Nespor and Vogel 1986)⁶.

⁶ I should note that, in Nespor and Vogel (1986) another level is also posited between the phonological phrase and prosodic word. This phrase, called the clitic group, is assumed by Selkirk (1995) to be an unnecessary level. She claims that the clitic group can be explained away by relying on different configurations of clitic and prosodic word: clitics are either free, internal or affixal. I will follow this approach and assume a simple version of the prosodic hierarchy (above).

(78) Phonological Utterance (U)

Intonation Phrase (i)

Phonological phrase/ Major phrase (ϕ)

Prosodic word (ω)

Foot (Σ)

Syllable (σ)

With regards to the interface, the relevant levels are assumed to be the phonological phrase, the prosodic word, and the intonation phrase, since these are the categories which interface with syntactic categories. At the interface, the status of heads is also important: this is relevant for this thesis since phonological phrase heads play a significant role in my analysis. Below is an example taken from Hartmann (2000, p18) highlighting the prosodic structure of the sentence ‘Greg watched the horse race at the sushi takeout’⁷. In this example the heads of a given level are marked using X, thus the head of a prosodic word is X_ω : here the head is marked above the level which it corresponds to.

(79)

X_U

(X_{ip})_U

(X_ϕ X_ϕ)_{ip}

(X_ω)_φ (X_ω X_ω)_φ (X_ω X_ω)_φ

()_ω ()_ω ()_ω ()_ω ()_ω ()_ω ()_ω

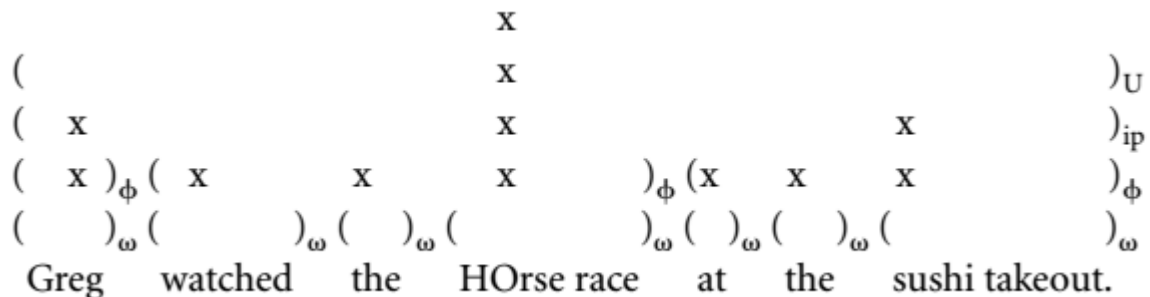
Greg watched the horse race at the SUshi takeout.

In this example the head of the intonation phrase occurs to the right of the phrase, which is due to the last element receiving focus (this is an example of wide focus in an out of the blue context). The head of the intonation phrase however may shift depending on where in the intonation phrase the most prominent element lies. Thus in an example which contains a contrastively focused element, that element is the head of the intonation phrase: below is the response to a sentence “I heard that Greg watched the soccer game at the sushi takeout”.

⁷ I should note that in (79) and (80) prepositions and determiners match to prosodic words according to Hartmann 2000, but I argue that this is not the case, as we shall see later

Importantly, at the phonological level, heads always occur to the right, which distinguishes them from heads at the intonation level.

(80)



The significant feature of the interface is that syntax and prosody are not isomorphic, so not every syntactic constituent will necessarily be represented by a prosodic counterpart. Specifically, the way syntax interfaces with prosody is generally assumed to be determined by constraints, akin to the way optimality theory constrains phonology (Prince and Smolensky 1993). The constraints in any given language are thought to be ranked, whilst these constraints are also violable. The eventual output is thus determined by how many constraints are violated and their respective ranking. As Selkirk (2000, p231) puts it, “The claim is that the (grammatical) output representation generated on the basis of an input representation is not necessarily well-formed, in the sense of respecting all constraints, but rather is the optimal output representation possible, the one that best satisfies the constraint hierarchy. It is predicted, then, that a constraint may be disobeyed in some grammatical surface representation, but at the same time, that this constraint violation should arise only in order to satisfy some higher ranked constraint.”

The most important constraints are those that link syntactic constituents to prosodic constituents at the word, XP, and clause level. The particular approach I shall follow in this thesis will be Selkirk’s (2011) Match theory, though there are other instantiations, such as Selkirk’s (1995) Align approach, or Truckenbrodt’s (1995) approach.

(81) A: Match Clause: A clause in syntactic constituent structure must be matched by a corresponding prosodic constituent, call it ι , in phonological representation.

B: Match Phrase: A phrase in syntactic constituent structure must be matched by a corresponding prosodic constituent, call it ϕ , in phonological representation.

C. Match Word: A word in syntactic constituent structure must be matched by a corresponding prosodic constituent, call it ω , in phonological representation.

The above constraints ensure that any given clause is matched to an intonation phrase, any given XP is matched to a phonological phrase, and any given word is matched to a prosodic word. There are however two important additions to the above constraints which fundamentally affects what type of XP and prosodic word can be matched. First of all, only lexical words and their projections may undergo the matching process, thus functional words are not 'read' by the interface. This idea originates from Selkirk (1995), but is refined by Truckenbrodt (1999) into the lexical category condition:

(82) Lexical Category Condition

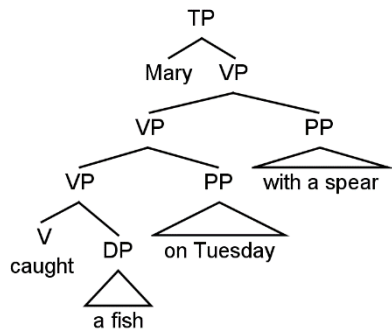
Constraints relating syntactic and prosodic categories apply to lexical syntactic elements and their projections, but not to functional elements and their projections, or to empty syntactic elements and their projections.

As we can see from (82), the matching constraints in (81) do not apply to functional elements. This is also the case for traces and other empty categories (pro, PRO, etc.) however, thus matching only applies to projections which have lexical items as their heads, and not to projections whose heads are filled by a trace or some other entity of zero phonological exponence.

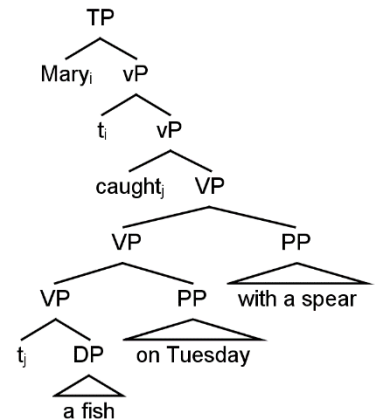
We have to refine the above even further when applying constraints to the syntactic output, specifically for the way we deal with adjuncts. Truckenbrodt (1999) claims that mapping constraints refer to syntactic categories and not to syntactic segments. Importantly, the constraints refer to material that is dominated by a given XP, where domination by a syntactic category entails that every segment of XP dominates any given material. This restriction brings about a fundamental difference in the possible prosodic phrasing of syntactic output, which is wholly dependent upon how simplistic an analysis is given of the syntax. It seems as though previous analyses (Truckenbrodt 1999, Selkirk 1995, Selkirk 2011) assume a simplistic analysis of the VP, whereby PP's (or other adjuncts) end up forming their own

phonological phrase since they are dominated by every segment of VP. We can see this in the syntactic trees below (below are their respective prosodic phrasings).

(83) A:



(83) B:



- (84) A: (Mary) (caught a fish) (on Tuesday) (with a spear)
 B: (Mary) (caught a fish on Tuesday with a spear)

Under such an analysis, ‘on Tuesday’ and ‘with a spear’ would form their own separate phonological phrases (84a), which is problematic for Bruening’s prosodic analysis of non-constituent coordination, since he assumes that the first prepositional phrase forms a phonological phrase with the verb and its object. However, if we take into account the vP shell analysis, all of the adjuncts are now dominated by vP and are subsequently within the same phonological phrase as the verb (84b)⁸.

Since I assume that (84b) is the correct prosodic representation of example (64), the question that remains is how does ‘with a spear’ end up forming its own prosodic phrase in example (64). I will follow Truckenbrodt (1995) and Selkirk (2007) in assuming that there is a

⁸ I should note that vP is to be analysed as a functional projection. However, I follow Gunez in assuming that “vP as a functional projection cannot be ignored as its head is where the verbal complex resides”. It ultimately ends up being matched to a phonological phrase due to the lexical verb sitting in its head.

constraint in place which deals specifically with how focused phrases are phrased in the interface. The constraint below is adapted from Selkirk.

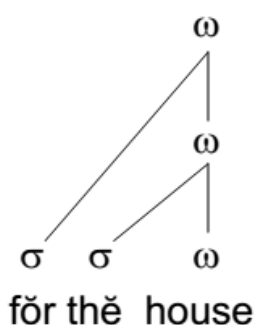
(85) $\text{Align}_R \text{ Focus: Align (Focus, R; } \phi, R)$

"Align the right edge of a Focus constituent in informational or syntactic structure with the right edge of a major phrase (MaP) in the phonological structure."

This constraint ensures that the right edge of a focused constituent matches with the right edge of a phonological phrase. For this constraint to take effect it must be ranked higher than a constraint of the match XP to ϕ type, which we assume is the case for English. In examples such as (84b) then, whereas Match Phrase would create a phonological phrase containing the verb, its object and the two prepositional phrases, Align Focus ensures that only the first of these prepositional phrases is contained within this phonological phrase: since ‘on Tuesday’ is focused, a prosodic boundary must occur to its right. Taking the above constraints into account results in the correct phrasing of example (64): the phonological phrasing is as we find in (73), which matches with Bruening’s (2015) interpretation of prosodic structure.

Though I claim that the preposition phrases in the above examples may be phrased as individual phonological phrases, this is not the case. Since prepositions are themselves functional and are unable to be matched to a prosodic word, we must assume that a prepositional phrase cannot match to a phonological phrase either via Match Phrase: it is the NP which undergoes Match Phrase in these cases. With regards to the prepositions themselves, since they are functional elements, they are also unable to be matched with a prosodic word. This leaves us with the problem of what we do with functional elements. This issue is of great relevance for this thesis since we have to consider how all functional elements fit into such a theory. This is important when evaluating how a prosodic analysis can deal with a large variety of fragments. I will follow Ito and Mester (2007) in assuming that functional elements are built into a recursive structure at the prosodic word level. Thus, for a prepositional phrase such as ‘at the house’, the structure would be as in (86).

(86)



As we can see from (86), since ‘for’ and ‘the’ are both functional elements and do not automatically get matched to a prosodic word at the interface, they must instead be combined with a prosodic word (any lexical word in the syntax). In (84) then, ‘spear’ is a prosodic word, though it is also a phonological phrase. Since ‘with’ and ‘a’ are both functional, they both attach to ‘spear’ in the manner seen in (86).

4.2. Extending this approach to similar constructions: gapping and right node raising

In attempting to extend Bruening’s analysis from non-constituent coordination to both gapping and right node raising, it is my aim to determine whether such an analysis is construction specific, or if it is able to deal with a variety of elliptical constructions. Evidently, if such an analysis was only applicable to one construction then we would have to question the analysis on empirical grounds, since a construction specific elliptical process is not desirable. I claim however that this may not be the case, and that if we Bruening’s prosodic analysis, it may feasibly extend to other constructions too, as we can see from the discussion above. In non-constituent coordination, gapping and right node raising, I will follow Hartmann in claiming that these constructions are not licensed by some specific mechanism, but rather that syntactic, semantic and prosodic parallelism plays a role.

Féry and Hartmann (2005) and Hartmann (2001) take a similar approach to Bruening in their analysis of right node raising and gapping⁹. Unlike Bruening, whose focus is solely on

⁹ Interestingly, as noted by Hankamer and Sag (1976) and Sag et al (1985), Gapping may occur across speakers as in the examples below.

(1) A: I shall miss you.

B: and I you

(2) A: Ivan is now going to peel an apple.

B: And Jorge, an orange

In appearance, the above examples appear to be similar to cases of fragments we have seen in section 2. In both cases the remnants are part of a larger syntactic structure, and in both cases this structure is isomorphic to previous discourse. I would argue that non-constituent coordination may also occur across speakers, similar to the cases of gapping above.

(3) A: Mary caught a fish with on Monday with a fly rod.

B: And on Tuesday with a spear!

the operation of deletion of elements occurring at the prosodic level, Hartmann & Féry, and Hartmann, consider the semantics, pragmatics and the syntax of right node raising and gapping. Both analyses aim to give a thorough presentation of the prosodic and focus structures of the above constructions. These detailed analyses present us with information that is directly relevant to the prosodic hierarchy and its organisation: one such example is the use of boundary tones and their correlation with the boundaries of both intonation and phonological phrases. What is highly relevant here however is their discussion of the licensing of both right node raising and gapping. In their view, the elliptical process occurs at PF, though syntax is not the only element responsible for the licensing of ellipsis in the constructions under discussion. The above elliptical constructions are the result of various factors: they are determined by semantics, syntax, focus structure and prosodic structure. It is important to note that, when we talk about syntax and semantics having a role in these constructions, it is merely, as Hartmann puts it, that they “provide a structure to the PF interface which may trigger RNR deletion” (p114). Essentially, this entails the fact that both gapping and right node raising comprise coordinated sentences “which exhibit identical focus background structures in the two (or more) conjuncts”. Not only do we find that the syntax of such constructions is symmetric with regards to the two conjuncts, but additionally, we also find that they are relatively symmetrical with regards to the prosody. In this sense we can say that right node raising and gapping share these properties with non-constituent coordination: all three constructions have symmetric syntax and prosody. With regards to prosody, focus structure is key to the possibility of ellipsis in the constructions under question. We can see this in the following example of right node raising.

(87) Hanna hummed ~~a melody~~ and Erika sang a melody.

In the above example the verbs 'hummed' and 'sang' are contrastively focused, which in RNR structures is always accompanied with a pitch accent. The material that is deleted in RNR, termed the ‘target’ along with its non-deleted counterpart, is deleted as a consequence the need to “avoid superfluous repetition of phonetic material”. Féry and Hartmann give this the term ‘radical deaccentuation’, which is significant since the deleted materials non-deleted

Such a comparison is useful in bringing all of the constructions which I am dealing with in this thesis together, though I should note that, since the deleted element in right node raising occurs in the first conjunct, such an analysis is not possible, which distinguishes it from RNR, Gapping and fragments.

counterpart is also deaccented: in example (87) for instance, ‘a melody’ in the second conjunct would be simply deaccented, receiving no stress, whilst ‘a melody’ in the first conjunct undergoes complete deaccentation, or rather deletion. Though these facts may seem completely irrelevant, especially when considering non-constituent coordination and the lack of non-focused material in the second conjunct, what is important here is the motivation for such deaccentuation. Féry and Hartmann discuss the notion that deaccentuation is determined by situational-contextual information as well as the extra-sentential linguistic context (e.g. a question preceding the RNR utterance). They claim however that this may not necessarily be the case, arguing that “the focus and accentuation structure of one conjunct may influence the focus and accentuation structure of the other, irrespective of the preceding linguistic and non-linguistic context”. This claim is the result of their analysis of the phrasal and accentual patterns of both RNR and Gapping, which concluded that whilst the extra-sentential discourse generally determined the focus structure of the above constructions, the requirement for contrastive focus on elements within the two conjuncts was able to override these factors. Additionally, the deaccenting of elements occurred within a conjunct even though the extra-sentential discourse did not provide the context for such deaccenting. Overall, these facts seem to confirm that various factors come into play to determine the phonological/ prosodic shape of an utterance. With regards to the process of deletion then, it is the combination of the semantic and syntactic shape of the utterance, plus the focus, phrasal and accentual requirements which underlies both right node raising and gapping. In Féry and Hartmann (2005), and Hartmann (2000), the process which leads to the structural makeup of both RNR and Gapping is thus far more nuanced than is found in strictly syntactic approaches.

What can Féry’s Hartmann (2005), and Hartmann’s (2000), analysis of Right Node Raising and Gapping tell us about the licensing of the deletion elements in non-constituent coordination? First of all gapping, RNR and on-constituent coordination are all coordinated structures, and thus the notion that “one conjunct contributes to the determination of the focus structure of the other conjunct” may also apply in non-constituent coordination. Another important factor here is the consideration of focused elements. In RNR, gapping and non-constituent coordination, two (or more) conjuncts contain a contrastively focused element which ultimately contrast with each other.

(88) John [WALKED] and Julia [CYCLED] to school. (RNR)

(89) John walked [to SCHOOL] and Julia [to WORK]. (Gapping)

(90) John drove [to CHICAGO] [IN THE MORNING] and [TO DETROIT] [IN THE AFTERNOON]. (NCC)

In non-constituent coordination, what we see is almost a mirror image of RNR and Gapping, however in NCC, within one conjunct there are two contrastively focused elements rather than just one. The question here is whether we can claim that deletion in NCC, just like RNR and Gapping, is a case of “radical deaccentuation, to avoid superfluous repetition of phonetic material” and whether this deaccentuation may also be related to the need to have strongly contrastive elements. Going back to RNR and Gapping, remember that the element which corresponds to the deleted element is also deaccented, even though this may be unexpected considering that it may be new information. Although my aim in this thesis is not to carry out an analysis of the accentual/ focus structure of NCC, I do believe that we see a similar effect in non-constituent coordination, which I have confirmed with other native speakers of English. Just like we would see ‘to school’ deaccented in example (89), in example (90) we also find that ‘drove’ is also deaccented. This is interesting considering that example (90) would be in response to a question such as ‘What did John do yesterday?’: ‘drove’ is thus new information and should receive an accent, but in fact it is not focused. This shows that in NCC we also see that extra-sentential requirements (i.e. the need to place narrow focus on ‘drove’ in example (90)) are overridden by intra-sentential requirements (the need to contrastively focus ‘to Chicago’ and ‘to Detroit’, and ‘in the morning’ and ‘in the afternoon’ in example (90)). These facts may hint at a process of ellipsis/non-pronunciation which occurs after the syntax.

Since it is clear that there are many similarities in non-constituent coordination, gapping and right node raising, it is interesting to consider how Bruening’s analysis might also work for both RNR and gapping. First of all, let us consider how examples of both phenomena would be prosodically phrased.

(91) (John) (walked to school) and (Julia) (~~walked~~ to work). (Gapping)

(92) (John) (walked) (~~to school~~) and (Julia) (cycled) (to school). (RNR)

It would seem that it is possible to extend Bruening’s analysis to examples of gapping if we adapt his analysis ever so slightly. Evidently we are dealing with two phonological

phrases in cases of gapping, however the first phonological phrase is a focused element, and is thus resistant to deletion. In the second phonological phrase however, it is the head that is focused whereas the verb is the given element. In such cases we can then assume that all but the head is deleted in this phonological phrase. Under such an analysis then, gapping seems very similar to non-constituent coordination, however can we say the same for right node raising? right node raising differs slightly in that we are dealing with three separate phonological phrases in both conjuncts, and the deleted element occurs in the first conjunct and not the second. In right node raising, a phonological phrase boundary occurs to the right of the verb since the verb is a focused element, which ultimately ensures that 'to school' is also wrapped in its own phonological phrase. For RNR we would have to propose the possibility of deleting an entire phonological phrase as long as that given phrase contains all given/ non-focused information (e.g. the deletion of 'to school' in 92). If we take into account the fact that deletion may target either an entire phonological phrase (RNR) or all but the head of a phonological phrase (gapping, NCC), it is possible to formulate a rule which says that if a given phonological phrase contains given/non-focused material, delete from left to right until the head, and if the head is also given, delete the head of the phrase. Though this formulation is rather clunky, for the time being what is important is that I predict that within a prosodic analysis, deletion cannot take place in the opposite direction: we should not see a phonological phrase which contains a deleted head but non-deleted material to its left. Evidently, all of the phenomena we are dealing with consist of remnants that are focused in some way, whether that be contrastive or information focus, thus in these cases the prediction should be correct, since the focused element will always produce a phonological phrase boundary to its right.

4.3. A prosodic account of Fragments

In section 3 I laid out the background to Bruening's (2015) prosodic analysis of non-constituent coordination, whilst in section 4.2. I extended this to both gapping and right node raising, which has left me with the task of extending the prosodic analysis of ellipsis to fragments. This will be the main aim of this section. We will see that, for such an analysis to work with a broad range of fragment answers, it will have to be extended even further. Additionally, we will find that certain problems arise under a prosodic analysis regarding functional elements: in many cases we find that such elements have been deleted (e.g. What did you do to the vase? I broke it) even though it is usually the prosodic word level that is

targeted for deletion. I will attempt to address these issues to see if a prosodic analysis can deal with all possible data. To begin this investigation I will deal with examples to which a prosodic analysis may easily be applied. I will then progress to those examples which prove more difficult, and those issues that I have mentioned so far.

4.3.1. Phonological phrase deletion

Let us first think about simple fragment answers such as those in (93) and (94).

(93) A: How did he get there?

B: By car.

(94) A: Where are you going?

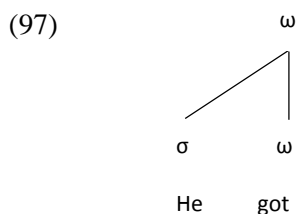
B: To Italy.

It is possible to analyse the above examples in a similar way to which I analysed earlier examples of non-constituent coordination and gapping. I have provided the prosodic structure of these fragments answers below (the head is indicated by H).

(95) (~~He got there~~ H by car)

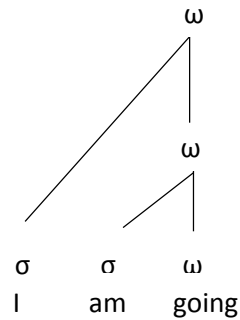
(96) (~~I'm going~~ H to Italy)

In the prosodic structure of (95) the subject is a pronoun, which is considered to be a functional element, and is thus not a prosodic word in its own right, nor does it match to a phonological phrase. Because of this, the pronoun must form a complex prosodic word, which I assume to be in the same vein as what we saw in the previous chapter for the preposition phrase 'for the house'.



For examples such as (96) which contain an auxiliary, modal or copula, I also assume such an analysis. For (96) I assume that both the pronoun and the copula, which are both functional elements and thus cannot match a prosodic word, form a complex prosodic word with the verb: I have highlighted this in (98).

(98)



Though highlighting the specific structure of functional elements does not prove to be a problem for the present examples being analysed, this is of great relevance for examples I shall discuss later. It is important to note that such examples (95 and 96) differ significantly from those that contain a lexical subject, since lexical subjects match to prosodic words and to phonological phrases. Thus, (95) and (96) would consist of two phonological phrases if they contained lexical subjects in contrast with the single phonological phrase due to the subjects being pronouns. The important point here is that ‘by car’ in example (95) and ‘to Italy’ in (96) are both the heads of their respective phrases. Considering the discussion of functional elements, we can also claim that they are prosodic words, since the prepositions create a prosodic word along with the respective nouns. In such cases then it is unproblematic to propose that deletion targets all but the head in both examples, with the fragments consisting of the heads of both phrases. There is one question that remains for the fragment in example (95): ‘to Italy’ is not the only possible response, since it is possible for the preposition to also be deleted in such cases (99).

(99) A: Where did she go?

B: ~~She went to~~ Italy.

I will return to this possibility later in this chapter when I deal with the deletion of functional elements.

4.3.2. Complex sentences: IntP deletion

Whilst so far I have only dealt with examples which consist of only one CP, and thus only one intonational phrase, we also find that, assuming the full sentential analysis, fragments may be remnants of a structure larger than a single CP.

(100) A: Why didn't she want to go?

B: $\iota(\phi(\text{She didn't go})) \iota(\phi(\text{because she was ill}))$

(101) A: When did he leave?

B: $\iota(\phi(\text{He left})) \iota(\phi(\text{after the movie ended}))$.

In such cases, since each level has its own head, it would be desirable to propose that if the head of the clause is not focused, then the entire intonation phrase may undergo deletion. Since in these examples the first intonation phrase contains no focused elements, the head of the intonation phrase naturally occurs to its right ('left' in example (101b) and 'go' in example (100b)). Such an approach may be the most optimal approach since it would also implicate other levels besides the phonological phrase and the prosodic word level. It would also seem that, in terms of economy, deleting an element at the clause level is more desirable than deleting at the next level down. This would thus be possible if the higher level may 'see' into the structure below it. We could then stipulate that the deletion process is not restricted solely to the phonological phrase level, but that it may apply to the levels above it too. At the syntax-prosody hierarchy we could propose a rule which tells each level to search for a focused head, and if that head is not focused, delete that given phrase.

Prosodic Deletion: if the head of a phrase is non-focused/ given, delete the entire constituent.

Such a process would operate from top to bottom to those levels that are relevant to ellipsis: perhaps from intonation phrase down to the phonological phrase since it seems that deletion only appears to target either an intonation phrase or phonological phrase. I argue that this process would apply from the top of the prosodic structure to the bottom as I claim that, if it is possible to delete a structure at a higher level, this is more economical: thus, if an intonation phrase contains all given material it is deleted without looking into all of the structure below it (it need only look to the head). This is more desirable than applying the deletion locally at every level from bottom to top, since deletion of an intonation phrase after already deleting its respective phonological phrases would be superfluous. This is simply a way of accounting for the process more generally so that we do not have to rely on a process geared specifically at one given level of the prosodic hierarchy.

4.3.3. Non-constituent remnants

As we saw in chapter 2, if an intonation phrase contains a focused element, it is this focused element which becomes the head of that phrase. This is thus not problematic for cases

where the rightmost element in an intonation phrase is given/ non-focused since the head has simply shifted to a focused element: I show this crucial point in the example below.

(102) A: Was he upset?

B: Yes, (~~he was~~ very) (~~upset~~).

Whilst in a wide focus sentence the head would occur to the right (e.g. 'What is wrong with him?' 'He is very upset.': 'upset' is the head here), in a narrow focused sentence such as (102b), the head shifts to the focused element 'very'. The head of the intonation phrase is focused, which means that deletion will not apply on the intonation level. This is in contrast with (100b) and (101b), whereby the first intonation phrases will simply be deleted since neither contains any salient elements. For phonological phrases however, as we saw in chapter 2, the head of a phonological phrase is always to the right of a phonological phrase: whether something is deleted on the phonological level is dependent upon whether the rightmost element is focused or not. This then is the fundamental difference in the process at the intonation phrase level and phonological phrase level. I suggest here that if the head of an intonation phrase is a focused element, the level lower is then checked. Each phonological phrase is then checked for a focused/ prominent head. It is not very common to have deletion target multiple phonological phrases within a clause, however I provide an example below to highlight the above process.

(103) A: Did you have sausages and eggs for breakfast?

B: No, (~~I just~~) (~~had~~ sausages) (~~for breakfast~~).

I argue that the reply 'just sausages' in (103b) is built up of remnants of separate phonological phrases, in each case consisting of a head of that phonological phrase, with the third phrase being deleted entirely. At the intonation phrase level, since the head (I consider 'sausages' the head of the intonation phrase) is focused, deletion cannot apply at the intonation phrase level. The phonological phrase level is then checked, yielding the eventual output in (103b): all but the head is deleted in the first and second phonological phrase, whilst all of the third phonological phrase is deleted since the head is non-focused. It is important to note that the fragment answer in (103b) cannot be analysed in any other way: the adverbial element 'just' cannot occur elsewhere within the clause. This would also be the case for an example like (104), whereby 'just' is again restricted to a specific adverbial position within the clause.

(104) A: Did you make it on time?

B: (~~I just~~) (~~made it on time~~).

Under a prosodic analysis, the fragment ‘just sausages’ in (103b) is resolved in a simple manner, with a simple set of rules, which distinguishes it from the syntactic approach. Under the syntactic approach, both the adverbial element and the noun would need to move out of the TP, with both moving as phrases to specifier positions within FP (or focus phrase) and subsequent deletion of TP. As mentioned in section 2 however, this movement does not seem empirically motivated, and arguing that it is PF only movement as some form of last resort mechanism does not improve matters. This is also the case for multiple fragments however, such as in the gapping example in (105).

(105) A: Who likes what?

B: (John) (~~likes~~ carrots) and (Bill) (~~likes~~ leeks).

Under a prosodic analysis though, we simply stipulate that in the second phonological phrase in each conjunct, all but the head is deleted.

How can the above work under a prosodic analysis? Since I assume that the head plays an important role in the deletion process, it is possible to change the analysis somewhat so that it accounts for all examples so far, plus the issue above. I put forward the possibility that the deletion occurs from right to left within each phonological phrase: if the head is not salient, everything deletes from right to left, whereas if the head is salient/ focused, the phrase is checked until the first non-focused/given element, and from that point deletion takes place. Such an approach is economical in a similar vein to my claim that deletion occurs from top to bottom in the prosodic hierarchy: I assume that it occurs from right to left since the head plays a major role in where deletion may apply, and since we are dealing with English, the head falls on the right of a phonological phrase. If a head is non-focused, this automatically enables deletion to apply to everything within a phonological phrase. Whereas if it was to apply from left to right, every single element would have to be checked, even in cases where there is no focused material. This could then explain all of the examples we have seen so far, such as (95) and (96). This would also help to explain those cases where nothing is deleted at all, such as (100b) and (101b) whereby all information is new. It would also help to explain examples in which only the subject is deleted, such as in (106) or where the subject and an auxiliary are deleted as in (107).

(106) A: What are you doing tomorrow?

B: (~~I am~~ Going to Italy)(~~tomorrow~~).

(107) A: Louise told me John got sacked – what did he do?

B: (~~He~~ broke the rules).

Returning to the examples above then, in (106b) and (107b) the deletion process may only apply from right to left only from the leftmost given element. Though this process usually targets everything to the left of the head, if there are prosodic words to the left of the head which are not given the process is delayed (i.e. the process of deletion must search for any remaining given prosodic words to its left). For the sake of economy, it would be desirable to have some kind of restriction on when the checking process takes place so that not every utterance is checked for given information to be deleted. An example here would be a feature that marks given information during the syntax or the interface and licenses such a checking mechanism in the first place. As mentioned above however, I do not wish to give any firm answer here. I simply assume that there is some mechanism which informs the interface as to whether deletion is applicable.

4.3.4. Complementizers and maximal deletion

I would now like to move on to further examples which I believe are resolved in a simple way under a prosodic analysis. One such example is (108).

(108) A: What Balkan language does she speak?

B: $\iota(\phi(\text{She speaks Albanian})) \iota(\phi(\text{I think}))$.

C: $\iota(\phi(\text{I think})) \iota(\phi(\text{that she speaks Albanian}))$.

Under a prosodic analysis, we are able to account for the fragments in both (108b) and (108c). In both cases, in the phonological phrase that is parallel with the previous discourse, all but the head is deleted since only the head is new/non-given information. The difference between (108b) and (108c) is simply boiled down to the ordering of the two clauses. Under such an analysis, we are also able to explain why the fragment in (109) is ungrammatical.

(109) * $\iota(\phi(\text{I think})) \iota(\phi(\text{that she speaks Albanian}))$

In (109) the complementizer cannot be focused, and because of this it is susceptible to deletion. Since it is not focused, it cannot form its own phonological phrase boundary and must occur within the same phonological phrase as the rest of the material in the second phonological phrase. The result of this is that there is no possible way that the complementizer may survive the deletion process occurring in the phonological phrase in the second intonation phrase. This then brings us to a specific feature of a prosodic analysis of ellipsis. In a given phonological

phrase, if deletion does take place, it must continue all the way to the edge of that phrase from which ever element that first undergoes deletion. This rules out the possibility of stranding undeleted material to the left of a phonological phrase, which is what we see in the ungrammaticality of (109).

4.3.5. Single word fragments

Having seen the basic ingredients of the analysis, in this section I turn to examples that proved to be problematic under a syntactic analysis. The first is example (51) from above, given in (110), whereby the fragment consists solely of an adverbial element and a negative element.

(110) A: Do you think you will go to work tomorrow?

B: (~~I will~~) (probably) (not) (~~go to work tomorrow~~).

Under a syntactic analysis such an example is problematic since the adverb and the negative element do not form a constituent in the syntax. As mentioned earlier, there are also issues with regards to both projections moving individually to the left periphery at PF. Under a prosodic analysis however we can easily resolve such fragments. Normally the above sentence would be composed of three phonological phrases: one encompassing the subject and modal verb, one encompassing the adverb, and one encompassing the vP including the negation. However, since the negative element is focused, an extra boundary is inserted after the negation so that focus is aligned with a phonological phrase. In (110b) then we have a unique case of a functional element being contained within its own phonological phrase, whilst it is also the head of this phonological phrase, and because of this we must also stipulate that ‘not’ must actually be promoted to a prosodic word in order to be the head of this phrase. Interestingly, Zec (2002) in her discussion of functional elements in standard Serbian, she claims that only disyllabic functional words may be promoted to prosodic word status: this is a result of the introduction of a constraint (PWORDSIZE) which is higher ranked than Match Word. In order to account for (110b) then, in which we find a monosyllabic word, for which Zec's constraint does not hold, we would have to propose an extra constraint, which forces any functional word to be promoted to a prosodic word when focused (such a constraint simply means that any given word can be a prosodic word if focused).

(111) Match Word_{FOCUS}: any focused word in the syntax must be matched by a corresponding prosodic constituent, call it ω , in phonological representation.

Such a constraint would also be able to explain the possibility of fragments which contain only a preposition, such as in (112).

(112) A: Did you want your fish and chips without salt and vinegar?

B: No, ~~(I want my fish and chips)~~ (with) ~~(salt and vinegar)~~.

In (112), the preposition ‘with’ is the only element which survives at the interface: in this case the preposition is contrastively focused with respect to another preposition in the previous discourse. Under a prosodic analysis, the only way to account for the possibility of (112b) would be to resort to the constraint above, thus allowing a functional element to be prosodic word and ultimately be the head of a phonological phrase. Returning to (110), (50), repeated here as (113) was also problematic under a syntactic analysis.

(113) A: Do you want to want to go to the cinema tomorrow?

B: ~~(I do not really)~~ ~~(want)~~ ~~(to go tomorrow)~~.

Again, just like (110), the remnants in (113b) do not form a constituent, thus we would have to rely on the individual movement of the NegP and AP under a syntactic analysis. Under a prosodic analysis however, we simply rely on the process of deletion applying from right to left from the first given element in the first phonological phrase. In combination with the complete deletion of the second phonological phrase (given that its head is not focused), this produces the structure we find in (113B).

4.3.6. Fragments inside syntactic islands

Though I argued in section 2 that islands should not be used to argue for a movement account of Fragments, I would like to briefly show how a prosodic analysis deals with such fragments. Under a prosodic analysis their grammaticality should follow naturally from the possibility to delete them at the syntax-prosody interface. As stated in chapter 2, as long as the context provides the possibility, then deeply (syntactically) embedded fragment should be possible.

(114) A: I heard that they want to hire a linguist that speaks a certain Romance language.

B: Yeah, ~~(they want)~~ ~~(to hire a linguist)~~ ~~(that speaks Italian)~~.

In (114b) the first two phonological phrases are deleted completely (since their heads are not focused), whilst in the third all but the head is deleted. Under a prosodic analysis there does not seem to be any specific restrictions upon the deletion process, which certainly helps

to explain why examples such as (114b) are not islands. Merchant (2004) assumes that movement of ‘Italian’ should be blocked as it should be an island under his analysis, however under a prosodic analysis there is no movement in the syntax and thus (114b) should be possible. My prosodic account predicts that island effects should never show up in fragments, which in turn forces me to say that island effects with fragments must be due to factors other than movement (e.g. the fragment answer is not licensed by the context – see section 2.5.2.).

4.3.7. Control verbs and the special status of infinitival *to*

In the previous section both examples 113 and 114 included a control verb, whilst in both examples I failed to provide their respective intonation phrasing. Evidently the phrasing of the above examples depends on what the complement of the verb is: if the control verb selects a CP, then there should be an intonation phrase break after the verb, whilst if it selects a TP there should only be a phonological phrase break. This brings me to an interesting fact regarding the restriction of fragments that consist of an infinitival complement: as we saw in chapter 2, example (63), such examples are ungrammatical, as we can see from (115).

(115) A: What do you want to do tomorrow?

B: *~~(I want)~~ (to go to the football match) (~~tomorrow~~).

Under a prosodic analysis, (115b) should be grammatical, as the verb phrase is matched with the second phonological phrase (‘tomorrow’ is its own phonological phrase due to align focus). The ungrammaticality of examples such as (115b) has been noticed by many (Zwicky 1982, Merchant 2004, Kim 2006), and is usually attributed to the unique properties of the infinitival ‘to’. There is a very strong preference for the element ‘to’ to attach to a given element on its left, rather than its right, similar to the possessive clitic ‘s’. In this sense it is dissimilar to other functional elements which always attach to a prosodic word on their right, which may be evidence for an infinitival ‘to’ being a clitic. If this is the case, we would have to assume that in those examples containing control verbs there is no intonation phrase break and thus control verbs do not select a CP (since the constraint Match Clause ensures that only CPs may match to intonation phrases). This would then allow the infinitival ‘to’ to attach to the control verb: Additionally, because of the preference to attach to a prosodic word on its left, this essentially rules out the option of having an infinitival fragment, thus explaining why (115b) is ungrammatical. The correct prosodic phrasing of (115b) then would be the following.

(116) (~~I want to~~) (go to the football match) (~~tomorrow~~)

Given the prosodic phrasing of (116) this ultimately rules out the possibility of ‘to’ avoiding deletion: ‘want’ is the head of the first phonological phrase and undergoes deletion, which also results in the deletion of ‘to’ which has cliticized to the head. Such examples are thus not problematic under a prosodic analysis. Further evidence for such an approach is the fact that it is possible to have control verb fragments which delete everything after infinitival ‘to’.

(117) A: You’re not going to Leiden tomorrow!

B: (~~But I want to~~) (~~go to Leiden tomorrow~~)!

If control verbs do indeed select a CP (which is matched to an intonation phrase) then (117b) is problematic, since ‘to’ should not be able to form a fragment with the control verb¹⁰. What we see however is the ‘to’ attaching to the control verb in the first phonological phrase, whilst the second phonological phrase undergoes deletion due to it containing all given/non-focused material.

4.3.8. Initial deletion of functional material

There is one final issue with a prosodic analysis which is visible in many of the examples I have described thus far. This particular issue regards the status of functional words and the possibility of them undergoing deletion. In the analysis I have described, it is usually the case that when a deleted element is deleted, this element in question is a prosodic word. So far this is the assumption that I have been working under. Thus, deletion usually targets the first given prosodic word on the right of a phonological phrase and then continues all the way to the left of the phonological phrase, deleting every given prosodic word from that point. However, in many examples, a prosodic word is not deleted: instead it is an element below the prosodic word level that is deleted. We can see this in the examples given below, whereby one or more functional elements are deleted.

(118) A: What will John do to the vase?

B: (~~He will~~ break it).

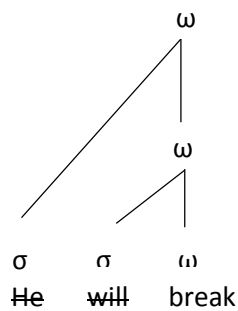
¹⁰ I argue here that this cliticization process cannot occur across an intonation phrase boundary, thus I assume control verbs do not select a CP since otherwise ‘to’ cliticization would occur across such a boundary.

(119) A: Did you have sausages and eggs for breakfast?

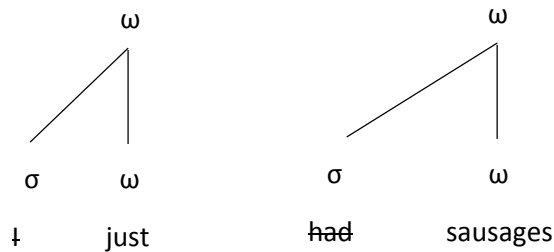
B: No, (I just) (~~had~~ sausages) (~~for breakfast~~).

In (118b) both the pronoun and the auxiliary are deleted, whilst in (119b) the pronoun is deleted in the first phonological phrase and the auxiliary is deleted in the second phonological phrase. In all of these cases, I assume that the functional elements form a complex prosodic word with the nearest prosodic word to their right, thus 'he-will-break', 'I-just', and 'had-sausages': this is highlighted by the prosodic structures below.

(120)



(121)



In examples (118b) and (119b) it is not the overall prosodic word which is deleted, as this would result in the deletion of the prosodic word to which the functional element attach to. There must be a possibility for prosodic deletion to target the elements which attach to a prosodic word in order to account for examples such as (118b) and (119b). Before I continue I would like to return to an issue that I first highlighted in 2.2.3.3.: the ban on deleting complementizers. Though deletion seems to apply to a large amount of functional elements (prepositions, pronouns, determiners), this is not the case for the complementizer 'that'. I claim that this is not possible since any clause which contains a complementizer is all new information and thus there is no given information to delete in the first place.

These facts appear to draw parallels with the possibility to delete functional elements at the beginning of an utterance in English, which has been referred to as left-edge deletion (Weir 2012), and initial deletion (Napoli 1982). Weir (2012) relies on an optimality theoretic account in order to account for examples such as (122), (123), and (124)¹¹.

(122) A: Why didn't you go to the party?

B: ~~I~~Didn't fancy it.

(123) A: Am I invited to the party?

B: ~~You~~ must be, surely.

(124) ~~Have you~~ seen Tom?

Weir's (2012) analysis of the above examples relies on a different analysis of functional words than that which I have set out above. Though he also relies on a constraint which ensures that only lexical items may match prosodic words, he does not assume that functional words form a prosodic word with the nearest prosodic word, as I have shown above. Instead, functional words seem to stand on their own under his analysis of the syntax-prosody interface: the functional element, which is a simple syllable at the interface, occurs to the left of the prosodic word (125).

(125) (σ I) (ω just) (σ had) (ω sausages)

The deletion of the functional elements at the beginning of an utterance in the examples (122) – (124) is the result of a constraint called StrongStart, following Selkirk (2011).

(126) STRONGSTART (Selkirk 2011)

A prosodic constituent optimally begins with a leftmost daughter constituent which is not lower in the prosodic hierarchy than the constituent that immediately follows.

For examples such as (124) I cannot give any precise answer to the issue of why there should be two elements deleted that are not given. Whilst most of the examples I have dealt with throughout this thesis have been parallel to some other structure, (124) does not fit this description: it is simply an out-of-the-blue question. It has been pointed out to me that in such contexts the deleted elements could indeed be interpreted as given. 'You' could be interpreted as given since there is only one possible respondent: this question cannot be directed at more than one person, and thus the only possible pronoun here is singular you. Since 'you' is deducible from the context, we can deem it a given element. For 'have' it has been suggested that it may be linguistically given: since 'seen' is perfective and 'have' is the default perfective auxiliary, this could also be deduced from the context.

The above constraint has been deemed to be responsible for the obligatory rightward shifting of weak pronouns in Irish, to avoid the intonation phrase beginning with a syllable (Elfner 2011), whilst it is thought to be responsible for the promotion of syllables to words to avoid a similar problem in Bosnian (Werle 2009)¹². Weir's reliance on the above constraint is problematic since, if it is responsible for such deletion, then this deletion should be obligatory. Instead in all of the examples given by Weir, the deletion of these functional elements is simply optional. It would also be incompatible with the analysis of function words sketched out above since these syllables actually form a complex prosodic word. The formation of this complex word may be enough to avoid violating a constraint such as STRONGSTART, though it is not completely clear that this constraint is operable in English. If we do assume that this constraint is functional however, we may be able to deal with our issue of deleting functional elements. I propose that the formation of a complex prosodic word via the attachment of functional elements to a prosodic word only occurs after the deletion process has taken place. Thus, either the functional elements (which are syllables) are deleted, or they attach to a prosodic word. In both cases we would avoid violating a constraint such as STRONGSTART. Functional elements are just as susceptible to deletion as prosodic words under such an analysis, which fits nicely with the fact that it may target any element.

As a consequence of this, there is an inevitable assumption with regards to the timing of the process of deletion. I proposed that deletion takes place after the match constraints (and other constraints) apply whilst it occurs before functional elements are built into prosodic words. Under such an analysis we would have to stipulate a division at the interface, with an interface between syntax and prosody and an interface between prosody and phonology: deletion would ultimately take place at this division. We would then have constraints which are applicable at the syntax-prosody interface (such as Match word, which ensures that prosodic structure is mapped accordingly) and the prosody-phonology interface (such as StrongStart, which ensures that weak elements at the beginning of a clause are shifted/promoted to prosodic word status). This would follow nicely since the match constraints are specifically relevant for the syntax, whilst constraints such as Strong Start only concern the phonology. Consequently, the approach I propose is very explicit on the timing of the process of ellipsis. Rather than stating very generally that ellipsis occurs post PF, I claim that ellipsis occurs at a very precise location: specifically this deletion operation targets constituents at the

¹² In English, Selkirk (2011) suggests that it may also be responsible for the process of rearranging the left edge of a word into feet in order to avoid a stray syllable, such as in the example 'Tàtamagóuchi': if such a constraint were not operable, then this would instead be 'Tatàmagóuchi'.

syntax-prosody interface. I should note that I assume that Merchant's analysis relies on the direct interface between syntax and phonology: i.e. syntax is the direct input to PF. Under an analysis that utilises the syntax-prosody interface however, there is an additional module before PF: this module takes syntax as its output, whilst it provides the input to PF. My approach ultimately relies on a different understanding of the interface and as a result, my approach would not be possible within the framework used by Merchant. Hopefully, if proven correct, my approach can offer a more explicit explanation for the timing of ellipsis. In contrast to the approaches mentioned so far, Baltin (2012) assumes that deletion actually occurs within overt syntax, and not after it unlike my approach and Merchant's mentioned above. Another approach which differs dramatically from all of those above is the one given by Bartos (2001), who does not rely on a deletion process at all. In this approach, which is based within the Distributed Morphology framework, it is assumed that, at least for the cases of right node raising and gapping, the lack of overt material is a consequence of the non-insertion of vocabulary items. Evidently, the discussion of where/when ellipsis occurs is rich in the variety of approaches which have been proposed so far. In proposing a prosodic approach, I hope to have contributed to this important discussion.

4.3.9. A possible extension to sluicing

To finalise this discussion I would like to briefly return to sluicing. Under a prosodic analysis, I believe that sluicing proves to be unproblematic, even less so than fragments.

(127) Peter was talking with someone, but I don't know (~~with-who~~) (~~he was talking~~).

First of all, in examples in which the entire prepositional phrase containing the wh-element moves to the left periphery, the above would be the appropriate phonological phrasing. I have simply phrased the two relevant phonological phrases: in the first, all but the head is deleted, since the wh-element is focused, whilst in the second phonological phrase, everything is deleted since the head 'talking' is non-focused/ given. We can also account for cases where the wh-phrase strands the prepositional phrase however (128).

(128) Peter was talking with someone, but I don't know (who) (~~he was talking with~~).

The only difference between (127) and (128) is the fact that deletion doesn't take place at all in the first phonological phrase, whereas the preposition gets deleted along with the second phonological phrase. This brings me to cases of cases of swiping (Merchant 2002). In order to account for examples in which the preposition occurs to the right of a wh-element

under sluicing, we can simply stipulate that, in contrast with (128) whereby all the second phonological phrase is deleted, in cases of swiping all but the head of that phrase is deleted, producing (129).

(129) Peter was talking with someone, but I don't know (who) (~~he was talking~~ with).

Regarding the ability of the preposition to be the head of a given phonological phrase, it has been noticed by Selkirk (2003) in her discussion of function words that function words must always appear in their strong forms when they are phrase final. Given the fact that the preposition in (129) is also stressed, it is highly probable that the preposition has been promoted to a prosodic word in this context. I believe that the above analysis provides a rather simple explanation for both sluicing and swiping.

4.4. Summary and future prospects

Under my prosodic approach to fragments, I propose that deletion may take place at the intonation phrase level and the phonological phrase level, whilst the heads of these phrases play a major role in determining how deletion applies. The process of deletion may either target the entire phrase, if the head of that phrase is given, or it may target elements to the left of the phrase, depending upon if those elements are given. A fundamental part of this analysis is that prosodic deletion cannot target elements in the middle of a phonological phrase: once the process of deletion applies to a given element, it must target all other elements within that particular phrase to the left of that element. For intonation phrases, the entire phrase may only undergo deletion if the head is given: if there is any focused material present then such a process cannot apply. I have attempted to apply this analysis to a large variety of examples, showing that a prosodic analysis is able to deal with fragments which a syntactic analysis is unable to account for, such as those which consist of syntactic non-constituents. I also make certain claims regarding the timing of ellipsis, placing the operation between the syntax-prosody interface and the prosody-phonology interface.

Although I have attempted to deal with much of the data in the literature there are certain issues that I have been directed to which might prove problematic under a prosodic analysis. The first of these is the unavailability of examples like (130B).

(130) A: Did you have eggs and sausages?

B: *(I just) (~~had~~ sausages)

Under the analysis I have proposed, such an example is not ruled out. Though I claim that the deletion process targets given elements within a phonological phrase, it is not clear how to prevent utterances such as (130B), whereby the process of deletion targets the second phonological phrase but not the first. It is possible that when the deletion operation is triggered, it must target every single possible given element within that utterance, though this would require an additional restriction to be placed on the deletion operation.

A final issue with my prosodic analysis is that throughout this thesis, I provided the appropriate phrasing based on a certain set of constraints found in the literature and on the basis of my own native speaker judgements, which were in line with them. The validity of these constraints should be checked with the use of phonetic experiments, to inform us whether the phrasing is correct. Due to the scope of this thesis, such experiments must be referred to future research.

Section 5. Conclusion

In section 2 I showed that there are many issues with a purely syntactic analysis of fragments, detailing the issues with the proposal that fragments are the result of movement of phrasal elements out of TP and the subsequent deletion of TP. In section 3 and 4 I laid down the groundwork for my analysis, building upon a prosodic analysis of non-constituent coordination by Bruening (2015). Throughout this process I fleshed out the analysis, giving a far more explicit explanation of NCC, whilst also extending this analysis to two other similar constructions: gapping and right node raising. I found that in order to do this, the prosodic approach had to be adapted ever so slightly, though the adaptations were certainly reflected by the prosodic and syntactic nature of these constructions. I claimed that the licensing of deletion in all of the constructions is not via a specific syntactic feature as in Merchant (2004) or Weir (2014), but rather is the consequence of the parallel nature of these constructions syntactically, prosodically, and semantically, following Hartmann (2000). I proceeded to extend this prosodic analysis to fragments, giving an alternative analysis to Merchant's (2004) syntactic approach. I showed in the beginning of this chapter that both non-constituent coordination and gapping may apply across speakers, which mirrors what we see for fragments. This adds further support to my reasoning to apply a prosodic analysis to fragments. I once again adapted this analysis in order to account for a broad range of examples, showing that deletion may target an entire phonological phrase, or it may target only portions of it. In all cases this deletion occurs from right to left, and begins from the rightmost given element, all the way to the left of a phonological phrase. Though in most cases it is a prosodic word that is deleted, I also provided a way to account for the deletion of elements smaller than a prosodic word, whilst still retaining my specific analysis of functional elements.

A consequence of my overall proposal is the division of the interface into two sections, one that concerns syntax and prosody, and one that concerns prosody and phonology: each section has its own set of constraints. This allows me to propose when exactly deletion occurs: after the syntax-prosody interface but before the prosody-phonology interface. I finally show that such an analysis may easily be extended to all cases of sluicing, whilst I also deal with those specific cases of sluicing which have been analysed as separate constructions (swiping).

One way in which the above analysis could be tested further is in the phonetic analysis of the full sentence counterparts of the fragments under investigation. This would give us the ability to evaluate the prosodic phrasing of all of the examples which would ultimately show

us whether such an analysis is actually viable. Unfortunately due to time constraints, such an analysis was not possible for this thesis, and instead must be left for future investigation. If the analysis turns out to be supported by phonetic data, however, then it may be worth extending it to other forms of ellipsis, such as VP ellipsis, NP ellipsis and other types. The result of such an investigation would lead to some important questions regarding ellipsis, in addition to providing many answers to already existing questions.

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