

Abstract

This thesis looks at what argument alternations, such as locative, dative and voice, and sprouting can reveal about the identity condition on ellipsis. The collected speaker judgements in this thesis indicate gradience, not only between alternations and sprouting, but also between different alternations under ellipsis, and between sprouting in different constructions. It then goes on to argue that three of the existing theories, those by Chung (2005), Merchant (2013) and Chung (2013), cannot account for some of the behaviour found. Then a new theory is proposed which can better account for the gradience, but still has issues. In order to account for these issues, a rough revision is made of this new theory, before it is concluded that alternations under ellipsis and sprouting indicate that the identity condition on ellipsis should account for gradience.

Preface

Two years ago, I had my first encounter with ellipsis. Of course, I had encountered it before, since I use ellipsis all the time when talking and writing. But I had never been aware of it, never realised how often we use silence as part of our language. In the end, this field of linguistic research that I had never heard of before ended up being my master's thesis. There are many people that I wish to thank for helping and supporting me this last year.

I was lucky enough to get two supervisors; my primary supervisor Andrew Weir and my secondary supervisor Tor A. Åfarli. Tor has been a great support with the Norwegian aspect of this thesis, and his comments always strived to help me improve. But, as my primary supervisor, Andrew Weir had to bear the brunt of my inquiries, and he has proven himself to be an amazing supervisor. Whenever I had a question, whenever I started to stress about the little details, he would be there answering, calming me down and patiently explaining, even helping me during his time off. This is illustrated by the large amount of e-mails exchanged this last year. It must be over a hundred. Thank you both for helping me do better.

I also wish to thank Karen, Ingvild, Ingrid and Simen. Their input was always welcome, and our lunches would always help keep my spirits up. They also helped me get in contact with the next person I wish to thank, Thomas, who proof-read my thesis. I also wish to thank the people in the master workshop, especially Turi Marte who organized it. This group has helped me keep motivated. I want to send a big thank you to the participant of my survey. Without them, I would have not data to build my thesis on. I want to thank my family for believing in me, and for loving me no matter what. And last, but not least, I want to thank my husband, Aleksander. His support has made this possible.

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1 Introduction

One of the main goals for contemporary theoretical linguists is to create a theory that can explain how sound and gestures are connected to meaning (Merchant, 2001). In ellipsis, this form-meaning correspondence appears to be gone. Here what is used in non-elliptical sentences to connect form to meaning, such as structures, algorithm rules and constraints, can no longer be seen (Merchant, 2016, p. 2)¹. But, even though the form-meaning correspondence breaks down in them, ellipses are everywhere in natural language (Merchant, 2001). This means that ellipsis is a central part of languages and any theory connected to them is an important part of any theory of language. If finding how form and meaning maps on to each other in non-elliptical sentences is central to contemporary linguistics, then finding how meaning mapped onto what is seemingly a frequently used silence is also part of this. Any objects found to be a requirement for the identity condition(s) of ellipsis will have to be accepted into theories of linguistic competence (Merchant, 2016).

This thesis looks at the identity condition on sluicing. The thesis question is *what can sprouting and alternations under ellipsis tell us about the identity condition on sluicing?* Its focus is the suggested partially syntactic identity condition on ellipsis, and what argument alternations and sprouting can tell us about what this identity condition should look like. I am looking at the theories made by Merchant (2013) and Chung (2005, 2013). These and other relevant theory is reiterated in chapter 2. Chapter 3 brings forward the data that has been collected, and chapter 4 discusses this data with regards to the theories by Chung (2005, 2013) and (Merchant, 2013) pointing out issues that these theories might have with explaining the data. Chapter 4 also includes a new proposal for how the partially syntactic identity condition might be realised. This is followed by a short conclusion.

¹ The book cited here had not been published when this was written.

2 Ellipsis: the theoretical background

In this chapter, the relevant theoretical background of this thesis is presented. The first part will be about what ellipsis is, what the big questions are within this field of research and the type of ellipsis that will be looked at here. Then, in the second part, I go into argument alternations and give a quick introduction into those, before I return to ellipsis in the last part. Argument alternations are explained in the middle because those theories are relevant for the third part which addresses why some think the identity condition on ellipsis must have some syntactic component. One thing that should be noted is that any grammaticality judgements in this chapter are those reported in the literature.

2.1 Ellipsis

Ellipsis has been defined as ‘meaning without form’ (Merchant, 2016). In other words, meaning is conveyed without any linguistic form, such as orthography, sound, and gestures. Ellipsis is a type of anaphor. This means that ellipses get their meaning from an antecedent that is found in their context (Merchant, 2016, p. 27). Hankamer and Sag (1976, p. 408) say that ellipsis is when a clause with a corresponding constituent in another clause has been deleted. According to Merchant (2001, p. 1), ellipsis is a way to make expressions economic by omitting some types of information because they have become redundant because of specific types of context.

According to Craenenbroeck and Merchant (2013), ellipsis can be divided into three types: predicate ellipsis, clausal ellipsis and nominal ellipsis. The types of ellipses that are defined as predicate ellipsis are roughly characterised as ellipses where the main predicate of the clause is missing. One or more of its internal arguments are often also missing in this type of ellipsis. The inflectional domain and the canonical subject position are outside the scope of these ellipses and are therefore not affected. The main types of ellipses that are categorised as predicate ellipsis are verb phrase ellipsis (VPE), pseudogapping, British English *do*, Modal Complement Ellipsis, and Predicate Phrase Ellipsis. Amongst these, VPE is the most researched (Craenenbroeck & Merchant, 2013, p. 702).

Some examples of predicate ellipsis

- (1) Mary said she would win the race and she will. (*VPE*)
- (2) Bill sent an invitation to Tom, but he couldn't to James. (*Pseudogapping*)
- (3) Jan wil niet meedoen, maar hij moet. (*Modal Complement Ellipsis*)²

John wants not participate but he must.

'John doesn't want to participate but he has to.'

- (4) Ian is out mowing the lawn, though he would rather not be. (*Predicate Phrase Ellipsis*)

Craenenbroeck and Merchant (2013, p. 718) define clausal ellipsis as a type of ellipsis where an entire clause is missing. This includes the canonical subject position and the agreement domain, though it is not unusual that one or more clause internal constituents are outside of the ellipsis site. The types of ellipses that are considered clausal ellipses are, sluicing, swiping, spading, sprouting, fragment answers, gapping, stripping, and null complement anaphora. Sluicing, wiping, sprouting and spading are related to each other. Sluicing is the most basic of these, and also the most researched.

Some examples of clausal ellipsis in English

- (5) John said he wanted to leave, but he didn't say why. (*Sluicing*)
- (6) They were having a heated discussion, but I don't know what about. (*Swiping*)
- (7) Jef eid iemand gezien, mo ik weet nie wou da. (*Spading*)³

Jef has someone seen but I know not who that.

'Jef saw someone, but I don't know who.'

- (8) Kim was painting, but I don't know what. (*Sprouting*)
- (9) John can dance tango with Mary but not Sarah. (*Stripping*)
- (10) John ate steak and Sara fish. (*Gapping*)
- (11) Q: Who won yesterday's race?

A: Kim. (*fragment answer*)

² For more of MCE see Aelbrecht (2010b). English does not have Modal Complement Ellipsis.

³ This example is taken from Craenenbroeck and Merchant (2013, p. 718)

Examples of clausal ellipsis⁴ in Norwegian⁵

- (12) Ola visste at Kim hadde gjort noe, men han visste ikke hva. (*Sluicing*)
Ola knew that Kim had done something, but he knew not what
'Ola knew that Kim had done something, but he didn't know what Kim had done.'
- (13) Tor leste en bok, men jeg vet ikke hva om. (*Swiping*)
Tor read a book but I know not what about.
'Tor read a book, but I don't know about what.'
- (14) Ole tegner, men jeg vet ikke hva. (*Sprouting*)
Ole draws but I know not what.
'Ole draws but I don't know what.'
- (15) Kjell ga Sondre en gave, men ikke Tone. (*Stripping*)
Kjell gave Sondre a gift, but not Tone.
'Kjell gave Sondre a gift but he did not give Tone a gift.'
- (16) Tone tok bussen og Kjærsti toget. (*Gapping*)
Tone took bus.DEF and Kjærsti train.DEF
'Tone took the bus and Kjærtsti the train.'
- (17) Q: Hva vil du spise til middag i dag?
What want you eat for dinner today
'What do you want to eat for dinner today?'
- A: Pizza. (*Fragment answer*)
Pizza.
'Pizza.'

The third main type of ellipsis, nominal ellipsis, is when a nominal expression is missing the head noun or a nominal phrase. Though they are not visible there is still evidence for their presence in how word that normally must agree with nouns still do in these ellipses (Craenenbroeck & Merchant, 2013, p. 731).

⁴ Spading cannot be done in Norwegian, to my knowledge, with the possible exception of 'hvorfor det' (why that).

⁵ Norwegian examples of clausal ellipsis has been included because this is the type of ellipsis that will be looked at here.

English nominal ellipsis

- (18) Sarah bought two books, and Stefan bought five. (*Noun phrase ellipsis*)

Norwegian nominal ellipsis

- (19) Selv om Sarah har kjøpt seg et rosa hus, betyr ikke det at
Even though Sarah has bought herself a.NEUT pink house means not it that
jeg vil ha et /*en /*ei.
I want have a.NEUT/a.MASK/a.FEM
'Sarah buying a pink house does not mean I want one.'

As is shown in the Norwegian example, the determiner 'et' has to match the gender of the elided NP 'hus' which is neuter, suggesting that the noun is still there.

2.2 The three questions

Within the study of ellipsis, there are three main questions that have been the focus of research: the structure question, the licensing question and the identity question (Merchant, 2016, pp. 4-5). The structure question asks whether or not there is syntactic structure in ellipsis sites. The licensing question asks what types of heads, structures or positions are needed for ellipsis to occur and what the locality condition is between these and the ellipsis site. The identity question asks what the relationship is between the elided material and its antecedent.

2.2.1 The structure question

The structure question is about whether there is structure in ellipsis sites or not. This question has only two possible answers: yes, there is structure in ellipsis sites or; no there is no structure in ellipsis sites. There is still ongoing discussion on which of these are right. The main idea is that if there is full structure in an ellipsis site, the ellipsis site would have to follow the same rules as that of its non-elliptical counterpart. This means that if there is movement going in the ellipsis site on, traces of it should be evident, and any rules applying to non-elliptical counterparts should also apply to ellipses (Craenenbroeck & Merchant, 2013, p. 707). This means that the ellipsis should behave in the same way as its non-elliptical counterpart when it comes to things such as movement, case, preposition stranding etc.

Evidence has been found that this is often the case, but not always. For example, languages that allow for preposition stranding in non-elliptical sentences will allow for preposition stranding in elliptical ones. Languages that do not allow for preposition stranding, also require the preposition to be pied-piped in sluicing (Chung, 2005, p. 79; Merchant, 2001, pp. 91-107). One such language is German.

- (20) Anna hat mit jemandem gesprochen, aber ich weiß nicht mit wem.
Anna has with someone spoken but I know not with whom
'Anna spoke with someone, but I don't know with whom.'
- (21) *Anna hat mit jemandem gesprochen, aber ich weiß nicht wem.
Anna has with someone spoken but I know not who
'Anna spoke with someone, but I don't know who.'

(Merchant, 2001, p. 94)

I will return to this phenomenon and its implications for sluicing in more detail later.

Another indication of structure in ellipsis is that the case of the remnant of sluices, i.e. the wh-phrase, must match in case with its correlate in its antecedent when the correlate is overt (Merchant, 2001, p. 90).

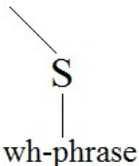
- (22) Er will jemanden loben, aber sie wissen nicht wen.
He wants someone.ACC praise, but they know not who.ACC
'He wants to praise someone, but they don't know who.'
- (23) *Er will jemanden loben, aber sie wissen nicht wer.
He wants someone.ACC praise but they know not who.NOM
'He wants to praise someone, but they don't know who.'
- (24) *Er will jemanden loben, aber sie wissen nicht wem.
He wants someone.ACC praise but they know not who.DAT
'He wants to praise someone, but they don't know who.'

(Merchant, 2001, p. 89)

The fact that prepositions and case behave in the same way when there is ellipsis as when there is no ellipsis indicate that there must be syntactic structure inside the ellipsis site. How else can these syntactic phenomena be explained?

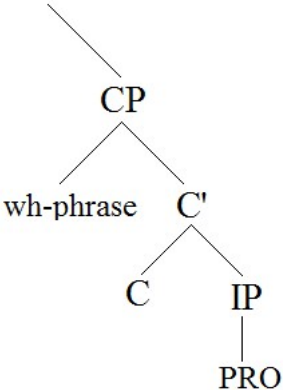
The answer to the structure question can be divided into two main approaches: structural and non-structural. There are many different approaches when it comes to ellipsis. In this thesis, a short explanation of four approaches will be given to illustrate the differences in how the structure question has been solved, and to give an overview of the field. These four will be the WYSIWYG, deletion, non-structural PRO and LF-copy approaches. First the non-structural approaches will be summarized.

Within the non-structural approaches, it is assumed to be no structure in the ellipsis site at all. In these types of approaches, the existence of meaning without form is explained by either creating new mechanisms that can create meaning where there are no syntactic structures, or by taking advantage of those mechanisms that already exist (Merchant, 2016, pp. 5-6). The non-structural approach can be divided into two, WYSIWYG and the semantic or non-structural PRO-form.



**FIGURE 2.1
WYSIWYG**

The WYSIWYG approach assumes that there is no structure other than the one which is overt. WYSIWYG is an abbreviation for ‘What You See Is What You Get’. Both Ginzburg and Sag (2000) and Culicover and Jackendoff (2005, p. 240) assume no more syntax in ellipsis sites than what is visible on the surface. In these approaches, the wh-phrase is the only daughter of a node. The label given this node can be either S or IL⁶ depending on the theory (Merchant, 2016, p. 6).



**FIGURE 2.2
STRUCTURAL AND NON-
STRUCTURAL PRO**

In the non-structural PRO-form approach, the ellipsis site is in a PRO-form. This PRO-form remains without structure at all syntactic levels. Lobeck (1995, p. 30) has proposed such an approach. In this approach, ellipses are all empty categories, i.e. PRO-forms, that get their reference through a semantic process called reconstruction. This means that there is never any structure in the ellipsis site at any moment with this approach.

The structural approach is different from the non-structural approach in that it posits structure in the ellipsis site and that this structure is unpronounced (Merchant, 2016, p. 6). The structural

⁶ IL stands for Indirect Licensing (Merchant, 2016, p. 6).

approach can also be divided into two: LF-copy with null anaphora and deletion. Within the LF-copy approach there can either be many null elements or just one. In the approach where there is just one, the null anaphora is replaced by structure at logical form (LF) (Merchant, 2016, pp. 6-7) (Aelbrecht, 2010a). This is the LF-copy approach proposed by Chung, Ladusaw, and McCloskey (1995). This type of approach has a similar structure before LF as the non-structural PRO-form approach. The difference is what happens at LF. In the LF-copy approach, structure is copied and moved into the ellipsis site at LF. In the non-structural PRO-form approach there is never any structure in the ellipsis site, even at LF.

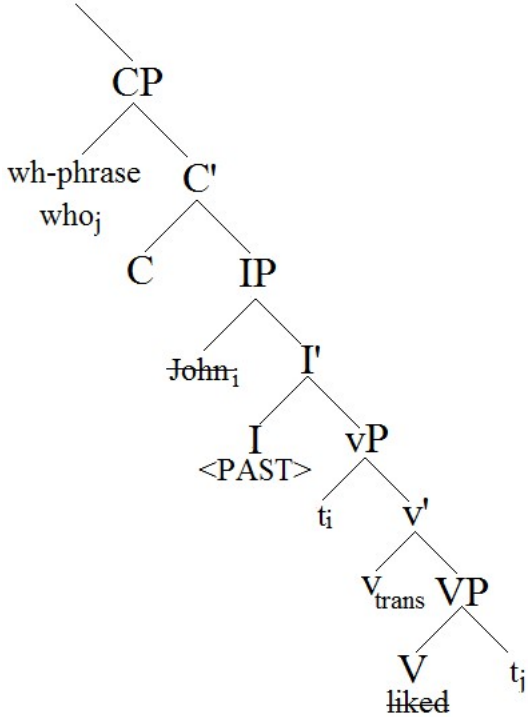


FIGURE 2.3 DELETION APPROACH

In the deletion approach, the structure in the ellipsis site is the same as it would have been if it were non-elliptical. This approach comes from the idea that the meaning of utterances comes from both the meaning of words and the syntactic structure they are in. Because the meaning that is conveyed through ellipses is more than what their surface form would suggest, the meaning must come from a complete, hidden syntactic structure (Culicover & Jackendoff, 2005, p. 234). What happens is that the ellipsis site undergoes an operation or is subjected to a constraint that makes sure it remains unpronounced (Merchant, 2016, p. 20). What it takes for the phonetic form of words to be deleted varies from theory to theory

(Culicover & Jackendoff, 2005, p. 234).

I will not go further into the particulars of the discussion on whether there is structure in ellipsis sites or not, but, following the arguments in Merchant (2001), it will be assumed that there is structure in ellipsis sites and that ellipsis is a type deletion or phonological reflex.

2.2.2 The licensing question

It has been found that even though an ellipsis is recoverable, it can still be unacceptable (Craenenbroeck & Merchant, 2013). Take the noun phrase ellipsis below as an example.

- (25) *Jon made a chocolate cake, and Sarah a sponge <cake>.

Even though it should be easy to recover that the elided NP is ‘cake’, the sentence is still not a grammatical English sentence. This proves that recoverability is not the only factor that influences whether or not ellipsis can occur, but licensing is also important (Craenenbroeck & Merchant, 2013, p. 702).

Licensing is a very big and quite wide question since the answers have to be different for the different ellipses. It refers to the ‘local conditions on the omissibility of structures’ (Merchant, 2001, p. 2). In other words, what is required in the environment around the ellipsis in order for it to be allowed. These requirements are different from ellipsis to ellipsis. The focus of the licensing question is on ‘potentially quite parochial facts about local configurations and features of the categories involved’ (Merchant, 2001, p. 2). One example is that sluicing is allowed in embedded questions (Lobeck, 1995, p. 45).

(26) Someone ate the cake but I don’t know who <ate the cake>.

But it is not allowed in relative clauses.

(27) *Someone ate the cake, but I don’t know the man who <ate the cake>.⁷

So, the focus of those who do research on the licensing question is often very narrow and specific to the one phenomenon they are looking at. This makes it difficult to make a short summary of the theories belonging to this question. For this reason and because licensing is not going to be crucial for my discussion, I will not go into detail here. For further reading on licensing, the reader is referred to Aelbrecht (2010a, 2010b); Lobeck (1995).

2.2.3 The identity question

The identity question looks into how we are able to retrieve the meaning from ellipsis sites. It looks at how we recover the information that would have been there if it had been overt (Merchant, 2001, p. 2). As said earlier, ellipsis gets its meaning from the context and has no inherent lexical content which makes it a type of anaphora. This means that an ellipsis needs to have an antecedent in order for it to have meaning. The discussion on the identity question

⁷ Example borrowed from Andrew Weir.

revolves around how the antecedent gives the ellipsis site its meaning, and what type of antecedent it needs (Merchant, 2016, p. 27).

The normal approach to the identity question is that the ellipsis has to be identical to its antecedent in one way or another. There are three options here. The identity condition can either be semantic in nature, syntactic in nature, or both (Merchant, 2013, p. 77; 2016, p. 4). A morphological or phonological surface identity relation is excluded because of examples such as:

English:

(28) Sarah wrote a book because she wanted to <write a book>.

Norwegian:

(29) Sara skrev en bok fordi hun ønsket <å skrive en bok>.

Sara write.PAST a book because she wished to write a book.

‘Sara wrote a book because she wished to <write a book>.’

In (28) and (29), the verb form is in past tense in the antecedent and the verb in the ellipsis site is infinitival. They do not share the same surface form and therefore it is not possible to assume a surface identity of ellipsis (Merchant, 2016).

2.2.3.1 Syntactic identity

In the years between 1965 and the middle of the 1990s, most of the research on the identity condition on ellipsis assumed a structural identity connected to phrase markers (Merchant, 2016, p. 28). Ross (1969) suggested that sluicing was a transformational rule of deletion that changed sentences from one without ellipsis to one with ellipsis. Ross (1969, p. 267) implies that this deletion rule is syntactic.

All theories that postulate a syntactic identity on ellipsis naturally assume structure in the ellipsis. This is taken for granted because the essence of a syntactic identity is that the syntax of the antecedent must match the syntax of the ellipsis site⁸. In addition to assuming syntactic structure in the ellipsis site, syntactic identity conditions also assume that there is a syntactic relationship between the elided clause and its antecedent (Lappin, 1997, p. 146). This means

⁸ It is important to note here that this is not a matter of simple surface identity, as shown by (28) and (29) above, and at the level of detail this identity condition can be rather hard to define, i.e. which syntactic phenomena ellipsis is sensitive to and which it is not.

that the ellipsis gets its identity through a similarity in syntactic structure to its antecedent. In other words, the meaning ascribed to the ellipsis site is deduced from the syntactic structure of its antecedent. Because of this, syntactic identity conditions require the ellipsis and its antecedent to match in form in addition to meaning. In theories that propose a syntactic identity on ellipsis, the meaning of the ellipses comes from there being syntactic structure in the ellipsis site when it is interpreted semantically (Chung, 2013, p. 2). In other words, it is because of the syntactic structure that the ellipses are able to get a semantic interpretation. The syntax comes first.

A problem for a syntactic identity on ellipsis is that not all ellipses are identical to their antecedent (Culicover & Jackendoff, 2005, p. 241; Merchant, 2001). In English and Norwegian verb forms can switch. In fact, the antecedent in (30) is a gerund while the ellipsis it is a non-finite verb. In (31) the antecedent is infinitival while the verb in the sluice is finite. These are syntactic features which should have to be the same if the identity condition on ellipsis was that it had to be syntactically the same as its antecedent.

English

(30) Sarah loves singing, but unfortunately she doesn't know how ~~to sing~~.

Norwegian

(31) Å bake kake er morsomt hvis man vet hvordan <man baker kake>.
 To bake.INF cake is fun if you know how you bake.PRES cake.
 'To bake cake is fun if you know how <to bake a cake>.'

(32) Baking av kake er morsomt hvis man vet hvordan <man baker kake>.
 Baking of cake is fun if you know how you bake.PRES cake.
 'The baking of cake is fun if you know how <to bake a cake>.'

What syntactic identity can explain, though, is how certain difference in syntactic structure, even when it is semantically identical, will result in unacceptability (Craenenbroeck & Merchant, 2013, p. 711). An example of something considered semantically identical is voice alternations. A mismatch in voice can result in an ellipsis being considered unacceptable.

English

- (33) *Someone built the house, but I don't know by whom <the house was built>.
(*Voice*)

More recently it has been argued that there are two types of data that point towards a syntactic identity. One is the uneven distribution of voice mismatch effects in big and small ellipses. In 'big' (i.e. clausal) ellipses, it is not acceptable to have a difference in voice, while in small ellipses voice mismatch is allowed (Merchant, 2016). This has been attributed to the size of the ellipsis site (Merchant, 2013). I will get back to this in more detail in chapter 2.5.1.

English

- (34) Jane cleans her car only when it should be <cleaned>. (*VP ellipsis*)
(35) *Someone cleaned Jane's car, but she is unsure by whom <her car was cleaned>.
(*Sluicing*)

Another argument for at least some syntactic identity condition on ellipsis is that argument structure mismatches are not allowed in ellipsis (Chung, 2013, p. 3; Merchant, 2013, p. 101). This includes the dative alternation, the locative alternation and the voice alternation. Active and passive sentences are, as mentioned above, considered semantically equivalent. The dative alternation has also been seen as 'perfectly meaning-preserving' (Merchant, 2013, p. 99). This means that, because there is nothing semantically different, the reason why they cannot alternate must be because of their syntax. This again leads to the claim that there must be a, at least partially, syntactic identity condition on sluicing (Chung, 2005, 2013; Merchant, 2013). The conclusions made of the dative and voice alternations, has been generalised to hold for the locative alternation as well (Merchant, 2013, p. 99).

- (36) *Someone murdered Kelly, but we don't know by who[sic] <Kelly was murdered>.⁹

Chung (2013, p. 3)

- (37) *It's known that they sent someone a silly message, but it is unclear to who[sic]
<they sent a silly message>.

Chung (2013, p. 3)

- (38) They embroidered something with peace signs, but I don't know what on <they
embroidered peace signs t>.

(Merchant, 2013, p. 100)

In other words, the impression is that argument alternation under ellipsis is not acceptable, and Chung (2013) and Merchant (2013) takes this as evidence for at least some syntactic identity on ellipsis. I will challenge this data later in the thesis.

2.2.3.2 Semantic identity

Theories in which the identity condition on ellipsis is semantic began to arise in the early 1990s (Merchant, 2016, p. 28). A semantic identity condition on ellipsis would mean that the antecedent of the ellipsis is used to recover the information missing in the ellipsis site (Lappin, 1997, p. 146). All non-structural approaches to the structure question fall under this type of identity, but amongst those who believe there is structure in ellipsis sites, there are also some who think the identity condition on ellipsis is a semantic one.

One of the more recognised theories on ellipsis has a semantic identity condition. This theory is Merchant (2001)'s e-GIVENness. This theory is reiterated below in (39) and (40).

(39) **'Focus condition on IP-ellipsis**

An IP α can be deleted only if α is e-GIVEN.' (Merchant, 2001, p. 31)

(40) **'E-GIVENness**

An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo \exists -type shifting,

- (i) A entails F-clo(E), and
- (ii) E entails F-clo(A).' (Merchant, 2001, p. 31)

This means that for ellipsis to occur the elided clause will have to have the same semantics as its antecedent after both of them have been focus closed and existentially bound. Focus closing a clause means that all focused elements of that clause are replaced by variables. Then the variables of the clause, i.e. the focused elements and the traces, are existentially closed (Weir, 2014, p. 63). AnderBois (2014, p. 887) points out that this theory requires the truth conditions of the ellipsis and its antecedent to match after focus closure in order for ellipsis to occur. How this is done is shown in (41).

(41)

- a. Sam wrote something, but I am unsure of what_j <Sam wrote t_j>.
- b. Antecedent: $\llbracket \text{Sam wrote something} \rrbracket = \exists x. \text{Sam wrote } x$
- c. Antecedent after F-clo: $= \exists x. \text{Sam wrote } x$
- d. Elided clause: $\llbracket \text{Sam wrote } t \rrbracket = \text{Sam wrote } x$
- e. The elided clause after F-clo: $\exists x. \text{Sam wrote } x$
- f. $\exists x. \text{Sam wrote } x \leftrightarrow \exists x. \text{Sam wrote } x$

First the ellipsis and its antecedent is established. Any indefinites, traces and focused elements are introduced as existentially closed variables. After this they are focus closed. By comparing the existentially bound focus closed antecedent to the existentially bound focus closed ellipsis sites, if these two correspond to each other can be seen (Weir, 2014, pp. 63-64).

A semantic identity condition on ellipsis can explain how variations of form are allowed in ellipses as long as the interpretation is not affected (Craenenbroeck & Merchant, 2013, p. 711). Many cite strict and sloppy readings of pronouns as the argument for a semantic identity on ellipsis. Strict and sloppy readings of pronouns is when you have two possible referents to the pronoun inside the ellipsis site (Safir, 2013, p. 517). In other words, a semantic identity condition can explain examples where the ellipsis site does not match its antecedent.

(42) Sarah dances in her home and John does, too.

In (42), John can be construed as dancing in both his own home and in Sarah's home. The strict reading is when the pronoun in the ellipsis site refers to the same as in the antecedent (Safir, 2013, p. 517). Here that would mean that John dances in Sarah's home. The sloppy reading is when the pronoun inside the ellipsis site is bound to the subject of its clause (Safir,

2013, p. 517). In the example mentioned here, this would be the interpretation where John dances in his own home. Merchant (2016) disagrees with this being the best argument for a semantic identity on ellipsis, and considers the fact that there are mismatches in the syntactic structure of the ellipsis and its antecedent as the best argument for this approach (Merchant, 2016, pp. 28-29).

(43) Sam wrote something, but I am unsure of what; <he wrote t_j>.

While a syntactic identity on ellipsis needs structural isomorphism, that the lexemes inserted are the same, a semantic identity condition on ellipsis requires the meaning to be the same. (44) shows how replacing pronouns with variables makes the theory of e-GIVENness able to account for sloppy and strict readings of ellipses like the one in (42).

(44)

- a. Sara dances in her home, and John does, too. [dance in his/her home]
- b. Antecedent: $\llbracket x \text{ dances in her home} \rrbracket = x \text{ dances in } x' \text{'s home}$
- c. Antecedent after F-clo: $\exists x. x \text{ dances in } x' \text{'s home}$
- d. Elided clause: $\llbracket x \text{ dances in } x' \text{'s home} \rrbracket = x \text{ dances in } x' \text{'s home}$
- e. The elided clause after F-clo: $\exists x. x \text{ dances in } x' \text{'s home}$

In this thesis, it will be assumed that the identity condition is mostly semantic, but with a partly syntactic identity condition. The manifestation of this partly syntactic identity condition will be considered by comparing findings done here with the conditions proposed by Chung (2005, 2013) and Merchant (2013)¹⁰. Specifically, I will discuss the identity condition on sluicing. It should be noted that I am using both *identity condition on ellipsis* and *identity condition on sluicing* for the same idea, *the identity condition on sluicing*, in this thesis¹¹. Because sluicing is the type of ellipsis that is looked at here, a small introduction into what sluicing is, is in order.

¹⁰ See chapter 2.5.1 and 2.5.2.

¹¹ Because what applies for sluicing does not necessarily apply for VPE.

2.3 Sluicing

It was Ross (1969) who came up with the term ‘sluicing’. He used it to denote the rule or operation that created a certain type of ellipses, but now it is also used as the name of those ellipses, i.e. sluices. In his paper, Ross (1969) noted that there seemed to be a rule that allowed for the deletion of everything but the *wh*-phrase in an embedded question as long as the deleted part of the question was identical to some other part either in the same sentence or preceding it. Sluicing has later been defined as something that looks like an interrogative phrase, but carries the meaning of a constituent question (Chung, 2013), or as an interrogative clause that has been reduced to only a *wh*-phrase (Merchant, 2001). Following are some examples of sluicing and their non-elliptical counterparts.

English

- (45) Mary ate something but I don’t know what.
(46) Mary ate something but I don’t know what *she ate*.
(47) I know John left the door open, but I don’t know why.
(48) I know John left the door open, but I don’t know why *he left the door open*.

Norwegian

- (49) Kari spiste noe, men jeg vet ikke hva.
Kari ate something but I know not what
‘Kari ate something, but I don’t know what.’
(50) Kari spiste noe, men jeg vet ikke hva *hun spiste*.
Kari ate something but I know not what she ate
‘Kari ate something, but I don’t know what she ate.’
(51) Jeg vet Ola lot døra stå åpen, men jeg vet ikke hvorfor.
I know Ola let door.DEF stand open but I know not why
‘I know Ola left the door open, but I don’t know why.’

- (52) Jeg vet Ola lot døra stå åpen, men jeg vet ikke hvorfor *han lot*
 I know Ola let door.DEF stand open, but I know not why he let
døra stå åpen.
 door.DEF stand open.
 ‘I know Ola left the door open, but I don’t know why he left the door open.’

As with other types of ellipsis, it has been assumed that the sluice must be identical to its antecedent in some way (Chung, 2013). How it is supposed to be identical, syntactically or semantically, is still being looked into. This is of course the identity question, which will be looked at in this thesis, but first a short summary of what is assumed for the other two questions, the licensing question and the structure question.

There is some evidence that points towards there being structure in sluicing, which would fit with a deletion approach. One is that the *wh*-phrase seems to undergo movement from its canonical position inside the IP of the sluice up to spec C. The *wh*-phrase cannot undergo movement without having somewhere to move from. As already briefly discussed in section 2.2.1.1, something that indicated this is pied-piping. In languages where preposition stranding is not allowed in non-elliptical sentences and the preposition has to be pied-piped, sluices also must have the preposition pied-piped. If a language allows for preposition stranding in non-elliptical sentences, then the preposition can also be stranded in the ellipsis (Chung, 2005, pp. 79-82; Merchant, 2001, pp. 91-107). This means that in both English and Norwegian, where pied-piping is optional for non-elliptical sentences, you can choose to either strand or pied-pipe the preposition in the *wh*-phrase.

English

- (53) John danced with someone, but I don’t know who he danced **with**.
 (54) John danced with someone, but I don’t know **with** whom he danced.
 (55) John danced with someone, but I don’t know who.
 (56) John danced with someone, but I don’t know **with** whom.

Norwegian

- (57) Ola danset med noen, men jeg vet ikke hvem han danset **med**.
Ola danced with someone but I know not who he danced with
'Ola danced with someone, but I don't know who he danced with.'
- (58) Ola danset med noen, men jeg vet ikke **med** hvem han danset.
Ola danced with someone, but I know not with whom he danced
'Ola danced with someone, but I don't know with whom he danced.'
- (59) Ola danset med noen, men jeg vet ikke hvem.
Ola danced with someone but I know not who
'Ola danced with someone, but I don't know who.'
- (60) Ola danset med noen, men jeg vet ikke **med** hvem.
Ola danced with someone, but I know not with whom
'Ola danced with someone, but I don't know with whom.'

This can be contrasted against languages that do not allow for preposition stranding, like German. The German examples are taken from Merchant (2001, p. 94)

- (61) Anna hat mit jemandem gesprochen, aber ich weiß nicht **mit** wem.
Anna has with someone spoken but I know not with whom.
'Anna spoke with someone, but I don't know with whom.'
- (62) *Anna hat mit jemanden gesprochen, aber ich weiß nicht wem.
Anna has with someone spoken but I know not who.
'Anna spoke with someone, but I don't know who.'

The fact that prepositions will behave in the same way in ellipsis as in non-elliptical sentences has been taken as evidence for structure inside ellipsis sites because the syntactic constraint that applies for nonelliptical sentences also applies for non-elliptical ones in this instance.

Another evidence is that the sluiced wh-phrase needs to have the same case as its correlate (Merchant, 2001; Ross, 1969). This indicates structure because Case is assigned by other items such as verbs, prepositions and <+FIN>. These have to be present in order for them to assign Case, and in ellipsis that leaves the idea that they are there, only not pronounced. Since

both English and Norwegian does not have overt case in these cases, this cannot be illustrated with examples from these languages. German on the other hand has overt case. The examples are this time taken from Ross (1969, pp. 253-254), but they are repeated in Merchant (2001, p. 89)¹².

- (63) Er will jemandem schmeicheln, aber sie wissen nicht wem.
He wants someone.DAT flatter but they know not who.DAT
'He wants to flatter someone, but they don't know who.'
- (64) *Er will jemandem schmeicheln, aber sie wissen nicht wen.
He wants someone.DAT flatter but they know not who.ACC
'He wants to flatter someone, but they don't know who.'
- (65) *Er will jemanden loben, aber sie wissen nicht wem.
He wants someone.ACC praise but they know not who.DAT
'He wants to praise someone, but they don't know who.'
- (66) Er will jemanden loben, aber sie wissen nicht wen.
He wants someone.ACC praise but they know not who.ACC
'He wants to praise someone, but they don't know who.'

¹² One argument against movement in sluicing is insensitivity to islands. Merchant (2001) comes with proposals for how this can be reconciled with a movement analysis.

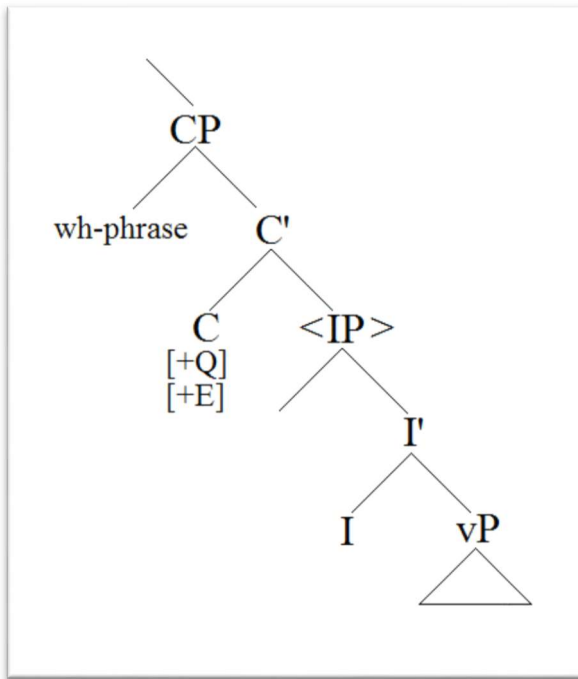


FIGURE 2.4 THE STRUCTURE OF A SLUICE

Sluicing can only occur when the null $[+wh, +Q]$ C^0 of interrogatives license it (Merchant, 2001, p. 59). This means that, in sluicing, a wh-phrase gets moved up to specCP. C bears the [Q] feature to attract the wh-phrase and an [E]-feature saying that its complement, the IP, should be phonologically deleted in LF. This E-feature carries an identity condition that, if satisfied, will lead to the complement being deleted phonologically.

Having now made a short introduction on ellipsis and sluicing, I will now move on to a short introduction on the other phenomenon which is important for this thesis: argument alternations.

2.4 Alternations

Alternations are considered behaviours of a verb, and there are many different types of them in English. The general idea of argument alternations is that one sentence has two versions, and the difference of these two is the position of their arguments. The arguments of a sentence can alternate where they stand. Some of these include the middle alternation, the causative alternation, conative alternation, the dative alternation, voice, the locative alternation and many more (Levin, 1993).

The middle alternation

- (67) John melted the ice.
 (68) The ice melted easily.

The dative alternation

- (69) John handed Sarah a letter.
 (70) John handed a letter to Sarah

The locative alternation

- (71) Tina filled the bucket with water.
(72) Tina filled water into the bucket.

The voice alternation.

- (73) Sandra painted John's house.
(74) John's house was painted (by Sandra).

These are only a few of the alternations in English, and I cannot go into them all here. The focus of this thesis will be on the locative alternation. This thesis will use the locative alternation, the dative alternation and the voice alternation, but first some ideas concerning alternations in general will be mentioned.

Semantically, alternations have been approached in two ways. There is a syntactic approach to analysing argument structure alternations which assumes that the two alternations express the same proposition, differing only in their syntactic form (Dowty, 2000). Others have argued that a difference in meaning is conveyed by at least some of the different alternating forms (Chomsky, 1972, p. 174; Dowty, 2000; Fillmore, 1968, p. 48; Krifka, 1999; Levin, 1993, p. 2; Rappaport & Levin, 1988).

There are two competing views on alternations, the lexicalist and the constructivist approach. In the lexicalist approach, alternations are seen as results of the properties of the verb. The syntactic structures in which a verb can occur are determined by qualities of the verb. In this approach, the fact that native speakers of a language are capable of making subtle judgements on the different combinations that adjuncts and arguments of verbs can have, is seen as a result of their lexical knowledge (Levin, 1993, pp. 1-2). This means it is the internal qualities of a verb that determine whether it can be part of an alternation and which alternation it can take part in. Some supporters of this approach are Rappaport and Levin (1988) and Tenny (1992, 1994).

In the constructional approach, the syntax creates the argument structure, and properties of lexical items do not matter at all (Lohndal, 2014, p. 11). This means that verbs in alternations (and otherwise) do not influence their argument structure. Instead their core meaning, along with what else is inside the predicate, combine to create specific aspectual properties. These aspectual properties would serve as a base for the syntactic properties of a sentence (Borer, 1993, p. 23). The semantics of sentences is created by a combination of verb semantics and the

semantic meaning associated with the syntactic structure (Borer, 1993, p. 28). This approach also assumes that arguments have to move to the specifier position of functional heads in order to get their grammatical function (Borer, 1993, p. 28). This thesis will follow the constructivist view of argument structure where arguments are introduced by functional heads. This assumption will influence how I analyse my data.

2.4.1 The Locative Alternation

The locative alternation is a verb phrase internal alternation (Levin, 1993, p. 45). There are many different types of locative alternations, many of them named after the verbs that they are associated with. There is the Spray/Load Alternation, the transitive and the intransitive Clear Alternations, the Wipe Alternation, and the Swarm Alternation (Levin, 1993).

The spray/load alternation

- (75) Alastair sprayed the roses with water.
- (76) Alastair sprayed water on the roses.
- (77) Catherine loaded the truck with wares.
- (78) Catherine loaded wares onto the truck.

Clear alternation – transitive

- (79) The government drained the swamp of water.
- (80) The government drained water from the swamp.

Clear alternation – intransitive

- (81) Water emptied from the barrel.
- (82) The barrel emptied.

The wipe alternation

- (83) Thomas washed dirt off his clothes.
- (84) Thomas washed his clothes of dirt.

The swarm alternation

- (85) Bees swarmed in the garden.
(86) The garden swarmed with bees.

Verbs that can take part in the locative alternation are verbs that have two internal arguments (Tenny, 1994, p. 49). One way to define the locative alternations is to say that you have a location and a locatum, and these two can swap places. Locatum refers to the substance whose location is changed, while the location refers to the place that the locatum is moved to or from (Levin, 1993, p. 50). The term *locatum* is taken from Clark and Clark (1979, p. 771) and has since been used by other authors (Arad, 2006; Levin, 1993; Rappaport & Levin, 1988). In the following examples the phrases in bold are the locatums, while the phrases in italics are the locations.

English

- (87) John cleared *the table* of **dishes**.
(88) John cleared **dishes** off *the table*.

Norwegian:

- (89) Jon ryddet **tallerkner** av *bordet*.
Jon cleared dishes off table.DEF
'Jon cleared dishes off the table.'
(90) Jon ryddet *bordet* for **tallerkner**.
Jon cleared table.DEF of dishes
'Jon cleared the table of dishes.'

These two variants of the locative alternation have been called the locative variant and the *with* variant (Rappaport & Levin, 1988).

- (91) Sarah loaded bags into her car. (locative variant)
(92) Sara loaded her car with bags. (*with* variant)

In the locative variant the locatum is the object of the sentence and the location is in a prepositional phrase. In the *with* variant the location is the object of the phrase while the locatum is in the prepositional phrase. Though there are some that argue there are more than two variants (Iwata, 2005)¹³, I will stick to talking about only these two variants.

Arad (2006, p. 467) says that the verbs in the locative alternation differ from other verbs that can have two internal arguments, by the fact that both of their internal arguments can be in the object position. In one alternation, the locatum is the complement of a verb, while the location is in a prepositional phrase. In the other alternation, the location is the complement of a verb, while the locatum is in a prepositional phrase (Ramchand, 2013). They are verbs whose arguments can appear in two syntactic frames creating a pair of sentences that seem to describe the same event (Rappaport & Levin, 1988, p. 18). This alternation is found with verbs that have to do with placing or removing something from a surface or a container (Levin, 1993).

As mentioned above, some argue for a difference in semantic meaning within the different alternating forms, saying that the alternating sentence pairs are only near-paraphrases (Rappaport & Levin, 1988). The different semantic interpretations associated with the locative alternation is the holistic/partitive effect. This means that locative alternations are either interpreted as holistic or partitive. If the location argument is expressed as the direct object and not as part of a prepositional phrase, then the location it refers to is understood as fully affected by the action of the verb. This is the holistic interpretation. If the location argument is in the prepositional phrase, then the location it refers to is only partly affected by the action of the verb. This is the partitive interpretation (Levin, 1993, p. 50; Rappaport & Levin, 1988).

(93) John didn't load the van with bags, he only put a few ones on.

(94) #John didn't load bags onto the van, he only put a few ones on.

In other words, the locative variant has a partitive interpretation, while the *with* variant has a holistic interpretation. In the examples below, the DPs in bold are the locatums, and the DPs in italic are the locations.

¹³ Iwata (2005) refers to Nakau, Minoru (1994) *Ninchi-imoron-no genri* [Principles of cognitive semantics] Tokyo: Taishukan. Because I do not read Japanese, I will not be using this reference here.

- (95) John loaded [**bags**] [onto *the van*.]
- (96) John loaded [*the van*] with [**bags**.]
- (97) Sarah sows [**seeds**] [in *the field*.]
- (98) Sarah sows [*the field*] [with **seeds**.]

2.4.2 The Dative Alternation

The dative alternation is also a verb phrase internal alternation (Levin, 1993, p. 45), but this is an alternation that not all languages have (Rappaport Hovav & Levin, 2008, p. 129). Many of the verbs that take part in this alternation can be classified as verbs of change of possession using the idea of a change in possession broadly (Levin, 1993, p. 48). This alternation alternates between the double object frame, called the double object variant, and a prepositional frame, called the *to* variant. In the double object variant, what functions as the first object in the double object frame, from now on called the indirect object, is the object of a preposition in the preposition frame (Levin, 1993, p. 47).

English

- (99) John gave Sarah a gift. *Double Object variant*
- (100) John gave a gift to Sarah. *To variant*

Norwegian

- (101) Kari ga Anna en gave. *Double object*
Kari gave Anna a gift
'Kari gave Anna a gift.'
- (102) Kari ga en gave til Anna. *To variant*
Kari gave a gift to Anna
'Kari gave a gift to Anna.'

Within the study of the dative alternation, the way of analysing the dative alternation can be roughly divided into two: the single meaning approach and the multiple meaning approach (Rappaport Hovav & Levin, 2008, p. 130). In the single meaning approach, it is assumed that both variants of the dative alternation have the same meaning. The multiple meaning approach, on the other hand, assumes that these *to* variant have different meanings,

but that these different meanings are related. Because of these two different meanings, the different variants of the dative alternation is assumed by the multiple meaning approach to have two distinct argument realisation patterns (Rappaport Hovav & Levin, 2008, p. 130). Rappaport Hovav and Levin (2008) claim that the multiple meaning approach is the more dominant of the two.

Within the multiple meaning approach the different meanings ascribed to the different variants is normally that the *to* variant has a focus on the cause of the motion, while the double object variant focuses on the possession (Rappaport Hovav & Levin, 2008, p. 130). Consequently, in *John gave a gift to Mary* the focus is on *John* causing the gift to move to *Mary*, while in *John gave Mary a gift* the focus is on how *Mary* comes to possess *the gift*. A known restriction to the dative alternation is the animacy restriction. The animacy restriction states that the indirect object in a double object construction must be animate (Goldsmith, 1980). It should also be noted that, opposite to the locative alternation, the different variants of the dative alternation are not always truth-conditionally distinguishable (Rappaport Hovav & Levin, 2008, p. 130).

2.4.3 The Voice Alternation

Voice alternation occur when the voice of a sentence changes, either from active to passive or the other way around. Like the dative and the locative alternations, the voice alternation does not have a change in transitivity. What distinguishes it from the previous two is that it involves a change in the number of noun phrases present (Levin, 1993, p. 79). Alternating from active to passive is called passivisation, and both English and Norwegian have two ways of doing this.

Passive can be formed by either using the auxiliary *get* or by using *be* in English.

- (103) John baked a cake. *Active*
- (104) A cake got baked (by John). *Get-passive*
- (105) A cake was baked (by John). *Be-passive*

Of these two, the *Get-passive* is less used by British English speakers than by American English speakers (Meints, 2003). Norwegian speakers have the option of forming either *s-passive* or *periphrastic passive* (Åfarli & Eide, 2003, p. 211).

- (106) Konrad vasker klær. *Active*
 Konrad washes clothes
 ‘Konrad is washing clothes.’
- (107) Klær blir vasket (av Konrad). *Periphrastic passive*
 Clothes is washed by Konrad
 ‘Clothes are being washed (by Konrad).’
- (108) Klær vaskes (av Konrad). *S-passive*
 Clothes wash.PASS by Konrad
 ‘Clothes are being washed (by Konrad).’

This means that the voice alternation involves a difference in verb forms, and a change in linguistic perspective (Saeed, 2016, p. 167). Saeed (2016, p. 167) talks about figure and ground. In active sentences, the subject (or AGENT) is foregrounded and therefore made into the figure. In passive sentences, on the other hand, the direct object is made into the figure while the subject is made into the ground (Saeed, 2016, p. 167).

What argument alternations under ellipsis can reveal about the identity condition on sluicing is one of the topics looked at in this thesis. The behaviour of alternations under ellipsis has been used when arguing for a partly syntactic identity condition. Another phenomenon that has been used to argue for there being some syntactic identity condition is the sprouting of objects of prepositions. Those who has argued for this include Chung (2005, 2013) and Merchant (2013). In the next subsection, the arguments made by Merchant (2013) and Chung (2005, 2013) will be gone through.

2.5 Two Arguments for a Partly Syntactic Identity

Though many now agree that the identity condition on ellipsis must have semantics as part of it, some have argued that there must be some syntactic condition. To substantiate their claim, the proponents of a partial syntactic identity condition on ellipsis point to phenomena which cannot be explained semantically. Two proponents of a theory where the identity condition is both semantic and syntactic is Chung (2005, 2013) and Merchant (2013). The phenomena they point to are argument alternations under ellipsis and sprouting.

2.5.1 No Argument Alternations under Ellipsis

In his paper from 2013, Merchant argues that the identity condition on ellipsis is not entirely semantic and that it also needs some syntactic conditions. As evidence for this, he uses the fact that argument alternations, even those he considers fully meaning-preserving, are not allowed to alternate under ellipsis (Merchant, 2013, p. 99).

- (109) *Someone cleared the table, but it is unclear by whom. *Passive alternation*
(110) *Sara gave someone a gift, but I can't remember to whom. *Dative alternation*
(111) *Jane filled something with water, but I don't know into what. *Locative alternation*

The idea is that all the alternations in the ellipsis sites above are uniformly unacceptable. This means that there must be something in the identity condition on ellipsis that is breached when alternations alternate under ellipsis. There seems to be something syntactic which makes alternations under ellipsis unacceptable, and since they, according to Merchant (2013), contain no semantic difference, the reason behind this must be syntax. This syntactic identity condition should hold for all argument alternations, but the voice alternation creates challenge for the generalisation that all alternations under ellipsis are considered ungrammatical.

In English VPEs, a difference in voice between the ellipsis site and the antecedent is allowed. You can have a passive antecedent with an active ellipsis or the other way around. In other types of ellipses, like sluicing, this is not allowed, and the voice value in the ellipsis needs to be the same as the one in its antecedent (Merchant, 2013). In other words, the passive alternation is not unacceptable in all types of ellipsis. It behaves differently with different ellipses.

Voice mismatch in English VP-ellipsis

- (112) Mary writes books the way they should be <written>.
(113) This room can be used by anyone, so you are welcome to <use it>.

Voice mismatch in Norwegian VP-ellipsis

- (114) Kari synger sangen slik den skal <synges>.
Kari sing.PRES song.DEF as it should sing.PASS-
'Kari sings the song as it should be <sung>.'

Voice mismatching in English sluicing

- (115) *The book was written, but we don't know who <wrote the book>.
 (116) *Someone sent a message, but I don't know by whom <a message was sent>.

Voice mismatch in Norwegian sluicing.

- (117) *Løpet ble vunnet, men vi vet ikke hvem <som vant løpet>.
 Race.DEF was won but we don't know who won race.DEF.
 'The race was won, but I don't know who won the race.'
 (118) *Noen gir ut klemmer, men jeg vet ikke av hvem <klemmer blir
 Someone gives out hugs but I know not by whom hugs are
 gitt ut>.
 given out.
 'Someone is giving out hugs, but I don't know by whom hugs are given out.'

Merchant (2013) explains this by turning to the structure of the ellipsis and its antecedent. He postulates that the reason for why small ellipses like VP-ellipses can have voice mismatch, while larger ellipses cannot, is the size of the ellipsis site. Voice has to match the antecedent in the ellipsis site if the branch that has its specification is part of the ellipsis site. In a small ellipsis like VP-ellipsis, the ellipsis site does not include voice and must therefore not be the same, while in a bigger ellipsis, such as a sluice, the branch carrying the voice feature is part of the ellipsis site and must therefore be the same as its antecedent (Merchant, 2013).

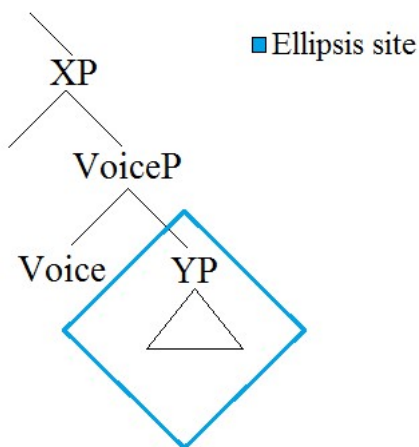


FIGURE 2.5 ELLIPSIS SITE IN VPE

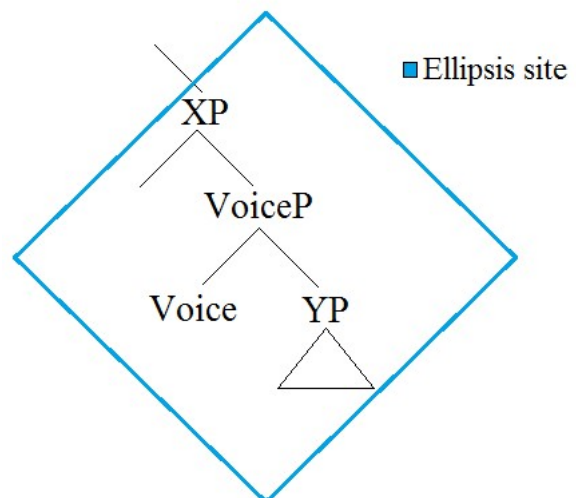


FIGURE 2.6 ELLIPSIS SITE IN SLUICING

In mainstream grammar, passive is considered to be a purely syntactic effect. It is commonly assumed that there is no truth conditional between ‘John loaded the bags onto the van’, and ‘the bags were loaded onto the van by John’. This is the reason why the voice alternation is considered one of the strongest arguments against a purely semantic identity condition on ellipsis.

Rooting the explanation of why the passive alternation is not allowed in some ellipses to the fact that some syntactic features having to be the same now opens up for Merchant (2013) to posit generalisations that include not only passive but also other types of alternations.

Merchant (2013) posits that there could be two reasons behind the fact that alternations cannot alternate under ellipsis. One is that the ellipsis site requires the lexical properties of the verbal head to be the same. The other is that the identity condition on ellipsis requires the functional heads in the ellipsis site to be identical to those in its antecedent. What happens in argument alternations under ellipsis, he argues, is that these differ in the ellipsis site from the antecedent.

Merchant (2013)’s proposal, in which these types of ellipses are unacceptable because of the lexical properties of their verbal heads, simply means that there are two different verbs in these sentences. For example, in the dative alternation the verb can either have the double object frame or an object + preposition phrase frame. Within this theory, argument alternations are not allowed because there are two different verbs in the different alternations carrying different lexical properties. This means that because the verbs are not the same one, the antecedent and the ellipsis do not match.

English

(119) Trevor sprayed₁ something with water.

(120) Trevor sprayed₂ water on something.

(121) *Trevor sprayed₁ something with water, but I don’t know on what < he sprayed₂ water>.

Norwegian

- (122) Kari lastet₁ noe med bagasje.
Kari loaded something with baggage
'Kari loaded something with baggage.'
- (123) Kari lastet₂ bagasje i noe.
Kari loaded baggage into something
'Kari loaded baggage into something.'
- (124) *Kari lastet₁ noe med bagasje, men Trond husker ikke i hva
Kari loaded something with baggage, but Trond remembers not into what.
<hun lastet₂ bagasje>.
she loaded baggage
'Kari loaded something with baggage, but Trond doesn't remember into what
<she loaded baggage>.'

The other possible alternative comes down to the functional heads of sentences. Here the idea is that the distribution of the functional heads in the ellipsis site is different from the distribution of the functional heads in the antecedent. The idea is that the identity condition on ellipsis is sensitive to these functional heads, and that the ellipsis becomes unacceptable when the functional heads do not match (See Figure 2.7¹⁴).

¹⁴ The following illustration of this has a slightly different geometry than the one proposed by Merchant (2013), but the logic of his arguments about syntactic identity in ellipsis is still valid.

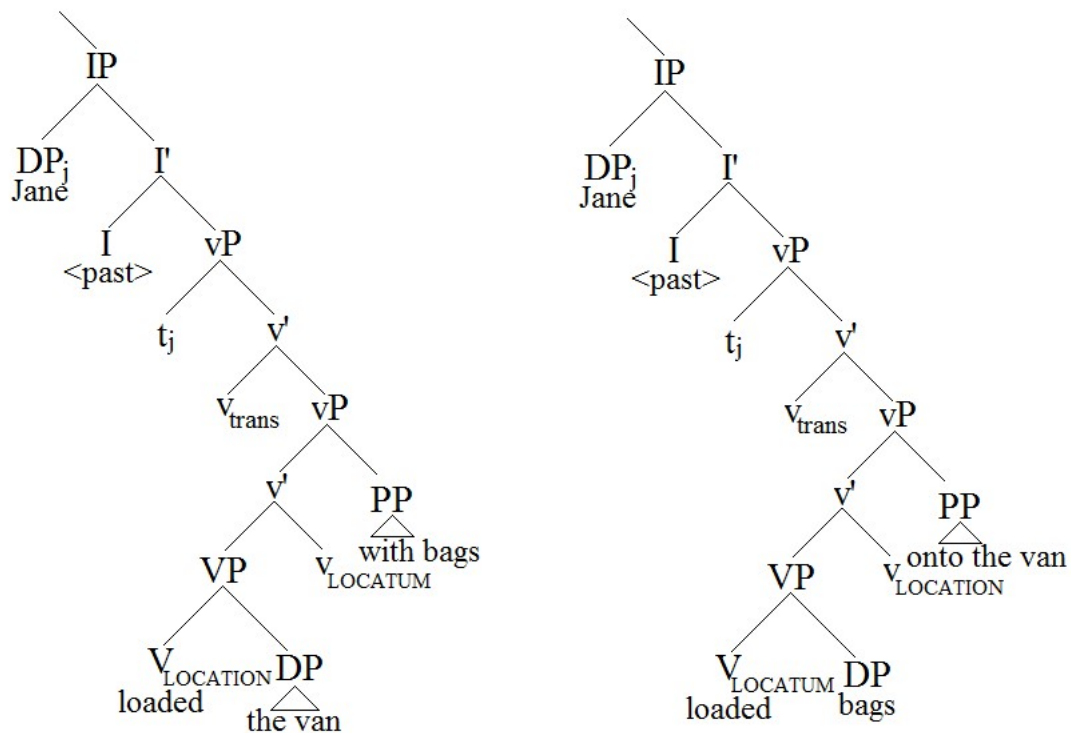


FIGURE 2.7 LOCATIVE ALTERNATION

Merchant (2013) does not decide on one or the other of these two solutions, but holds that both are possible. The largest part of his paper is devoted to explaining why VPE allows for the passive alternation, while other types of ellipses like sluicing does not. This divide in how voice is allowed to be distributed is in fact seen as more evidence for a partly syntactic identity on ellipsis.

To sum up, the reasons why alternations cannot alternate under ellipsis according to Merchant (2013) is because there are syntactic elements such as voice, functional heads or lexical properties in these alternations that change when they alternate, and that the identity condition on ellipsis is sensitive to these changes.

2.5.2 No Sprouting under Ellipsis

Another argument for a partly syntactic identity condition on ellipsis is sprouting. Sprouting can be defined in different ways, but this thesis will use the same definition as Chung (2013, p. 19). By this definition, sprouting is when the remnant interrogative phrase of an ellipsis does not have a correlate in the antecedent. This means that sprouting only happens with

the interrogative phrases of ellipses, and when there is no corresponding element to these wh-phrases in the antecedent. Chung has published several papers on the subject of sprouting. The ones that will be focused on here is the one from 2005¹⁵ and 2013.

2.5.2.1 Chung (2005) and ‘no new words’

In the paper published in 2005, Chung looks more closely at sluicing and points out that the e-GIVENness hypothesis by Merchant (2001), even though it can explain most of the phenomena found in ellipsis, will allow for ellipses that are unacceptable (Chung, 2005, p. 74). She argues that using semantics alone is not enough to explain how the content of ellipsis sites are recovered, i.e. the identity condition on ellipsis cannot only be explained by semantics. The identity condition is sensitive to the lexicon and possibly the syntax as well (Chung, 2005, p. 74). To illustrate her point, Chung points to preposition stranding in sluicing.

Chung (2005, p. 79) found that in languages that allow for preposition stranding a preposition can only be stranded in a sluice if the remnant of the sluice has an overt correlate in its antecedent IP. This means that if the remnant of the sluice is a sprouted prepositional phrase, then the preposition cannot be stranded (Chung, 2005, pp. 79-82). Both English and Norwegian allow for preposition stranding.

English

- (125) *John is dancing, but I don’t know who.
- (126) John is dancing with someone, but I don’t know who.
- (127) John is dancing, but I don’t know with whom.

¹⁵ Some refer to year 2006 when it comes to this paper, but on the official page of the Berkley Linguistics Society it says 2005.

Norwegian

- (128) *Gunnar snakker i telefonen, men jeg vet ikke hvem.
Gunnar talks in phone.DEF but I know not who
'Gunnar is talking on the phone, but I don't know who he talks with'
- (129) Gunnar snakker med noen i telefonen, men jeg vet ikke hvem.
Gunnar talks with someone in phone.DEF but I know not who
'Gunnar is talking with someone on the phone, but I don't know who'
- (130) Gunnar snakker i telefonen, men jeg vet ikke med hvem.
Gunnar talks in phone but I know not with whom
'Gunnar is talking in the phone, but I don't know with whom.'

This is a general pattern that holds for preposition phrases that are arguments of the verb and preposition phrases that are inside determiner phrases (Chung, 2005, p. 81).

- (131) She bought a painting, but I don't know by whom.
(132) *She bought a painting but I don't know who.

The fact that this pattern persists even when the prepositions are without semantic content suggests that this is something which is regulated by something other than semantics (Chung, 2005, p. 80).

- (133) They're jealous, but it is unclear of whom
(134) *They're jealous, but it is unclear who.

(Chung, 2005, p. 84)

To account for this pattern, Chung (2005, p. 83) adds a lexico-syntactic requirement to the requirement of e-GIVENness suggested by Merchant (2001). This lexico-syntactic requirement falls short of logical form (LF) isomorphism and states that.

- (135) 'Every lexical item in the numeration of the sluice that ends up (only) on the elided IP must be identical to an item in the numeration of the antecedent CP.'

(Chung, 2005, p. 83)

In other words, there can be no new words in the ellipsis site. This has become known as the 'no new words' constraint. Though Chung has in later years moved away from this theory towards the one stipulated in her 2013 paper, there are still some who use it. This is the reason why this theory has been included here.

2.5.2.2 Chung (2013) and the limited syntactic identity in sluicing

Chung's 2013 paper turns away from the explanation used in her 2005 paper, and suggests a new identity condition. She still uses the behaviour of prepositions under ellipsis as one of the evidences, but she now calls it sprouting of objects of prepositions. The definition of sprouting that this thesis uses is taken from this paper. Here sprouting is defined as interrogative phrases in ellipses that have no syntactically realised correlate in the antecedent (Chung, 2013, p. 19).

- (136) David danced with someone, but I don't know with whom.
(137) David dances with someone, but I don't know who.
(138) David danced, but I don't know with whom.
(139) *David danced, but I don't know who.

Following this definition, (136) and (137) contains no sprouting because the wh-phrase, *who*, has a correlate in the antecedent, *someone*. Both (138) and (139) do contain sprouting, because the wh-phrases do not have any correlates in their antecedent. As can be seen by these examples, not all types of sprouting is considered unacceptable. The reason why sprouting in (138) is fine, while sprouting in (139) is not is because (138) contains the sprouting is of a prepositional phrase, while (139) contains the sprouting of an object of a preposition. Why there is a difference between these two types of sprouting is one thing Chung (2013) aims to explain.

As mentioned earlier, the things noted in Chung (2005) is expanded upon and refined in Chung (2013). Chung once again looks at sluicing and its identity condition, but the 'no new word' constraint is changed into the limited syntactic identity in sluicing.

(140) *Limited syntactic identity in sluicing*

- a. *Argument structure condition*: If the interrogative phrase is the argument of a predicate in the ellipsis site, that predicate must have an argument structure identical to that of the corresponding predicate in the antecedent clause.
- b. *Case condition*: If the interrogative phrase is a DP, it must be Case-licensed in the ellipsis site by a head identical to the corresponding head in the antecedent.

(Chung, 2013, p. 30)

The argument structure condition basically states that the argument structure of the ellipsis site must be the same as the one in the antecedent. This is relevant for argument alternations under ellipsis. Chung (2013) does not say a great deal about this constraint since the main focus in Chung (2013) is on developing the Case condition.

The case condition is based on observations Chung (2013) makes about case effects in sluicing in both Chamorro and English. This new constraint states that if the case-licenser of the interrogative DP remains inside the ellipsis site, then it must be identical to a corresponding head in its antecedent (Chung, 2013, p. 3). In other words, the case of the antecedent and the case of the ellipsis have to match if the Case assigner remains inside the ellipsis site. This case constraint is combined with the need for the heads of the verbal spine to be syntactically identical, as suggested by Merchant (2013), and argument structure effects we predict that the argument structure of the ellipsis must be identical to the antecedent (Chung, 2013, p. 3). The English case effects that are used to show the case constraint in English is that of the sprouting of possessors, morphological mismatches and the sprouting of the objects of prepositions. Chung (2013) uses the sprouting of possessors, morphological mismatches and the sprouting of objects of prepositions to substantiate her claim.

The sprouting of possessors is not allowed in English, and this could also be explained through Case (Chung, 2013, pp. 25-27).

(141) I borrowed a book, but I won't tell whose.

(142) I borrowed someone's book, but I won't tell who.

(143) *I borrowed a book, but I won't tell who.

On first glance, it seems like the fully acceptable (141) is an instance where the possessor 'whose' has been sprouted. But the possessor *who* has the genitive case marker *-se* attached to

it, and this is evidence for ‘whose’ being part of a complete possessive determiner phrase (DP). In fact, ‘whose’ is part of the DP ‘whose book’. This DP remnant has undergone a noun phrase ellipsis (Chung, 2013, p. 26; Merchant, 2001, pp. 134, 165). This again means that the DP ‘whose <book>’ has a correlate in the antecedent in the DP ‘a book’. Because the wh-phrase has a correlate in the antecedent, there is no sprouting here. In other words, (141) is acceptable because, even if the genitive case is not there in the antecedent, it is overt in the remnant. (142) is acceptable because the case is made overt in the antecedent and does therefore not have to be overt in the ellipsis. This means that (143) is not acceptable because the genitive case is not made overt anywhere.

(144) *I borrowed a book, but I won’t tell who_j I borrowed t_j ‘s book.

The second evidence of the case constraint is that, though some morphological mismatches are completely fine in sluicing in English, there are others that are not. It is completely fine for the ellipsis site to have an infinitive or tensed clause which corresponds to a gerund in the antecedent (Chung, 2013, p. 27; Merchant, 2001, p. 22).

English

(145) Creating examples is challenging unless you know how <to create examples>.

(146) Heading for home was something John yearned to do if only he knew how <to head for home>.

Norwegian

(147) Baking er lett hvis du vet hvordan <man baker>.

Baking is easy if you know how you bake.

‘Baking is easy if you know how.’

(148) Reising er spennende uansett hvor <man reiser>.

Traveling is exciting no matter where you travel.

‘Traveling is exciting no matter where.’

But when the wh-remnant of a sluice is the subject of a finite clause, these morphological mismatches are no longer acceptable.

English

- (149) *Trying not to laugh is challenging no matter who ~~is trying not to laugh~~.

Norwegian

- (150) *Å prøve å ikke å le er utfordrende, uansett hvem <som prøver
To try to not to laugh is challenging no matter who which tries
ikke å le>.
not to laugh
Intended: 'To try not to laugh is difficult no matter who is trying not to laugh.'

Chung (2013, p. 27) points out that the reason behind this is because of Case. In the ellipsis site the wh-remnant of the sluice would get its Case from I (or T) because it is finite, but in the antecedent on the other hand, the corresponding I is not finite. Because of this there is a mismatch between the ellipsis site and the antecedent, and the identity condition on ellipsis is sensitive to this mismatch in Case.

The last evidence Chung (2013) puts forward of Case having an influence on sluicing brings us back to the examples at the beginning of this subsections (repeated below with added Norwegian examples) and is related to the observations she made in her 2005 paper. But while the 2005 paper discusses of the distribution of prepositions, here the focus is on the objects of preposition.

English

- (151) David danced with someone, but I don't know with whom.
(152) David danced with someone, but I don't know who.
(153) David danced, but I don't know with whom.
(154) *David danced, but I don't know who.

Norwegian

- (155) Ola lastet bilen med noe, men jeg vet ikke med hva.
Ola loaded car.DEF with something but I know not with what.
'Ola loaded the car with something, but I don't know with what.'
- (156) Ola lastet bilen med noe, men jeg vet ikke hva.
Ola loaded car.DEF with something but I know not what.
'Ola loaded the car with something, but I don't know what.'
- (157) *Ola lastet bilen, men jeg vet ikke hva.
Ola loaded car.DEF but I know not what
'Ola loaded the car, but I don't know what.'
- (158) Ola lastet bilen, men jeg vet ikke med hva.
Ola loaded car.DEF but I know not with what
'Ola loaded the car, but I don't know with what.'

As noted in her previous paper, preposition stranding languages like English and Norwegian only allow for a preposition to be stranded in a sluice if there is a correlate in the antecedent. Since it is the remnant of the sluice which is sprouted this means that it is acceptable to sprout the whole prepositional phrase, i.e. the preposition being pied-piped. When the preposition is stranded only the object of the preposition is part of the remnant. In these cases, only the object of the preposition is sprouted, and this is not considered acceptable. This means that, as with possessors, the objects of prepositions are not allowed to be sprouted (Chung, 2013). Importantly, the pattern that the preposition cannot be stranded without an overt correlate applies whether the preposition has semantic content or not (Chung, 2005), which leads to the conclusion that this pattern must be due to something syntactic. Chung (2013), once again, points to Case as the reason behind this.

The reason why the sprouting of objects of prepositions is not acceptable, while the sprouting of prepositional phrases is, comes down to the Case assigner. When a prepositional phrase is sprouted, as in (153) and (158), the Case assigner does not have a correlate in the antecedent with which it can match, but since it is not inside the ellipsis site it does not have to match. In (154) and (157), on the other hand, the Case-assigning head of the wh-phrase remains inside the remnant and must therefore have a correlate inside the antecedent. There is not corresponding Case assigner in the antecedent, and the result is unacceptability.

The last example of sluicing in English having case effects that Chung (2013) point out is what happens when the interrogative phrase of the sluice is the subject of a finite clause. Merchant (2001) point out that morphological mismatches are allowed in English when the antecedent is a gerund and the ellipsis is an infinite or tensed clause. As I show in (147) and (148), this is also the case in Norwegian.

Chung (2013) therefore argues that the identity condition on ellipsis must be partly syntactic. The same is argued for in Chung (2005) and Merchant (2013). But the data that Chung (2005, 2013) and Merchant (2013) have put forward is not as clear cut as they have presented it. The next chapter will show this.

3 Sprouting and Argument Alternations under Ellipsis: an empirical investigation

This chapter goes through the methods used and the data gathered in this thesis. The method section recounts what type of investigations was done and in what way. I then go on to repeat the claims that are looked at in this thesis in a short sub-chapter, before relating the results found through the research done here. These results are shown as averages in tables. For a more detailed image of the results see Appendix B: Results from the second survey.

3.1 Method

3.1.1 Materials used

The main method used in this thesis was comparing results of questionnaires with existing theories on the identity condition on ellipsis. It is a synchronic analysis of ellipsis which aims to be under the paradigm of Generative Syntax. Data was collected by using surveys and by looking at previous research. The theory of ellipsis that was used as a starting point was that of Merchant (2001).

3.1.2 Survey

The main method of this thesis was, as mentioned earlier, to compare the results of a survey with the claims made by some researchers in the field. The surveys were in written form and handed out for participants to answer in their own time. I chose to use a written survey instead of using a recording of the example sentences because it was more accessible. A problem with using a written survey is that it allows for the participants to give the sentences different meanings based on the intonation they gave it. The focus of the survey was to establish if certain different types of alternations under ellipsis and sprouting of objects of prepositions were equally unacceptable. It collected data on a wide range of phenomena, and looked at sprouting of objects of prepositions, different alternations under ellipsis, and gradience. The first two were investigated to establish to what extent prepositions can be sprouted in ellipses in Norwegian and that Norwegian also does not allow for alternations under ellipsis. The last one was to see if the unacceptability of the ellipses that according to Merchant (2001, 2013,

2016) and Chung (2005, 2013) should be seen as completely unacceptable, was more graded than simply grammatical or ungrammatical.

The survey was done in both English and in Norwegian to see if the same pattern could be found in more than one language. The surveys had a scale from 1 to 5 where 1 was considered completely unacceptable and 5 was considered completely acceptable. This way the participants could give two unacceptable sentences different scores if they felt that one was more acceptable than the other.

Dative Alt	Sentence	1 Completely unacceptable	2	3	4	5 Completely acceptable	Comments
1	John gave someone a gift, but I don't know to whom.						

The scores that were given to each sentence were then made into an average by adding them and dividing them by the number of participants. These scores are the ones that can be seen in the tables in this chapter.

There were two participants in the English survey. Both were linguists with experience within the field of ellipsis. The Norwegian survey had six participants. Of these, 5 were naïve speakers and one a linguist without any experience within the field of ellipsis research. Any English speaker judgements that was not covered by the surveys used here were all taken from my supervisor, Andrew Weir, who is a native speaker of British/Scottish English. Because there were not so many participants in the surveys this is more of a preliminary investigation, and more research needs to be done before any conclusions made here can be considered certain.

The reason I am gathering speaker judgements for English is because I am not a native speaker of English. As for Norwegian, where I could have only used my own judgements seeing as I am a native speaker of Norwegian, it was decided that since my Norwegian is influenced by English it would be best to get other speaker judgements. In addition to this, it is always good to confirm judgements, especially when talking not only about whether something is grammatical or not, but also ‘degrees’ of acceptability.

3.1.3 Some issues

For most of the time I used the same or equivalent sentences in both the Norwegian and the English survey. One exception was that I used *rydde* (*clear*) instead of *sådde* (*sow*) because of how the preposition *med* (*with*) easily got an instrumental reading with *sådde*. The problem is the preposition *med*, and its equivalent *with* in English, always have the option of the instrumental reading which could have influenced how the participant perceived the example sentences. Another interpretational problem is one associated with the dative alternation where in sprouting the interrogative phrase could be interpreted as the direct object, i.e. as not sprouted, which results in an acceptable sentence, if sometimes a bit morbid¹⁶.

(1) Stephen served dinner, but I don't know who <*he served (as dinner)*>.

(2) Ola ga en gave, men jeg vet ikke hvem <*han ga (som en gave)*>.

Ola gave a gift but I know not who he gave as a gift

Intended: 'Ola gave a gift, but I don't know who he gave as a gift.'

3.2 The empirical claims

The empirical claims made by Merchant (2013), Chung (2005) and Chung (2013) is the focus of this thesis. The claim made by Merchant (2013) is that there must be a syntactic identity condition on ellipsis because argument alternations are not allowed under ellipsis. The relevant examples he used are:

Voice alternation

(3) *Someone murdered Joe, but we don't know who by.

(4) *Joe was murdered, but we don't know who.

(Merchant, 2013, p. 81)

Dative alternation

(5) *They served someone the meal, but I don't know to whom.

(Merchant, 2013, p. 99)

¹⁶ Some of the participants commented on this.

The locative alternation

(6) *They embroidered something with peace signs, but I don't know what on.

(7) *They embroidered something on their jackets, but I don't know with what.

(Merchant, 2013, p. 100)

His paper supports a paper written by Chung (2005).

In Chung (2005, p. 74) it is claimed that semantics alone is not enough for the ellipsis site to be recovered, i.e. the identity condition on ellipsis cannot be only a semantic one. Two things she points out as evidence for this is preposition stranding and argument alternations. Her claims are that it is unacceptable to strand a preposition inside an ellipsis site if it is not also present in the antecedent.

Preposition stranding

(8) *They're jealous but it is unclear who.

(9) They're jealous, but it is unclear of who[sic].

(Chung, 2005, pp. 79-80)

(10) Per spilte en duett, men jeg vet ikke med hvem.

Per played a duet but I know not with whom

'Per was playing a duet, but I don't know with whom.'

(11) *Per spilte en duett, men jeg vet ikke hvem.

Per played a duet but I know not who

'Per was paying a duet, but I don't know who'

(Chung, 2005, p. 81)

In this paper Chung (2005, p. 88) also makes the claim that sluicing does not tolerate any type of argument alternation mismatches.

Voice alternation

(12) *Someone arrested Alex, but we don't know by who[sic].

(Chung, 2005, p. 88)

These discoveries are used as an argument for a partly syntactic identity condition on ellipsis.

The argument made in Chung (2013) builds on the same evidence as the one made in Chung (2005). She continues the argument made by Merchant (2013) that argument alternations are completely unacceptable under ellipsis.

Voice alternation

(13) *Kelly was murdered but we don't know who.

(Chung, 2013, p. 3)

Dative alternation

(14) *It is known that they sent a silly message, but it is unclear who.

(15) *It is known that they sent someone a silly message but it is unclear to who[sic].

(Chung, 2013, p. 3)

As can be seen above, both Chung (2005, 2013) and Merchant (2013) indicate that these are all either unacceptable (*) or acceptable, but I believe that the distinctions may be more subtle and am therefore investigating if these sentences are more gradient. If this could be the case, then any theory on ellipsis should take this gradient into account.

3.3 The data

3.3.1 The results of the dative alternation

To start with, it should be acknowledged that having only two informants for the English survey means that there is not necessarily enough data to draw any firm conclusions from. The English survey will therefore function as a rough baseline in order for comparisons to be drawn with Norwegian.

Based on the definition of sprouting used in this thesis, both the English and the Norwegian sentences that has to do with the dative alternation can roughly be divided into five: sentences that have two sprouting options, sprouting of a prepositional phrase only, sentences with argument alternations only, sentences that have no sprouting or argument alternations, and sentences that are non-elliptical. First the non-elliptical sentences that show the dative alternation will be looked at in order to make a baseline from which to compare the elliptical sentences. The numbers in brackets behind each sentence is the number these sentences have in the surveys.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Non-elliptical sentences	John gave someone a gift, but I don't know to whom he gave a gift. [2]	Ola ga noen en gave, men jeg vet ikke til hvem han ga en gave. [2]	5.0	4.3
	John gave a gift but I don't know who he gave a gift. [3]	Ola ga en gave, men jeg vet ikke hvem han ga en gave. [3]	3.0	3.2
	Stephen served someone dinner, but I don't know to whom he served dinner. [7]	Jørn serverte noen middag, men jeg vet ikke til hvem han serverte middag. [7]	5.0	3.8
	Stephen served dinner to someone, but I don't know who he served dinner to. [8]	Jørn serverte middag til noen, men jeg vet ikke hvem han serverte middag ¹⁷ . [8]	5.0	3.3
	Susan sold someone a car, but I don't know to whom she sold a car. [12]	Trine solgte noen en bil, men jeg vet ikke til hvem hun solgte en bil. [12]	4.5	3.8
	Susan sold a car to someone, but I don't know who she sold a car. [13]	Trine solgte en bil til noen, men jeg vet ikke til hvem hun solgte en bil ¹⁸ . [13]	4.5	3.0

¹⁷ This is slightly different from the English sentence in that the wh-phrase is an indirect object and not a prepositional phrase. Translated the sentence would be *Jørn served dinner to someone, but I don't know who he served dinner*. This means that the English sentence contains no argument alternations while the Norwegian does.

¹⁸ This sentences is also different from the English one. This translates into *Trine sold a car to someone, but I don't know to whom she sold a car*. This time the Norwegian sentence lack alternation while the English sentence alternates. I am aware of the differences between the Norwegian and English sentences [8] and [13], but have not taken these into account because they are not relevant for what is discussed here.

Non-elliptical sentences are number 2, 3, 7, 8, 12 and 13. In the English survey, these, with the exception of number 3, all got an average of 4.5 and above. The reason why 3 got a lower average of 3.0 might be due to the fact that the participants found it odd to say ‘John gave a gift’. English does, on the other hand, not have an issue about saying ‘Susan sold a car.’ The Norwegian participants gave the non-elliptical sentences a lower score than the English with most of them having an average between 3 and 4, and only one sentence getting an average above 4. This might be due to the prepositions being pied-piped. There seems to be a preference for stranding prepositions in non-elliptical sentences.

- (16) Ola ga noen en gave, men jeg vet ikke til hvem han ga en gave.
Ola gave someone a gift but I know not to whom he gave a gift
‘Ola gave someone a gift, but I don’t know to whom he gave a gift.’
- (17) Ola ga noen en gave men jeg vet ikke hvem han ga en gave til.
Ola gave someone a gift but I know not who he gave a gift to
‘Ola gave someone a gift, but I don’t know who he gave a gift to.’

This means that (17) is preferred over (16). The same might hold for English as well. Explaining why not all sentences got an average of 5.

The following table show sentences that can undergo the dative alternation which contain sprouting and the averages these sentences got.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sentences with two sprouting options. SU-VBL-DO into either SU-VBL-DO- PP_{obj}¹⁹ Or SU-VBL-IO-DO	John gave a gift, but I don't know who. [4]	Ola ga en gave, men jeg vet ikke hvem. [4]	1.0	1.0
	Stephen served dinner, but I don't know who. [10]	Jørn serverte middag, men jeg vet ikke hvem. [10]	1.0	1.7 ²⁰
	Susan sold a car, but I don't know who. [15]	Trine solgte en bil, men jeg vet ikke hvem. [15]	1.0	1.0

The sentences that involve sprouting inside the ellipsis site are sentences 4, 10 and 15 in both surveys. These sentences have two alternatives to what is sprouted. Either the indirect object has been sprouted or the object of a prepositional phrase.

English

- (18) John gave a gift, but I don't know who.
- (19) John gave a gift,
- a. ... but I don't know who_j he gave a gift to t_j.
 - b. ... but I don't know who_j he gave t_j a gift.

¹⁹ When obj. is after the PP, it means that it is the object of the prepositional phrase which is sprouted. This is to distinguish the sprouting of prepositional phrases, which according to the literature should not be a problem, from the sprouting of the objects of prepositions, which is considered unacceptable by Chung (2005, 2013).

²⁰ One of the participants commented that they found this acceptable if the wh-remnant represented the thing served for dinner, which was not the intended meaning.

Norwegian

- (20) Ola ga en gave, men jeg vet ikke hvem.
Ola gave a gift but I know not who
Intended: ‘Ola gave a gift but I don’t know who he gave a gift to.’
- (21) Ola ga en gave,
Ola gave a gift
‘Ola gave a gift,’
- a. ... men jeg vet ikke hvem_j [han ga en gave til t_j].
... but I know not who he gave a gift to
‘... but I don’t know who he gave a gift to.’
- b. ... men jeg vet ikke hvem_j [han ga t_j en gave].
... but I know not who he gave a gift
‘... but I don’t know who he gave a gift.’

These sentences received the worst score of all the sentences in that had to do with the dative alternation. In the English survey they all got an average of 1.0, and in the Norwegian survey they also got the average of 1.0 and one got an average of 1.7. The higher average of the last sentence can be explained by the participant giving it an interpretation which was not intended (see footnote 20).

A thing that is important to note here is that these sentences are not considered to contain argument alternations here. The reason behind this is that argument alternations are defined as an argument or arguments changing places, but this does not happen here. In these sentences, what was the direct object in the antecedent still is the direct object in the ellipsis site. The only difference is that either an indirect object or a prepositional phrase has been sprouted. The fact that they have been sprouted means that they have no correlate in their antecedent which means that they have had no previous place or function. This again means that they are not alternating at all since they are not changing their function, merely getting one.

The next table show sentences that contain sprouting of a prepositional phrase and their averages.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sprouting of a prepositional phrase only SU-VBL-DO into SU-VBL-DO-PP	Susan sold a car, but I don't know to whom. [16]	Trine solgte en bil, men jeg vet ikke til hvem. [16]	5.0	4.5

Both surveys contain only one sentence where the only possibility is the sprouting of a prepositional phrase, and that is number 16. This sentence does not involve argument alternation though, and is considered acceptable by both the Norwegian and the English participants. Though it got a slightly lower score of 4.5 by the Norwegian participants. The sprouting of prepositional phrases is allowed.

Next is a table showing sentences that undergo the dative alternation under ellipsis, and their averages.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Argument alternations only SU-VBL-IO-DO into SU-VBL-DO-PP	John gave someone a gift, but I don't know to whom. [1]	Ola ga noen en gave, men jeg vet ikke til hvem. [1]	2.5	4.0
	Stephen served someone dinner, but I don't know to whom. [6]	Jørn serverte noen middag, men jeg vet ikke til hvem. [6]	3.0	4.7
	Susan sold someone a car, but I don't know to whom. [11]	Trine solgte noen en bil, men jeg vet ikke til hvem. [11]	2.5	4.2

The sentences with argument alternations only are, in both surveys, number 1, 6 and 11. In the Norwegian survey these all got high scores of above 4. The scores in the English survey, on the

other hand, were quite lower with an average of 2.5 given to two of them and an average of 3.0 to one.

The table below show the averages of sentences that could either contain the dative alternation or no alternation.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sentences with either argument alternation or no argument alternation and no sprouting SU-VBL-DO-PP Into either SU-VBL-DO-PP Or SU-VBL-IO-DO	John gave a gift to someone, but I don't know who. [5]	Ola ga en gave til noen, men jeg vet ikke hvem. [5]	5.0	3.7
	Stephen served dinner to someone, but I don't know who. [9]	Jørn serverte middag til noen, men jeg vet ikke hvem. [9]	5.0	4.3
	Susan sold a car to someone, but I don't know who. [14]	Trine solgte en bil til noen, men jeg vet ikke hvem. [14]	5.0	3.5

The sentences that had two conceivable ways of filling in the ellipsis site. One is where an argument alternation happens under ellipsis. The other option involve no sprouting and no argument alternation. The relevant sentences are number 5, 9 and 14. The two possible ways the ellipsis site could be filled in is shown in (22) and (24).

English

(22) John gave a gift to someone, but I don't know who. [5]

(23) John gave a gift to someone,

- a. ... but I don't know who; he gave a gift to t_j.
- b. ... but I don't know who, he gave t_j a gift.

Norwegian

- (24) Jørn serverte middag til noen, men jeg vet ikke hvem. [9]
Jørn served dinner to someone, but I know not who.
'Jørn served dinner to someone, but I don't know who.'
- (25) Jørn serverte middag til noen,
Jørn served dinner to someone
'Jørn served dinner to someone,'
- a. ... men jeg vet ikke hvem; han serverte middag til t_j.
... but I know not who he served dinner to
'... but I don't know who he served dinner to.'
- b. ... men jeg vet ikke hvem; han serverte t_j middag.
... but I know not who he served dinner
'... but I don't know who he served dinner.'

From these examples it is clear that speakers have the option of filling in the ellipsis site with a sentence that contains neither argument alternation nor sprouting, i.e. option (23)a and (25)a. The availability of a parse which can be expected to be fully grammatical explains why these sentences all got an average of 5.0 in the English survey, and the scores these sentences got match the scores given to the non-elliptical sentences with an average about 3 and 4 in the Norwegian one.

Using the non-elliptical sentences as a base line, sentences with sprouting are considered less acceptable than their non-elliptical counterparts. Dative argument alternations under ellipsis are considered less acceptable than their non-elliptical counterparts in English, but more acceptable than their non-elliptical counterparts in Norwegian. Sentences containing sprouting of prepositional phrases were seen as better than their non-elliptical counterparts, while the sentences that had one option where there was neither sprouting nor alternations under ellipsis were about equal.

3.3.2 The results of the voice alternation

Before the data of the active-passive alternation is looked at, how the term sprouting is used should once again be specified. The definition proposed by Chung (2013) is still being used, but when it comes to passive it could be argued that the syntactic structure going from

passive to active does not involve sprouting at all depending on how the passive voice is realised. I have decided to interpret the switch from passive to active as sprouting in that, though there might be a structural subject position in the passive sentences, there is no explicit correlate in the antecedent and therefore it fits the definition by Chung (2013)²¹.

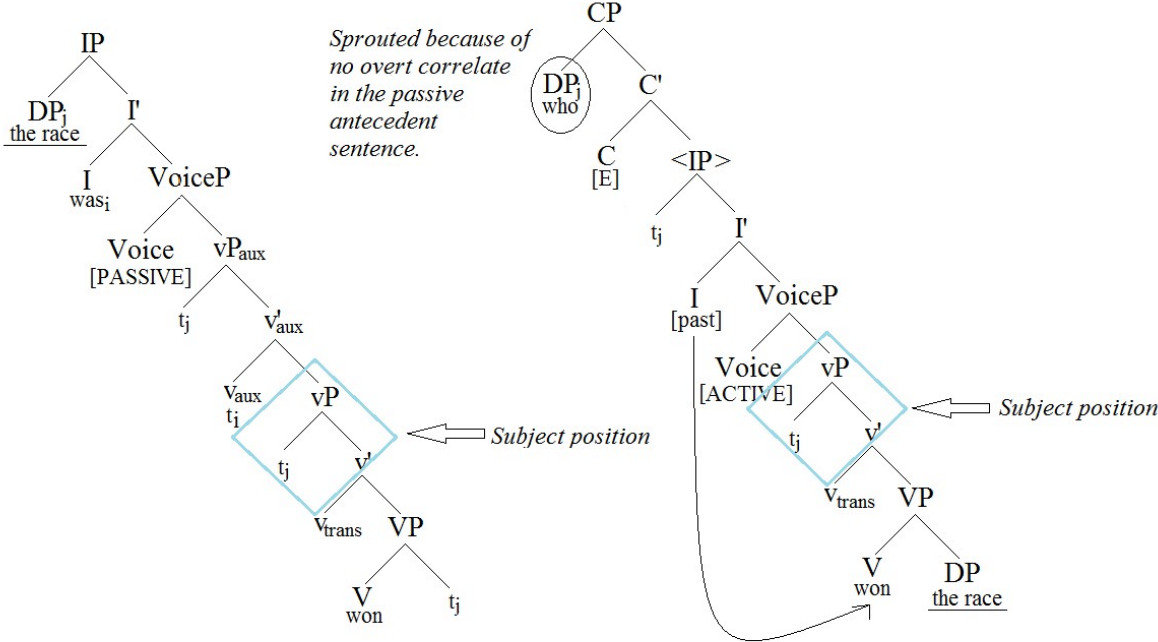


FIGURE 3.1 ENGLISH VOICE ALTERNATION UNDER ELLIPSIS

²¹ In the both the Norwegian and the English illustration of this, I assume that the object in a passive sentence moves through the structural subject position, [Spec, vP], on its way up to [Spec, IP] [or [Spec, CP] in Norwegian). This means that the structural subject position is occupied by the trace of the object in passive sentences.

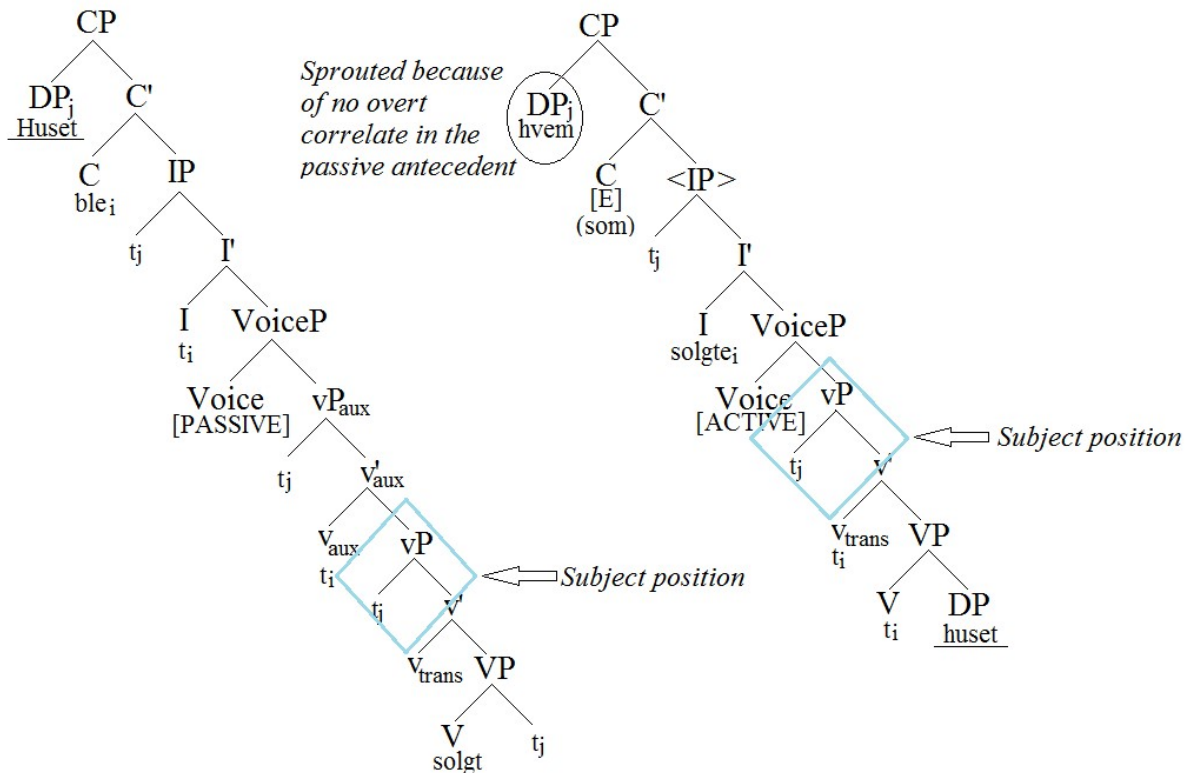


FIGURE 3.2 NORWEGIAN PASSIVE STRUCTURE

As can be seen from both the English and the Norwegian illustration above, the structure of the subject position is there in both the active and the passive version, and it could be argued that the subject is implied in passive. But since the definition of sprouting is that the remnant wh-phrase does not have an overt correlate in the antecedent, the fact that a subject is implied is irrelevant and this will be seen as sprouting. There are no overt phrases in the passive sentence that correspond to the wh-phrase of the remnant. Having established this, the data collected on the active-passive alternation will now be presented.

In both the Norwegian and the English survey, the sentences that are associated with the voice alternation can roughly be divided into four types: sentences involving sprouting, sentences with only argument alternation, sentences without sprouting and non-elliptical sentences. As was done earlier, first the non-elliptical sentences will be gone through in order to establish a benchmark.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Non-elliptical sentences	The race was won but we don't know who won it. [2]	Løpet ble vunnet, men vi vet ikke hvem som vant det. [2]	5.0	4.3
	Someone won the race, but we don't know by whom the race was won. [5]	Noen vant løpet, men vi vet ikke av hvem løpet ble vunnet. [5]	5.0	4.0
	The house was sold, but we don't know who sold the house. [8]	Huset ble solgt, men vi vet ikke hvem som solgte huset. [8]	5.0	4.8
	Someone sold the house, but we don't know by whom the house was sold. [10]	Noen solgte huset, men vi vet ikke av hvem huset ble solgt. [10]	4.5	3.5

Non-elliptical sentences are number 2, 5, 8 and 10. These should be considered as acceptable according to Merchant (2013) since alternations should only be a problem under ellipsis. In the Norwegian survey, the sentences 2, 5 and 8 got fairly high averages of 4.3, 4.0 and 4.8 respectively. Sentence 10 had a slightly lower average of 3.5. This means that they are not considered completely acceptable. In the English survey, on the other hand, 2, 5 and 8 all got the average score of 5.0, while 10 got 4.5.

Now that the benchmark has been established, the next table contain elliptical sentences that contain sprouting and the averages the participants gave these.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sentences involving two possible types of sprouting	The race was won, but we don't know who. [1]	Løpet ble vunnet men vi vet ikke hvem. [1]	1.0	1.0
	The house was sold, but we don't know who. [6]	Huset ble solgt, men vi vet ikke hvem. [6]	1.0	1.5
SUPASS²²-VBL				
Into either				
SU-VBL-DO				
Or				
SUPASS-VBL-PP				

The sentences that involve sprouting are number 1 and 6. These sentences have two possible ways of filling in the ellipsis site.

English

- (26) The race was won, but we don't know who. [1]
(27) The race was won,
a. ... but we don't know who won the race.
b. ... but we don't know who the race was won by.

Norwegian

- (28) Huset ble solgt, men vi vet ikke hvem. [6]
(29) Huset ble solgt,
House.DEF was sold
'The house was sold,'
a. ... men vi vet ikke hvem som²³ solgte huset.
... but we know not who which sold house.DEF
'... but we don't know who sold the house.'
b. ... men vi vet ikke hvem huset ble solgt av.
... but we know not who house.DEF was sold by
'... but we don't know who the house was sold by.'

²² PASS is used to distinguish a passive subject from an active one.

²³ In Norwegian, 'som' is obligatory in wh-phrases when the wh-phrase is moved from the subject position (Åfarli & Eide, 2003, p. 258).

With the interpretation of (27)a and (29)a, the subject of the ellipsis is sprouted and there is an argument alternation from passive to active. In (27)b and (29)b, on the other hand, a prepositional phrase has been sprouted and there is no argument alternation. But no matter which option is chosen for these sentences, they will always involve sprouting. These sentences were also the sentences which scored lowest in both surveys, both sentences getting an average of 1.0 in the English survey, and an average of 1.0 and 1.5 in the Norwegian one. The fact that these sentences got such low scores imply that some violation is happening here, and whether it is sprouting or argument alternation, this rule violation is considered very bad. Some of the participants even described these sentences as word salad.

The next table shows the averages given sentences that undergo the voice alternation under ellipsis.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sentences with argument alternation only	Someone won the race, but we don't know by whom. [4]	Noen vant løpet, men vi vet ikke av hvem. [4]	1.5	2.7
	SU-VBL-DO	Someone sold the house, but we don't know by whom. [9]	1.0	2.7
Into SUPASS-VBL-PP				

These are the sentences 4 and 9 in both surveys, and they have only one conceivable way of filling in the ellipsis site, argument alternation.

(30) Someone won the race, but we don't know by whom <the race was won>. [4]

(31) Noen solgte huset, men vi vet ikke av hvem <huset ble

Someone sold house.DEF but we know not by whom house.DEF was

solgt>.

sold [9]

Intended: 'Someone sold the house, but we don't know by whom it was sold.'

These sentences have 'someone' in the antecedent of the ellipsis which means that, though there is new structure in the ellipsis site by the PP 'by whom' and 'av hvem' having

been added, they have a correlate in the antecedent. In the English survey, these sentences got an average of 1.5 and 1.0 making them marginally better than the sentences involving sprouting. The scores given to them in the Norwegian survey were higher, sentence 4 getting an average of 2.7 and sentence 9 getting an average of 2.7. But, even in the Norwegian survey, these sentences were considered second worst.

The averages given sentences that can be considered to have either a voice change or no voice change is shown in the next table.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Sentences without sprouting SU _{PASS} -VBL-PP Into either SU-VBL-DO Or SU _{PASS} -VBL-PP	The race was won by someone, but we don't know who. [3]	Løpet ble vunnet av noen, men vi vet ikke hvem. [3]	4.5	4.6
	The house was sold by someone, but we don't know who. [7]	Huset ble solgt av noen, men vi vet ikke hvem. [7]	4.5	4.5

The sentences that does not have sprouting are number 3 and 7. Both these sentences have two ways of filling the ellipsis site. One where there is an alternation from passive to active, and the other where there is no alternation and no sprouting.

English

- (32) The race was won by someone, but we don't know who. [3]
- (33) The race was won by someone,
- a. ... but we don't know who; t_j won the race.
 - b. ... but we don't know who; the race was won by t_j.

Norwegian

- (34) Huset ble solgt av noen, men vi vet ikke hvem. [7]
House.DEF was sold by someone, but we know not who.
'The house was sold by someone, but we don't know who.'
- (35) Huset ble solgt av noen,
House.DEF was sold by someone
'The house was sold by someone,'
- a. ... men vi vet ikke hvem; som solgte; t_j t_i huset.
... but we know not who which sold house.DEF
'... but we don't know who sold the house.'
- b. ... men vi vet ikke hvem huset ble solgt av.
... but we know not who house.DEF was sold by
'... but we don't know who the house was sold by.'

As can be seen, the options (33)a and (35)a entail argument alternation from passive to active while (33)b and (35)b have no argument alternation and no sprouting since there is a correlate in the antecedent. In these sentences, the *wh*-phrase has a correlate in the antecedent in the prepositional phrases 'by someone' and 'av noen' and there is therefore no sluicing in either. Also, since the *b* option does not entail argument alternation, this option would not violate any of the rules postulated by Merchant (2013) and Chung (2013). From this it is possible to assume that, though they had these two options, the participants would automatically have the interpretation of (33)b and (35)b. This could explain the high scores sentences 3 and 7 got in both the Norwegian and the English survey.

There is a difference in scores based on whether the sentences are going from active to passive or from passive to active.

English

- (36) Someone sold the house, but we don't know by whom. (*Active to passive*)
- (37) The house was sold, but we don't know who. (*Passive to active*)

Norwegian

- (38) Noen vant løpet, men vi vet ikke av hvem. (*Active to passive*)
Someone won race.DEF but we know not by whom
Intended: 'Someone won the race, but we don't know by whom it was won.'

- (39) Løpet ble vunnet, men vi vet ikke hvem. (*Passive to active*)
 Race.DEF was won but we know not who
 Intended: ‘The race was won, but we don’t know who won it.’

The following tables show this difference in score by summing up the averages given to these sentences. First the Norwegian scores are given, and then the English. In both the English and the Norwegian, tables showing non-elliptical scores come first, before being followed by the elliptical ones.

Norwegian

Non-elliptical active to passive	Non-elliptical passive to active
4.0 [5]	4.3 [2]
3.5 [10]	4.8 [8]
Elliptical active to passive	Elliptical passive to active ²⁴
2.7 [4]	1.0 [1]
2.7 [9]	1.5 [6]

English

Non-elliptical active to passive	Non-elliptical passive to active
5.0 [5]	5.0 [2]
4.5 [10]	5.0 [8]
Elliptical active to passive	Elliptical passive to active
1.5 [4]	1.0 [1]
1.0 [9]	1.0 [6]

Looking at the table above the pattern seems to be that the non-elliptical sentences going from active to passive get slightly lower scores than the sentences going from passive to active. With the sentences containing ellipsis, the ones going from active to passive got a higher score

²⁴ The sentences 3 and 7 most likely got the parse without argument alternation.

that the sentences going from passive to active. This pattern seems to be the same in both English and Norwegian.

The division of the scores is clearer in the Norwegian survey than in the English. In the Norwegian survey, all the active-to-passive non-elliptical sentences have lower scores than their passive-to-active counterparts. The elliptical sentences show the opposite pattern. Here, all the passive-to-active alternations had lower scores than the active-to-passive counterparts in the Norwegian survey. In the English survey, on the other hand, there was only one of the scores that stood out each time in order to differentiate between the two. Since this pattern is less clear in the English survey the difference in scores that two of the sentences got could be attributed to other things such as the non-elliptical sentences involving pied-piping when there seem to be a preference for stranding. But if it had been a random quality of the sentences which caused the lower scores in English, it is odd that this would mirror the pattern found in Norwegian. From this a tentative theory could be made that when it comes to argument alternation in non-elliptical sentences passive-to-active is preferred while in elliptical sentences active to passive is preferred.

In the non-elliptical sentences, it is interesting that there is a difference in preference. Technically, these types sentences should be equal since both types involve a non-elliptical argument alternation. The fact that going from active to passive is less preferred than those going from passive to active shows that maybe this is something that should be further looked into. Of course, it could also be due to the fact that both English and Norwegian prefer to strand prepositions when possible, i.e. non-elliptical sentences. This was not done in these sentences and could be the reason behind the low scores. What is important to note is that this preference is not a general preference in voice change. In fact, non-elliptical sentences show the opposite pattern in preference than elliptical ones do.

Why the elliptical sentences seem to be considered more acceptable when they go from active to passive than the other way around seems to fit the pattern found in the other alternations. When the sentences go from active to passive they contain only the voice argument alternation. The passive to active change involves sluicing and sluicing seems to be less preferred than argument alternation.

That this pattern of disliking certain types of sprouting more than argument alternation seems to hold for both Norwegian and English. It is interesting because none of (Chung, 2005), (Chung, 2013), or (Merchant, 2013)'s theories mentions this.

3.3.3 The results of the locative alternation

The locative alternation sentences can, in both the Norwegian and the English surveys, be divided into five categories: non-elliptical, sprouting, argument alternation only, non-alternating sprouting, non-sprouting sentences with two options. Non-elliptical sentences are in both the Norwegian and English survey sentences number 2, 4, 9, 11 and 13. Sprouting sentences are sentences number 5 and 12. Argument alternation only sentences are sentences 1, 3, 8 and 10. Non-alternating sprouting sentences are sentences 7 and 14. There is only one non-sprouting sentences with two options when it comes to filling in the ellipsis site in both surveys and that is sentence 6. As done before, a table showing the non-elliptical sentences and their averages comes first.

Sentence type	Sentence number		Sentence average	
	English	Norwegian	English	Norwegian
Non-elliptical sentences	They sowed something in the field, but I don't know with what they sowed the field. [2]	Ola ryddet noe av bordet, men jeg vet ikke for hva han ryddet bordet. [2] ²⁵	4.5	2.5
	They sowed some field with tulips, but I don't know in which field they sowed the tulips. [4]	Ola ryddet noe for asjetter, men jeg vet ikke av hva han ryddet asjetter. [4] ²⁶	4.0	2.3
	Jane loaded something with bags, but I don't know into what she loaded bags. [9]	Kari lastet noen med sekker, men jeg vet ikke i hva hun lastet sekker. [9]	4.0	2.2
	Jane loaded something into the van, but I don't know with what she loaded the van. [11]	Kari lastet noe i bilen, men jeg vet ikke med hva hun lastet bilen. [11]	4.5	3.2
	Jane loaded the van, but I don't know what she loaded the van with. [13]	Kari lastet bilen, men jeg vet ikke hva hun lastet bilen med. [13]	5.0	5.0

Most of the non-elliptical sentences in the English survey got an average of 4.5 with the exception of sentence 13 which got an average of 5.0. The same pattern can be found in Norwegian though the averages of sentences 2, 4, 9 and 11 were even worse being 2.5, 2.3 and

²⁵ The translation for this sentence is 'Ola cleared something off the table, but I don't know of what he cleared the table.'

²⁶ The translation for this sentence is 'Ola cleared something of plates, but I don't know off what he cleared the plates' [4].

3.2 respectively. Once again sentence 13 got a score of 5.0. The degraded scores of sentences 2, 4, 9 and 11 can be explained by the preposition being pied-piped.

English

- (40) They sowed something in the field, but I don't know with what they sowed the field.
- (41) They sowed something in the field, but I don't know what they sowed the field with.

Norwegian

- (42) Kari lastet noe i bilen, men jeg vet ikke med hva hun lastet
Kari loaded something into car.DEF but I know not with what she loaded
bilen.
car.DEF
'Kari loaded something into the car, but I don't know with what she loaded the car.'
- (43) Kari lastet noe i bilen, men jeg vet ikke hva hun lastet bilen
Kari loaded something into car.DEF but I know not what she loaded car.DEF
med.
with
'Kari loaded something into the car, but I don't know what she loaded the car with.'

As mentioned earlier, English and Norwegian both seem to prefer the preposition to be stranded in non-elliptical sentences, like in (41) and (43), and sentence 13 is the only one in the relevant section of both surveys where the preposition is stranded. The difference in averages mirrors this preference and, though it is not directly relevant for this thesis, it is important to note that it is very likely that this influenced the scores given. Looking at preferences of pied-piping in ellipsis sites and outside could be an interesting topic to pursue elsewhere.

Next is the results for sprouting in sentences that can undergo the locative alternation.

Sentence type	Sentence		Sentence average	
	English	Norwegian ²⁷	English	Norwegian
Sentences with sprouting	They sowed the field, but I don't know what. [5]	Ola ryddet bordet, men jeg vet ikke hva. [5]	1.0	2.2
SU-VBL-DO				
Into either	Jane loaded the van, but I don't know what. [12]	Kari lastet bilen, men jeg vet ikke hva. [12]	1.0	2.3
SU-VBL-DO-PP_{obj.-location}²⁸				
Or				
SU-VBL-DO-PP_{obj.-locatum}				

These two sprouting sentences, i.e. number 5 and 12, have two alternative ways of filling in the ellipsis site. One where there is argument alternation and sprouting of a direct object, and one where there is no argument alternation but sprouting of the object of a preposition.

English

- (44) They sowed the field, but I don't know what. [5]
- (45) They sowed the field,
- a. ... but I don't know what_j they sowed t_j in the field.
 - b. ... but I don't know what_j they sowed the field with t_j.

²⁷ These sentences, i.e. *Ola ryddet bordet, men jeg vet ikke hva* and *Kari lastet bilen, men jeg vet ikke hva*, might have been given a different interpretation. It is possible to conceive of an interpretation where (...) *men jeg vet ikke hva* is given the interpretation (...) *men jeg vet ikke hva annet han/hun gjorde* (... but I don't know what else he/she did). If this is what happened, it could explain why these sentences got a slightly higher sprouting score.

²⁸ As earlier mentioned, *obj.* is used to distinguish the sprouting of objects of prepositions from the sprouting of preposition phrases. *Location* and *locatum* is used to show with of the arguments are in the PP in order to show the locative alternation. If nothing is mentioned, it can be assumed that there is no switch in argument positions.

Norwegian

- (46) Kari lastet bilen, men jeg vet ikke hva. [12]
Kari loaded car.DEF but I know not what
Intended: ‘Kari loaded the car, but I don’t know what she loaded the car with.’
- (47) Kari lastet bilen,
Kari loaded car.DEF
‘Kari loaded the car,’
- a. ... men jeg vet ikke hva; hun lastet t_j i bilen.
... but I know not what she loaded into car.DEF
‘... but I don’t know what she loaded into the car.’
- b. ... men jeg vet ikke hva; hun lastet bilen med t_j.
... but I know not what she loaded car.DEF with
‘... but I don’t know what she loaded the car with.’

In (45)a and (47)a, the ellipsis contains the sprouting of a direct object. Normally the sprouting of a direct object is not a problem, but if a direct object is sprouted here it would involve an argument alternation. A prepositional phrase is sprouted in (45)b and (47)b, but there is no argument alternation. This means that in order for the listener to fill in what is inside the ellipsis site they either have create an argument alternation or sprout a prepositional phrase, which according to Chung (2005, 2013) and Merchant (2013) should make these sentences completely unacceptable.

These sentences got an average of 2.2 and 2.3 in the Norwegian survey, which would put these sentences in the lower middle of the Norwegian locative alternation sentences. With their average being 2.2 and 2.3, the sprouting or argument alternation is actually not considered any worse than some of their non-elliptical counterparts whose average start at 2.2. This shows that ellipsis does not seem to make these sentences any worse. Interestingly, for some reason these sentences containing either sprouting or argument alternation are not considered completely unacceptable for all the Norwegian speakers. While some gave these sentences a score of 1, there were others who gave them a score of 5 or 4. In the English survey, on the other hand, these sentences both got the lowest average score of all the locative alternation sentences with an average of 1.0. This average shows that, for the English speakers, these sentences were completely unacceptable. In addition, the large gap between these and the non-elliptical sentences supports that ellipsis makes these sentences unacceptable since the lowest average of the non-elliptical sentences is 4.0.

Those who answered the Norwegian survey were 5 naïve speakers and one student of linguistics with no experience with ellipsis, while the participants in the English survey were both linguists who work with ellipsis. This could account for why these sentences all were considered unacceptable in the English survey, while they got varied answers in the Norwegian one. Of course, this difference could be a result of Norwegian being less strict on alternating and sprouting than English, but it could also be because the linguists who answered the English survey have internalised the idea that these sentences are supposed to be unacceptable. Non-naïve speaker with knowledge in the field might have read the texts by Chung (2005, 2013) and Merchant (2013) with their well-made arguments, and accepted them on the basis that they agree that these sentences are not completely acceptable. The idea that there might be a gradience in acceptability might not have been explored. When these non-naïve speakers then sat down to answer these surveys, this knowledge might have coloured how they answered it. It would be interesting to see how these sentences fare with naïve English speakers.

The following table shows locative alternations under ellipsis, and the sentence averages given to them by both the Norwegian and English participants.

Sentence type	Sentence		Sentence average	
	English	Norwegian	English	Norwegian
Argument alternation only				
SU-VBL-DO-PP_{location}	They sowed something in the field, but I don't know with what. [1]	Ola ryddet noe av bordet, men jeg vet ikke for hva. [1]	2.5	2.0
Into				
SU-VBL-DO-PP_{lactum}	They sowed some field with tulips, but I don't know in which field. [3]	Ola ryddet noe for asjetter, men jeg vet ikke av hva. [3]	2.0	1.3
Or				
SU-VBL-DO-PP_{lactum}	Jane loaded something with bags, but I don't know into what. [8]	Kari lastet noe med sekker, men jeg vet ikke i hva. [8]	1.5	2.0
Into				
SU-VBL-DO-PP_{location}	Jane loaded something into the van, but I don't know with what. [10]	Kari lastet noe i bilen, men jeg vet ikke med hva. [10]	3.0	3.5

These sentences that only contain argument alternations, i.e. sentences 1, 3 8 and 10, all have an overt correlate to the wh-phrase in the antecedent. In these sentences, the wh-phrase is always part of a PP while their correlates in the antecedents always are DOs. This forces the ellipsis site to be filled with the other alternation, but also means that there is no sprouting in these sentences.

English

(48) They sowed something in the field, but I don't know with what. [1]

(49) They sowed something in the field,

a. ... but I don't know with what <they sowed the field>.

b. *... but I don't know with what <they sowed in the field>.

Norwegian

- (50) Kari lastet noe med sekker, men jeg vet ikke i hva. [8]
Kari loaded something with bags but I know not into what
Intended: ‘Kari loaded something with bags, but I don’t know into what she loaded bags.’
- (51) Kari lastet noe med sekker,
Kari loaded something with bags
‘Kari loaded something with bags,’
- a. ... men jeg vet ikke i hva <hun lastet sekker>.
... but I know not into what <she loaded bags>.
‘... but I don’t know into what <she loaded bags>.’
- b. *... men jeg vet ikke i hva <hun lastet med sekker>.
... but I know not into what she loaded with bags
‘... but I don’t know into what <she loaded with bags>.’

The readings in (49)a and (51)a both involve argument alternations. (49)a alternates from the location variant into the *with* variant. This means that the locatum is the direct object in the antecedent. By pied-piping the preposition in the remnant of the sluice, the locatum only has the interpretation of being in a PP in the ellipsis site. In (51)a, the same thing happens only this time it goes from the *with* variant to the location variant. This movement of the direct object into a prepositional phrase leaves two choices; having no direct object in the ellipsis site and two prepositional phrases, which is what is shown in (49)b and (51)b; or putting the argument in the prepositional phrase into the object position creating the other argument alternation. The first option is not even allowed in non-elliptical sentences, which makes it highly unlikely that this is the one used, and we are left with the argument alternation. This means that these sentences can only get the reading where they involve argument alternations, so the averages of these sentences reflect how unacceptable argument alternation is considered.

In the English survey, these sentences got averages ranging from 1.5 to 3.0, making it clear that they are considered relatively bad compared to the non-elliptical sentences that started with an average of 4.0. The Norwegian scores were similar and ranged from 1.3 to 3.5, but some of these were only marginally better than their non-elliptical counterparts whose average ranged from 2.2 to 5. *Ola ryddet noe av bordet, men jeg vet ikke for hva han ryddet bordet*²⁹

²⁹ Ola cleared something off the table, but I don’t know of what he cleared the table.

got an average of 2.5 while the elliptical *Ola ryddet noe av bordet, men jeg vet ikke hva*³⁰ got an average of 2.0. The same with *Kari lastet noe med sekker, men jeg vet ikke i hva hun lastet sekker*³¹, which got an average of 2.2, and *Kari lastet noe med sekker men jeg vet ikke i hva*³², with an average of 2.0. This could once again be attributed to the preposition being pied-piped in the non-elliptical controls seeing as the one sentence where it was stranded got an average of 5.

The next table show the averages of sentences that do not contain any alternation under ellipsis, but does have sprouting of a prepositional phrase.

Sentence type	Sentences		Sentence average	
	English	Norwegian	English	Norwegian
Non-alternating sprouting of PP sentences SU-VBL-DO Into SU-VBL-DO-PP	They sowed the field, but I don't know with what. [7]	Ola ryddet bordet, men jeg vet ikke for hva. [7]	4.5	3.8
	Jane loaded the van, but I don't know with what. [14]	Kari lastet bilen, men jeg vet ikke med hva. [14]	4.5	4.7

The non-alternating sprouting sentences, i.e. sentences 7 and 14, should be fine according to Chung (2013, p. 28). It is when the objects of the prepositions are sprouted alone that sentences become unacceptable according to Chung (2013). This means that if the prepositional phrase is sprouted alongside it, sentences should be just fine. In these sentences, there is no overt correlate in the antecedent, but since the preposition has been pied-piped and is part of the remnant wh-phrase which has been moved outside of the ellipsis site, these sentences should be completely acceptable.

The Norwegian averages of these sentences are 3.8 and 4.7. Compared to the non-elliptical sentences, this is in the higher end of the spectrum. These sentences were, in fact, considered better than all the non-elliptical sentences with the exception of sentence 13 which got 5.0 probably because of the preposition stranding. In the English survey these sentences

³⁰ Ola cleared something off the table, but I don't know of what.

³¹ Kari loaded something with bags, but I don't know into what she loaded bags.

³² Kari loaded something with bags, but I don't know into what.

both got an average of 4.5, which means that they have the same average as the non-elliptical sentences.

The two alternating ways of filling in the only non-sprouting sentences with two options are

English

- (52) They sowed the field with something, but I don't know what. [6]
(53) They sowed the field with something
a. ... but I don't know what they sowed the field with.
b. ... but I don't know what they sowed in the field.

Norwegian

- (54) Ola ryddet bordet for noe, men jeg vet ikke hva. [6]
(55) Ola ryddet bordet for noe,
Ola cleared table.DEF of something
'Ola cleared the table of something.'
a. ... men jeg vet ikke hva_j han ryddet bordet for t_j.
... but I know not what he cleared table.DEF of.
'... but I don't know what he cleared the table of.'
b. ... men jeg vet ikke hva_j han ryddet t_j av bordet.
... but I know not what he cleared off table.DEF
'... but I don't know what he cleared off the table.'

(53)b and (55)b both involve argument alternation under ellipsis. In (53)a and (55)a, on the other hand, there is no sprouting of objects of preposition and no argument alternation under ellipsis. Because of this, it is not possible to rule out a parse with not sprouting of objects of prepositions and no alternation under ellipsis, so the scores of these sentences cannot tell us much.

From the scores given argument alternation and sprouting in the locative alternation, it can be theorised that the rules proposed by Merchant (2013) and Chung (2005, 2013), though not necessarily wrong, do not take into account the whole picture. The reason why it seems like they do not take the whole picture into account is that the averages in this thesis show a more gradient behaviour by ellipses than just grammatical or ungrammatical.

3.3.4 Alternation vs sprouting

When examining if there was a pattern when it comes to argument alternation and sprouting, the first thing that needs to be done is to identify the relevant sentences. Sprouting is defined by (Chung, 2013, p. 19) as having an interrogative phrase as part of the remnant of an ellipsis site, but which does not have an overt correlate in the antecedent.

(56) John gave someone a gift, but I don't know to whom.[1]

(57) John gave a gift, but I don't know who. [4]

In the examples of the dative alternation in (56) and (57), the sentence that contains only argument alternations is bolded while the sentence with sprouting is in italics. The number these examples have in the survey is in brackets after them. Using Chung (2013)'s definition, (56) would not be considered sprouting because there is a phrase in the antecedent which 'whom' corresponds to, 'someone'. (57), on the other hand, will be considered as sprouting of the object of a preposition because the wh-word 'who' does not have a corresponding element in the antecedent, and the preposition that belongs to the wh-phrase is stranded inside the ellipsis site. (56) would then be considered mere argument alternation, while (57) would either be a sprouting of an indirect object, or a sprouting of a prepositional phrase. Because of argument alternation being defined as arguments switching places, these sentences contain no argument alternation. The reason why there is no argument alternation here is because the direct object in the antecedent remains as a direct object in the ellipsis site, and no matter which type of function the sprouted wh-phrase has, IO or PP, it had no previous function in the antecedent to alternate from. For a complete list of these types of sentences, see Appendix C: A complete list of sentences with sprouting of the objects of prepositions, and sentences with argument alternations.

The averages of these two types of sentences are put next to each other in the tables below.

<i>English</i>	Argument alternation		Sprouting	
	Sentence number	Average	Sentence number	Average
<i>Dative</i>	1	2.5	4	1.0
	6	3.0	10	1.0
	11	2.5	15	1.0
<i>Voice</i>	4	1.5	1	1.0
	9	1.0	6	1.0
<i>Locative</i>	1	2.5	5	1.0
	3	2.0		
	8	1.5	12	1.0
	10	3.0		

<i>Norwegian</i>	Argument alternation		Sprouting	
	Sentence number	Average	Sentence number	Average
<i>Dative</i>	1	4.0	4	1.0
	6	4.7	10	1.7
	11	4.2	15	1.0
<i>Voice</i>	4	2.7	1	1.0
	9	2.7	6	1.5
<i>Locative</i>	1	2.0	5	2.2
	3	1.3		
	8	2.0	12	2.3
	10	3.5		

From these averages, it would seem that argument alternation on its own is seen as more acceptable than sprouting. The problem with his conclusion is that most of the sentences that involve sprouting can also involve argument alternations.

3.3.5 The acceptability of the different alternations

Having pointed out that there is a difference when it comes to the acceptability of sprouting and the acceptability of argument alternations, it is now time to see if there is a

difference in acceptability depending on the type of alternation. This has been done by putting together the averages of the different alternations into a table and comparing them in order to see if alternations under ellipsis and sprouting are more acceptable in some alternations than in others. The first table compares the averages of different alternations under ellipsis.

Argument alternation under ellipsis

<i>Alternation type</i>	Alternation averages		Control averages	
	English	Norwegian	English	Norwegian
<i>Dative</i>	2.6	4.3	4.5	3.6
<i>Voice</i>	1.25	2.7	4.9	4.15
<i>Locative</i>	2.25	2.2	4.4	3.04

When it comes to having argument alternations under ellipsis, it seems like the dative alternation is more acceptable than the locative alternation and the voice alternation. On average the dative alternation got a score of 4.3 in the Norwegian surveys and 2,7 in the English ones. The locative alternation is second best in the English surveys with an average score of 2.25 to the voice alternations score of 1.25. In the Norwegian survey the active passive alternations were actually second best with an average of 2.7 while the locative alternation got a score of 2.2.

The next table compares the averages of sprouting in different sentences, i.e. sentences that can undergo dative alternations, sentences that can undergo the voice alternation, and sentences that can undergo the locative alternation.

Sprouting under ellipsis

<i>Type of sprouting</i>	Sprouting averages		Control averages	
	English	Norwegian	English	Norwegian
<i>Dative</i>	1.0	1.2	4.5	3.6
<i>Voice</i>	1.0	1.25	4.9	4.15
<i>Locative</i>	1.0	2.25	4.4	3.04

When it comes to sprouting, it seems to have been considered equally bad in all alternations with one exception in Norwegian. In the English surveys, sprouting got an average of 1.0 in all alternations. Similar results were found in the Norwegian surveys with the dative

alternation getting an average of 1.23 and the active-passive alternation one of 1.25. The alternation which appears slightly different is the locative alternation which got an average of 2.25 in the Norwegian survey.

In the coming chapter, I will try to find a theory that can explain the phenomena found in this chapter. Why is there difference in the (un)acceptability of different argument alternations under ellipsis? Why is sprouting considered worse than alternations under ellipsis? Why does sprouting in sentences that can undergo the locative alternation get higher scores than the other cases of sprouting? And what can explain why the voice alternation under ellipsis gets better scores if it goes from active to passive than the other way around?

4 Accounting for gradient (un)acceptability in ellipsis mismatches

The aim of this thesis was to look more closely at the statements made by Merchant (2013) and Chung (2005, 2013), and to investigate their theories. In this analysis, argument alternations and sprouting of objects of prepositions in ellipses has been looked at in order to either contradict or substantiate the claims made by Chung (2005, 2013) Merchant (2013). First small summaries of the claims are in order. Chung (2005)'s theory is discussed first in relation to the discoveries made here. This is because both Chung (2013) and Merchant (2013) builds on the discoveries made there. Then the proposal made by (Merchant, 2013) will be discussed, and lastly Chung (2013). There will also be a comparison between these three theories when it comes to their ability to explain what has been found here. At the end a modified syntactic identity condition on ellipsis will be proposed.

4.1 The Chung (2005) paper

The claim made by Chung (2005) is that argument alternations are not allowed under ellipsis and that prepositions are not allowed to be stranded inside ellipsis sites in preposition stranding languages when they do not have an overt correlate in the antecedent (Chung, 2005, pp. 79-80). The stranding of prepositions without overt correlates in the antecedent has later been called sprouting of the objects of prepositions (Chung, 2013). Following are some examples used by Chung (2005) to illustrate this phenomenon.

- (1) They're jealous, but it is unclear of whom.
- (2) *They're jealous, but it is unclear who.

(Chung, 2005, pp. 79-80)

(3) Per spillede en duett, men jeg vet ikke med hvem.

Per played a duet, but I know not with whom

‘Per played a duet, but I don’t know with whom.’

(4) *Per spillede en duett, men jeg vet ikke hvem.

Per played a duet, but I know not who

Intended: ‘Per played a duet, but I don’t know who with’

(Chung, 2005, p. 81)

In order to explain what she has found, Chung (2005, p. 83) turned to the lexicon. She proposed a lexico-syntactic constraint on ellipsis similar to LF isomorphism. This constraint has lately been dubbed the ‘no new words’ constraint.

(5) *No new words*

Every lexical item in the numeration of the sluice that ends up (only) in the elided IP must be identical to an item in the numeration of the antecedent CP.

(Chung, 2005, p. 83)

This means that if there is a word inside the ellipsis site that is not part of the antecedent, it must be moved out of a sluice as part of the remnant for the sluice in order for the sluice to be acceptable. If this does not happen then the sluice should be considered unacceptable, according to this constraint. Chung has later moved away from this theory (Chung, 2013), but it still remains influential. The question is if this theory can explain what has been found in this thesis? This constraint was made to account for sprouting of objects of prepositions, but here it will also be tested against argument alternations. But first how it accounts for the results found on sprouting.

Chung (2005)’s focus is on the sprouting of objects of prepositions and explaining why these are unacceptable. The idea is that sprouting sentences should all be unacceptable because they contain new words inside the ellipsis site. The following sentences show the ellipsis site within the angled brackets (<...>) with the new words marked in bold.

English

(6) Stephen served dinner, but I don’t know who <he served dinner **to**>.

Norwegian

(7) Ola ryddet bordet, men jeg vet ikke hva <han ryddet det **for**>.

Ola cleared table.DEF but I know not what he cleared it **of**.

‘Ola cleared the table, but I don’t know what <he cleared it **of**>.’

The answers to the English survey seem to confirm this theory. All sentences that would have to be analysed as containing new words inside the ellipsis site are considered completely unacceptable and receive averages of 1.0 no matter the type of alternation. If this theory is right, then this is because there are words inside the ellipsis site that does not have an overt correlate in the antecedent. But a problem appears when the numbers of the Norwegian survey is looked at.

Both the sentences that could undergo the dative alternation and the sentences placed under the voice alternation conforms to the predictions made by this theory in the Norwegian survey, but a small gradience can be found. The dative alternations sentences got an average of 1.2 and the voice sentence one of 1.25. These scores are very close to completely unacceptable and will therefore be interpreted as being considered completely unacceptable. The higher scores can be explained by the participants having a different interpretation than the one intended. The sentences that stand out are the ones that can undergo the locative alternation.

The sentences that could undergo the locative alternation got an average of 2.25 by the Norwegian participants when they involved sprouting. This score is 1 point higher than sprouting in the voice alternation sentences and 1.05 higher than sprouting in the dative alternation sentences. Why would there be a gradience in sprouting if the idea is that, no matter what type of construction or word involved, sprouting inside the ellipsis site should be considered completely unacceptable? All of these sentences contain a new word inside the ellipsis site and yet one of them is considered more, though not completely, acceptable than the others. Though the ‘no new words’ constraint can explain why these sentences are not completely acceptable, it cannot explain why the locative alternation is considered less bad than the other two. What about argument alternations? Can this constraint be used to explain their scores?

When it comes to argument alternations, Chung (2005) does not explicitly address these, but, when looking at the general identity condition for sluicing, how argument alternations behave under ellipsis should also be taken into account. There are two things this theory needs to account for when it comes to argument alternations; that prepositions stranding without an overt correlate (also known as sprouting of objects of prepositions) is considered worse than

argument alternations; and that there is a gradience in acceptability between different alternations.

First of all, the constraint would have to be able to explain why argument alternations under ellipsis are not considered completely acceptable, and already here this constraint has a problem. Look at the following argument alternations and their ellipsis sites.

English

- (8) John gave someone a gift, but I don't know to whom <he gave a gift>.
- (9) Someone won the race, but we don't know by whom <it was won>.
- (10) They sowed some field with tulips, but I don't know which field <they sowed with tulips>.

Norwegian

- (11) Jørn serverte noen middag, men jeg vet ikke til hvem <han serverte Jørn served someone dinner but I know not to whom he served middag>.
dinner
'Jørn served someone dinner but I don't know to whom <he served dinner>.'
- (12) Noen solgte huset, men vi vet ikke av hvem <det ble solgt>.
Someone sold house.DEF but we know not by whom it was sold.
'Someone sold the house, but we don't know by whom <it was sold>.'
- (13) Kari lastet noe med sekker, men jeg vet ikke i hva <hun lastet Kari loaded something with bags but I know not into what she loaded sekker>.
bags
'Kari loaded something with bags, but I know into what <she loaded bags>.'

There is no new word inside the ellipsis site in these sentences, at least not obviously. Any new word has been moved out and become part of the remnant of the sluice, which is not considered a problem by this constraint. It is important to note here that there might be different interpretations on what Chung (2005) considers a 'word', but I have chosen the literal one here. This means that the 'no new words' constraint cannot explain why argument alternations under ellipsis is dispreferred at all, never mind explaining why these alternations are not equally unacceptable. According to 'no new words', alternations should be acceptable under ellipsis,

which they are (mostly) not. Could the ‘no new words’ constraint explain why sprouting and alternations under ellipsis got different scores?

Sprouting was considered worse than argument alternations in both English and Norwegian. In English, all sentences that contained sprouting got an average of 1.0. The sentences containing alternations under ellipsis got higher scores in English, with dative having the best score. In Norwegian, there is a similar pattern, though the locative alternation seems to stand out here. The sentences containing sprouting in the Norwegian survey got scores of 1.2, 1.25 and 2.25, while alternations under ellipsis got 4.3, 2.7 and 2.2. As mentioned earlier, the locative alternation stands out. This is because its sprouting scores of 2.25 and its argument alternation scores of 2.2 indicate that sprouting and argument alternation under ellipsis is considered equally bad in this construction.

According to the ‘no new words’ constraint, the reason why sprouting is considered worse than argument alternations should be because argument alternations have no new words inside the ellipsis site and are should therefore be acceptable. The sentences containing sprouting do contain new words inside their ellipsis site and are therefore unacceptable. The problem is that if this was correct then argument alternations should be considered completely acceptable under ellipsis, which they are (mostly) not. This means that this constraint could have explained this if alternations under ellipsis were considered acceptable, but, since alternations under ellipsis are not acceptable, the ‘no new words’ constraint cannot explain the pattern found.

The ‘no new words’ constraint cannot explain anything other than why sprouting is not considered acceptable under ellipsis, and even here it falls short because it cannot explain why sentences that can undergo the locative alternation are found to be less unacceptable than the others when containing sprouting. This means that some other theory on the identity condition one sluicing has to be used in order to explain the findings of this thesis.

4.2 The Merchant (2013) paper

Merchant (2013)’s paper builds further on the discoveries made by Chung (2005) and Chung (2013) (amongst others). In this paper, Merchant (2013) argues for a partly syntactic identity condition on ellipsis by looking at the how the voice alternation and other alternations behave in ellipses. Merchant (2013, p. 96) bases his claim that there must be a syntactic identity condition on his observation that the voice alternation is not unacceptable in large ellipses like sluicing and that other argument alternations are also completely unacceptable under ellipsis.

Merchant (2013) explains the illicitness of the voice alternation on the difference of the voice projection. In large ellipses, the voice projection is included in the ellipsis site and therefore part of the syntactic identity condition on ellipsis that requires the ellipsis to be syntactically the same as its antecedent. If voice is alternated in big ellipses, this projection would have different voice values and therefore not match, creating the illicitness that has been observed. A similar argument is used with other types of argument alternations.

When it comes to other types of argument alternations, such as the locative and the dative alternation, Merchant (2013, p. 89) once again reasons that they are unacceptable because of the ellipsis site not being syntactically the same as its antecedent. He argues that this must be a syntactic phenomenon because this is not allowed to happen in what he considers completely meaning-preserving alternations such as the dative alternation (Merchant, 2013, p. 99).

(14) *They served someone the meal but I don't know to whom.

(Merchant, 2013, p. 99)

The conclusion that this cannot be a syntactic phenomenon is then generalised for other types of alternations, (Merchant, 2013, p. 100) and any gradience in acceptability is not indicated at any point.

(15) *They embroidered something with peace signs, but I don't know what on.

(16) *They embroidered something on their jackets, but I don't know with what.

(Merchant, 2013, p. 100)

Merchant (2013) proposes two options for how these alternations differ from each other syntactically, either they have different verbs, or the identity condition on ellipsis is sensitive towards different functional heads. For example, in *John served₁ someone dinner, but I don't know to whom <he served₂ dinner>*, the illicitness can stem from either that the verb *served* in the antecedent is not the same one as the one in the ellipsis. This difference can be seen in how one in the antecedent wants two objects while the one in the ellipsis site wants only one. If functional heads were to explain it the explanation would be that when someone functions as an indirect object the head that introduces it is a different functional head *v_IO* than the one that introduces someone in the ellipsis *v_RECIPIENT*, and because these are not the same the ellipsis becomes illicit.

In this thesis, a mix of these will be assumed. This is because the verb will be assumed to introduce the direct object and its theta role. In alternations, this means that a different theta role is given to the direct object in the different variant, which means that there is a different verb there. Merchant (2013) suggests that this idea of the syntax having to be the same is to be paired up with his semantic identity condition of e-GIVENness in Merchant (2001). How would this theory fare with explaining what has been found in the survey here?

One problem with this theory is that Merchant (2013) does not specify in what way the functional heads have to be the same. The interpretation used here is that the functional heads in the ellipsis site must be the same ones as in the antecedent (similar to Chung (2005)'s 'no new words' only this time sensitive to functional heads and not words). This means that no new functional heads should be introduced into the ellipsis site. How does this fare with explaining the findings of this thesis? Once again, sprouting of objects of prepositions will be addressed first.

Looking at the tree structures in Figure 4.1, Figure 4.2 and Figure 4.3 there are new functional heads inside the ellipsis site of all three types of sentences looked at here. The first sentence is one that can undergo the dative alternation.

(17) Stephen served dinner, but I don't know who.

Here, there is two conceivable ways that the ellipsis site could be filled. In one, the interrogative remnant was sprouted as part of a prepositional phrase with the new functional head v_RECIPIENT. The other option is when the interrogative remnant is a sprouted indirect object with the new functional head v_IO.

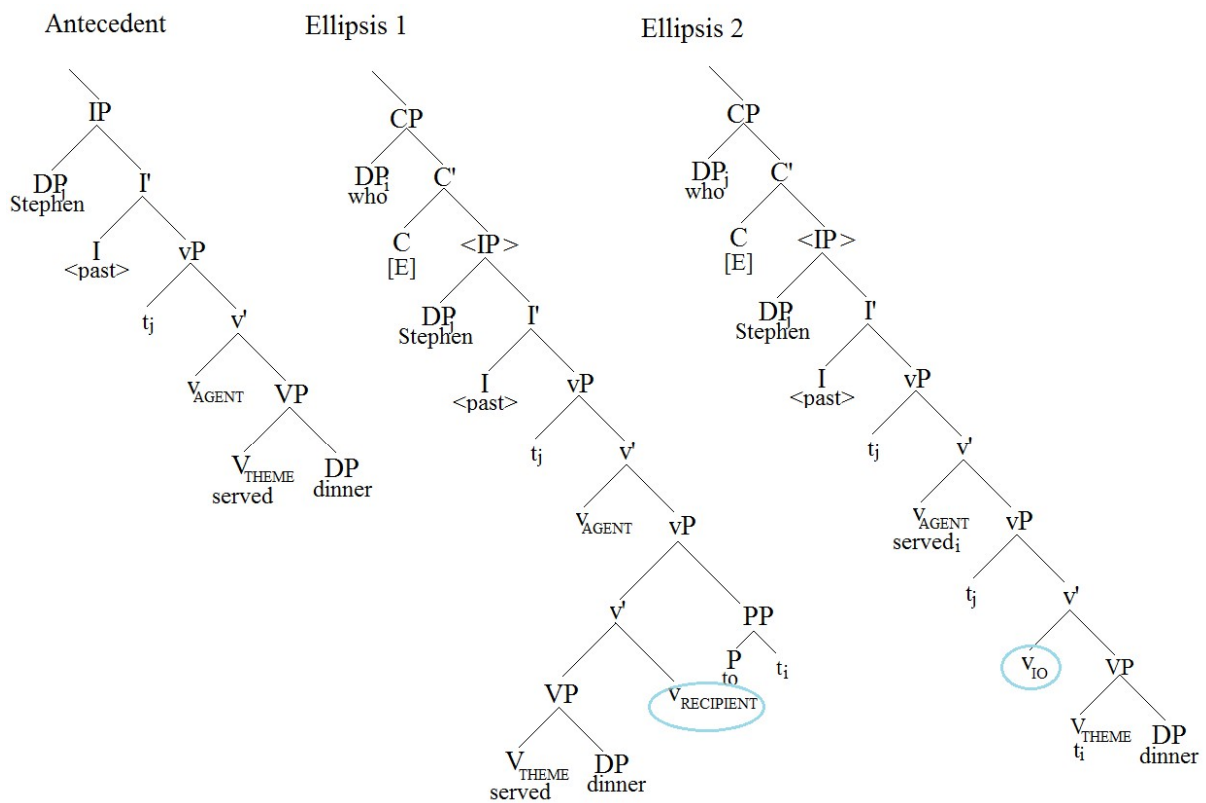


FIGURE 4.1 DATIVE ALTERNATION SPROUTING AND FUNCTIONAL HEADS

Next is sprouting of objects of prepositions in sentences that can undergo the locative alternation. These also involve new functional heads.

(18) Jane loaded bags, but I don't know what.

In sentences that can undergo the locative alternation the functional head *v*_{LOCATION} is new in the illustration below. There is also the option that the LOACTUM is sprouted, which would mean that the new functional head would be *v*_{LOCATUM}.

English

(19) They sowed the field, but I don't know what <they sowed the field with>.

Norwegian

(20) Kari lastet bilen men jeg vet ikke hva <hun lastet bilen med>.

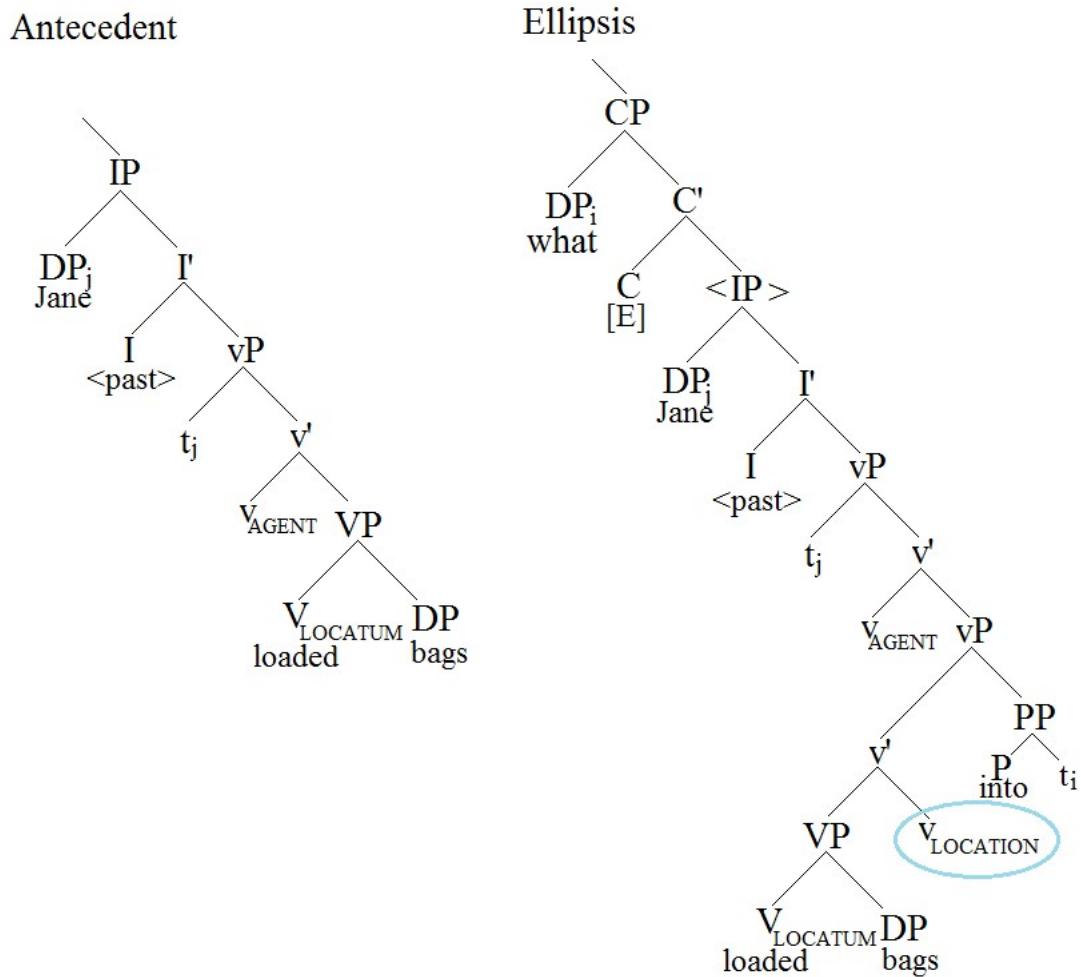


FIGURE 4.2 LOCATIVE ALTERNATION SPROUTING AND FUNCTIONAL HEADS

Lastly, sprouting of objects of prepositions in sentences that can undergo the voice alternation also involve new functional heads.

(21) The race was won, but we don't know who.

In voice alternations, there are also two possible ways of filling in the ellipsis site; one where the interrogative wh-phrase acting as the remnant originally moved from a prepositional by phrase; the other where the remnant originated in subject position. No matter which one of these is chosen, sprouting in these sentences involve a new functional head v₋AGENT. If the remnant

is the underlying subject in the ellipsis site, a voice alternation would also have taken place. I will get back to how this theory deals with alternations under ellipsis later.

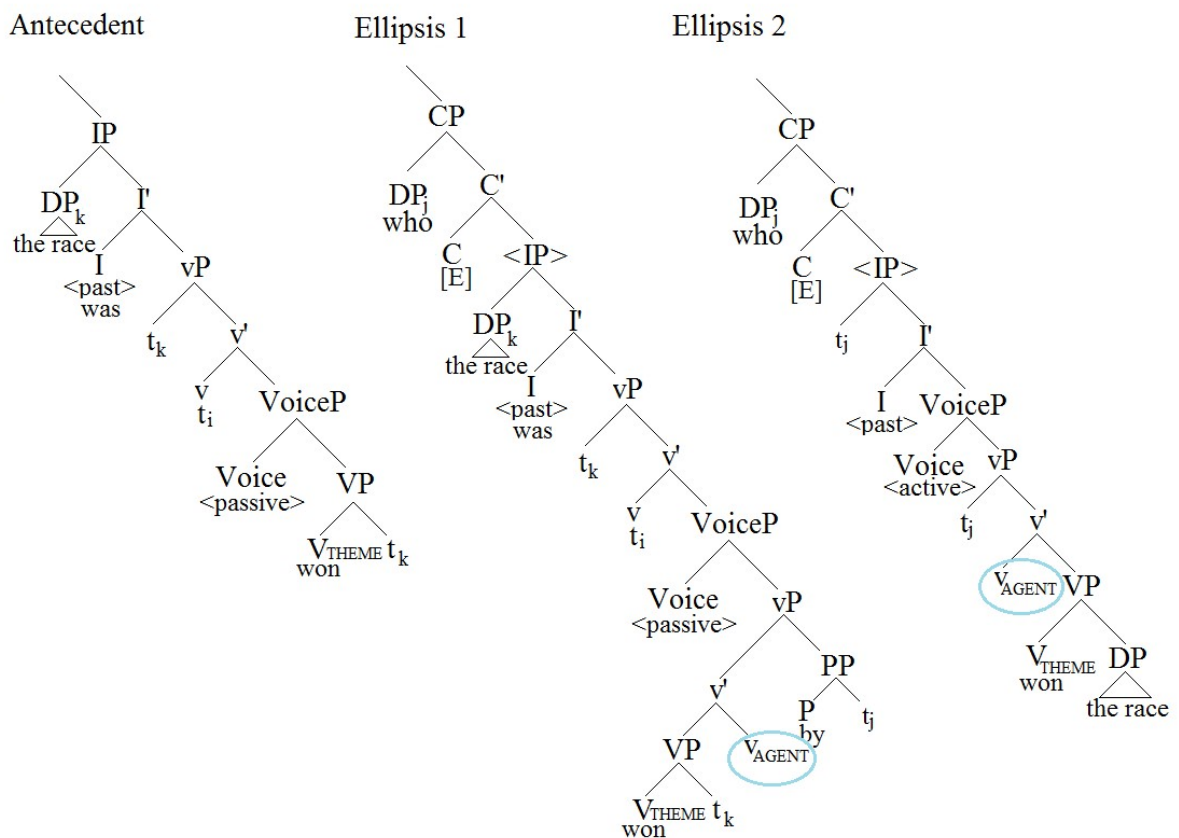


FIGURE 4.3 VOICE ALTERNATION SPROUTING AND FUNCTIONAL HEADS

A problem with saying that the identity condition on ellipsis is breached when there is a new functional head inside the ellipsis site is that this would include instances where the preposition is not stranded inside the ellipsis site. This is because the functional head does not move alongside the argument it licenses.

English

- (22) Stephen served dinner, but I don't know to whom.
- (23) They sowed tulips, but I don't know into which field.
- (24) The race was won, but we don't know by whom.

Norwegian

- (25) Ola ga en gave, men jeg vet ikke til hvem.
Ola gave a gift but I know not to whom
'Ola gave a gift, but I don't know to whom.'
- (26) Huset ble solgt, men vi vet ikke av hvem.
House.DEF was sold, but we know not by whom
'The house was sold, but we don't know by whom.'
- (27) Kari lastet bilen, men jeg vet ikke med hva.
Kari loaded car.DEF but I know not with what.
'Kari loaded the car, but I don't know with what.'

The problem is that these sentences are clearly acceptable, yet this syntactic identity condition would label them as unacceptable. Ignoring that this condition includes licit structures as illicit, this condition can account for why the sprouting of objects of preposition is considered bad, but can it account for the gradience found within sprouting in different constructions.

Sprouting is considered equally bad in all cases in the English survey, but the Norwegian survey shows another picture. While sprouting in the English survey got 1.0 in sentences that can undergo the dative alternation, passive sentences, and sentences that can undergo the locative alternation, it got a higher score when happening in sentences that can undergo the locative alternation in the Norwegian survey. Sprouting in sentences that can undergo the dative alternation and passive sentences also got scores similar to the ones in the English survey, 1.2 and 1.25 respectively. The locative alternation sentences, though, got a score of 2.25. For the theory to be able to account for gradience it should have some mechanism that can distinguish between what is just a little unacceptable, a bit more unacceptable and what is very unacceptable, but Merchant (2013)'s syntactic constraint does not take gradience into account at all. It states that if there is a different functional head inside the ellipsis site, then the sentence will be unacceptable. In all the sprouting sentences looked at here, there is a new functional head inside the ellipsis site and yet sprouting in the locative alternation sentence is considered less bad than in the dative and passive sentences. This means that it cannot explain the gradience found within sprouting. Can this theory explain the data found on alternations then?

This condition explains why alternations are unacceptable under ellipsis because there are new functional heads in the ellipsis site compared to its antecedent.

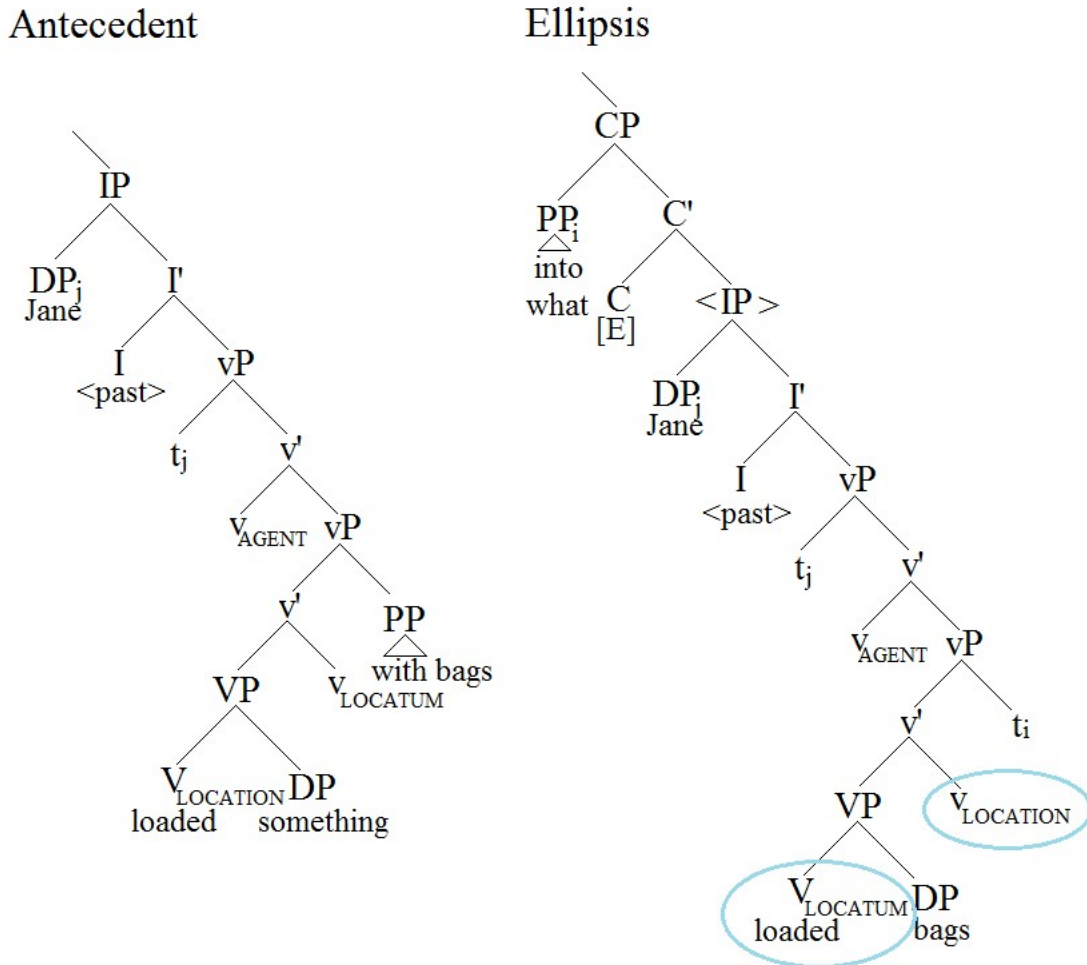
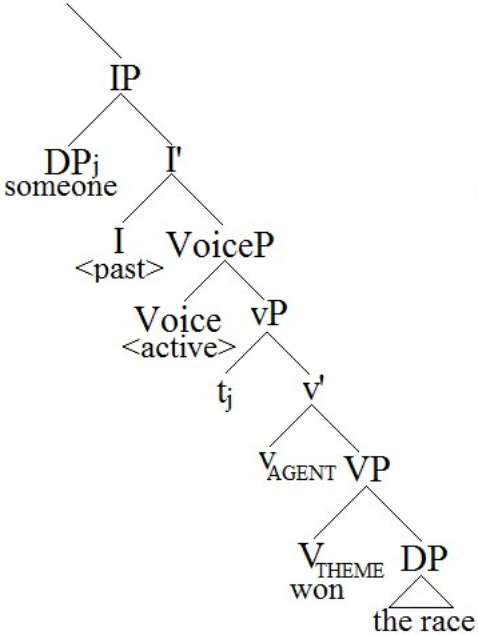


FIGURE 4.4 LOCATIVE ALTERNATION UNDER ELLIPSIS – FUNCTIONAL HEADS

In the locative alternation, this means that it is considered under ellipsis because the functional heads and verbs are not the same. The verb in the antecedent show in the example here is one that gives out the role LOCATION, while the verb in the ellipsis site gives out the role LOCATUM. In addition, the functional head $v_LOCATUM$ has been changed to $v_LOCATION$. In the dative alternation, the new functional heads are even easier to distinguish. The relevant functional head in the antecedent is the v_IO of the indirect object someone, which is replaced by the functional head $v_RECIPIENT$ in the ellipsis site (see Figure 4.4). When there is a voice alternation under ellipsis, the v_AGENT head that projects the subject is replaced by a v_AGENT head that projects a prepositional *by* phrase. These could

possibly be seen as two different functional heads, and thesis will assume that this is the case³³. Another difference is that the voice projection is changed from <active> to <passive> (see Figure 4.5).

Antecedent



Ellipsis

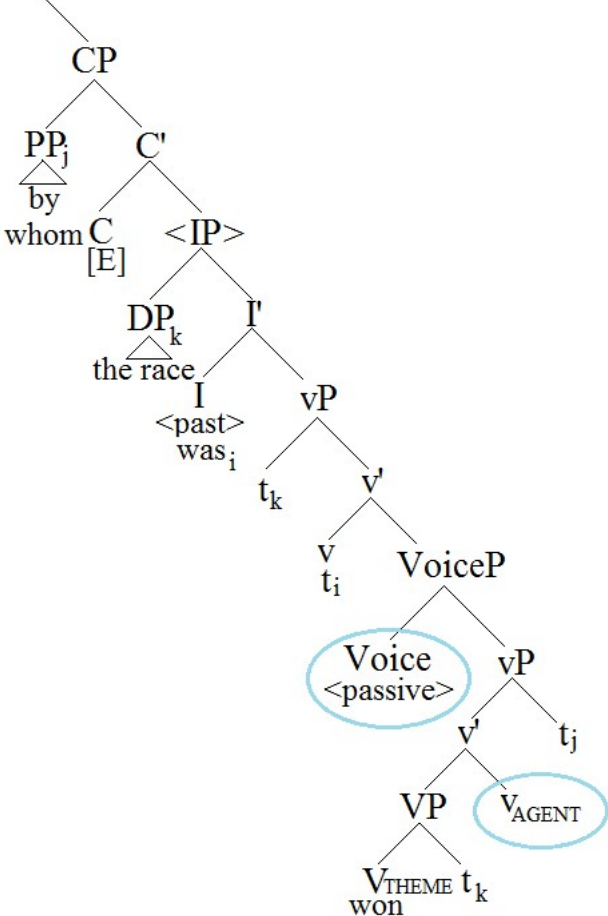


FIGURE 4.5 VOICE ALTERNATION UNDER ELLIPSIS - FUNCTIONAL HEADS

Because of voice projection does not contain the same functional item, even if the two v_AGENT projections are not distinguished from each other, this change in voice is something that differs in the ellipsis site from the antecedent. That there is a different functional item in the ellipsis site than in the antecedent explains why argument alternations are not considered completely acceptable under ellipsis. But once again, the condition meets the problem of gradience.

³³ It is important to note that this is speculation on my part, but the fact the the v_AGENT functional head in passive sentences wants a prepositional phrase and not a determiner phrase in its specifier position seems to mark them as different.

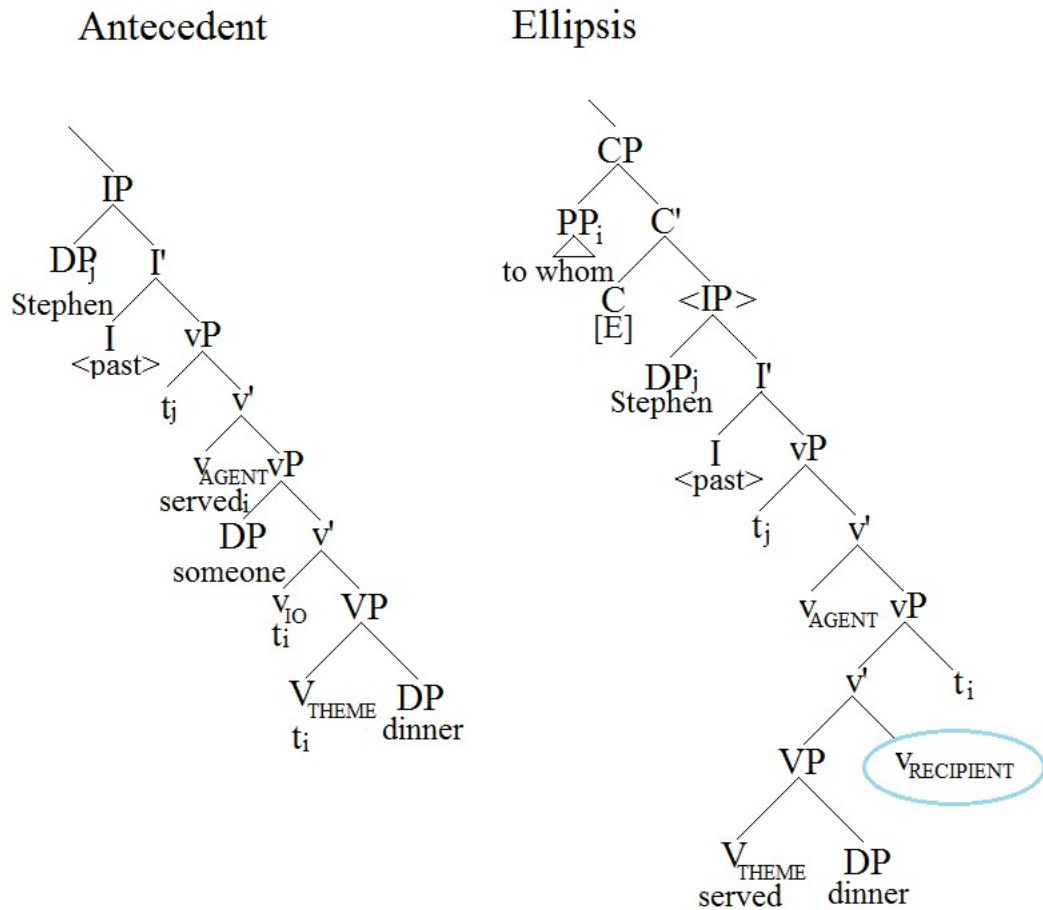


FIGURE 4.6 DATIVE ALTERNATION UNDER ELLIPSIS - FUNCTIONAL HEADS

Both the English and Norwegian participants found the dative alternation more acceptable under ellipsis than both the locative and voice. For the Norwegian speakers, the dative alternation under ellipsis was even considered better than the control sentences³⁴ with an almost completely acceptable score of 4.3, which could be used in an argument against all argument alternations being considered unacceptable under ellipsis. This contradicts Merchant (2013, p. 83)'s statement that, though they are not necessarily considered fully acceptable, non-elliptical counterparts of sluiced sentences are still considered better than those that do contain ellipsis. What it most certainly proves is that different alternations under ellipsis get different acceptability judgements, making them graded. This is a problem for Merchant (2013)'s syntactic condition because it does not take gradience into account. All of the alternations under ellipsis has a mismatch in functional heads and the theory does not distinguish between types of mismatches. Merchant (2013)'s condition only states that if there is a mismatch then the

³⁴ These sentences were most likely considered 'wordy'.

ellipsis will become unacceptable. Because this condition does not consider gradient acceptability it cannot explain the new data found here.

This also becomes a problem when trying to account for sprouting being considered less acceptable than argument alternations under ellipsis. The same types of functional heads are new (with the possible exception of voice). This is also something this theory cannot explain.

4.3 The Chung (2013) paper

In her 2013 paper, Chung argues that, though the identity condition on ellipsis cannot be fully syntactic³⁵, there must at least be some syntactic condition involved. The disallowance of voice mismatch, i.e. voice alternation, and the illicitness of argument structure mismatches with ditransitive verbs are cited as evidence for this claim (Chung, 2013, p. 3). She also continues by citing the illicitness of the sprouting of objects of prepositions as another evidence for this (Chung, 2013, p. 28). The sprouting of objects of prepositions³⁶ is when the remnant of the sluice is part of a preposition phrase without an overt correlate in the antecedent and where the preposition has been stranded inside the ellipsis site.

English

- (28) *John gave a gift, but I don't know who. (intended: ... I don't know who he gave a gift to.)
- (29) John gave a gift, but we don't know to whom.
- (30) *The race was won, but we don't know who. (intended: ... we don't know who the race was won by.)
- (31) The race was won, but we don't know by whom.

³⁵ This is because of sentences like 'Decorating for the holidays is easy if you know how [*E*] to decorate for the holidays' (Chung, 2013, p. 3), where there is a gerund, 'decorating', in the antecedent that corresponds to an infinitival, 'to decorate' inside the ellipsis site.

³⁶ The sprouting of objects of preposition is the same phenomenon that was pointed out in Chung (2005).

Norwegian

- (32) *Jørn serverte middag, men vi vet ikke hvem.
Jørn served dinner but we know not who
Intended: ‘Jørn served dinner, but we don’t know who he served dinner to.’
- (33) Jørn serverte middag, men vi vet ikke til hvem.
Jørn served dinner but we know not to whom
‘Jørn served dinner, but we don’t know to whom.’
- (34) *Kari lastet bilen, men vi vet ikke hva.
Kari loaded car.DEF but we know not what
Intended: ‘Kari loaded the car, but we don’t know what she loaded the car with.’
- (35) Kari lastet bilen, men vi vet ikke med hva.
Kari loaded car.DEF but we know not with what.
Intended: ‘Kari loaded the car with something, but we don’t know with what.’

The effect that comes from this type of sprouting is called Case effects, and the sprouting of objects of prepositions is one of a couple Case effects that has been pointed out (Chung, 2013, pp. 25-29).

From the observations she makes, Chung (2013) creates a new proposal for what the syntactic identity on sluicing looks like.

- (36) *Limited syntactic identity in sluicing (specifics)*
- a. *Argument structure condition:* If the interrogative phrase is the argument of a predicate in the ellipsis site, that predicate must have an argument structure identical to that of the corresponding predicate in the antecedent clause.
 - b. *Case condition:* If the interrogative phrase is a DP, it must be Case-licensed in the ellipsis site by a head identical to the corresponding head in the antecedent clause.

(Chung, 2013, p. 30)

In other words, not only does the argument structures of the sluices and their antecedents have to be the same, they also have to have the same case assigners. This rule is different from the lexico-syntactic condition proposed in Chung (2005) in that it moves away from lexical items and towards a purely syntactic condition based on the syntactic feature Case. The implementation of this syntactic identity condition is left up to the different approaches to

sluicing (Chung, 2013, p. 30). How does this new syntactic identity condition explain the things found in this thesis? Once again, the main focus will be on the gradience found within different alternations and the different averages given sprouting and alternating under ellipsis. Can this identity condition explain the scores given. I will divide the identity condition in two and first discuss the argument structure condition, before I move on to the case condition.

The argument structure condition states that if the wh-word that is the remnant of a sluice comes from inside the predicate, then the structure of the predicate must be the same. The biggest problem of this condition is that it is not very specific. It does not specify in what way the structure must be the same. This condition states what has been observed without going looking any deeper into what could be the cause behind the relevant phenomena. In addition, this condition stipulates that all argument alternations under ellipsis are unacceptable. It does not differentiate between the different types of argument structure alternations. The data gathered here on English and Norwegian alternations under ellipsis mostly agrees with the observation that alternations under ellipsis is not completely acceptable, the exception being the dative alternation in Norwegian. Unfortunately, more cannot be said because the argument structure condition does not specify what needs to be looked at. This means that it is not necessarily wrong, but the argument structure condition cannot be proven right either because it merely states what proponents for a syntactic identity condition on ellipsis has always claimed, that there the ellipsis site must be syntactically identical to its antecedent, without specifying in what way. So, the syntactic identity condition is not specific enough to explain what happens with alternations under ellipsis. What about the case condition? Could it explain alternations as well, even though it is not meant to?

The case condition states that any Case licensing head of the interrogative DP remnant that does not move out of the ellipsis site, must be identical to the one that case licenses the DPs correlate in the antecedent clause. This condition cannot explain why argument alternations are not considered completely acceptable under ellipsis. The reason for this is that, in order for it to be certain that an alternation has taken place under ellipsis, the preposition must be moved outside of the ellipsis site alongside the interrogative.

English

- (37) John gave someone a gift, but I don't know who...
- a. ... he gave a gift to t. (*Alternation*)
 - b. ... he gave t a gift. (*No alternation*)
- (38) Jane loaded something with bags, but I don't know what...
- a. ... she loaded bags into. (*Alternation*)
 - b. ... she loaded into bags. (*No alternation*)
- (39) Someone won the race, but we don't know who...
- a. ... it was won by t. (*Alternation*)
 - b. ... t won the race. (*No alternation*)

Norwegian

- (40) Jørn serverte noen middag, men vi vet ikke hvem...
- Jørn served someone dinner but we know not who
'Jørn served someone dinner, but we don't know who...'
- a. ... han serverte middag til t. (*Alternation*)
he served dinner to
'... he served dinner to t.'
 - b. ... han serverte t middag. (*No alternation*)
He served dinner
'... he served t dinner.'
- (41) Noen solgte huset, men vi vet ikke hvem...
- Someone sold house.DEF but we know not who
'Someone sold the house, but we don't know who...'
- a. ... huset ble solgt av t.
house.DEF was sold by
'... the house was sold by t.'
 - b. ... t solgte huset.
sold house.DEF
'... t sold the house.'

Because the preposition must be moved out, the case assigner is no longer inside the ellipsis site and should by this constraint not be a problem. This means that the case assigners might be

different, but, since the case condition specifies that it only holds for the case assigners that are inside the ellipsis site, this cannot explain why these sentences are not acceptable.

From this, it can be concluded that the case condition cannot explain why argument alternations under ellipsis are not considered acceptable. This is likely why the argument structure condition was added, so that this condition could explain argument alternations under ellipsis, since the case constraint cannot do it. Unfortunately, this argument structure condition is descriptive of the facts pertaining to alternations, rather than explaining the deeper reasons behind them. This means that the limited syntactic constraint on sluicing cannot explain exactly why argument alterations under ellipsis are not felicitous, and it most definitely cannot explain the gradience with the different argument alternations under ellipsis. One thing about argument alternations the case constraint can explain is the pattern found regarding the preference in which way voice switches under ellipsis.

In both the English and the Norwegian surveys, elliptical sentences going from active to passive were preferred to elliptical sentences going from passive to active.

Elliptical active to passive – English

(42) Someone won the race, but we don't know by whom.

Elliptical passive to active – English

(43) The race was won, but we don't know who.

Elliptical active to passive – Norwegian

(44) Noen solgte huset, men vi vet ikke av hvem.
Someone sold house.DEF but we know not by whom
'Someone sold the house, but we don't know by whom the house was sold.'

Elliptical passive to active – Norwegian

(45) *Huset ble solgt, men vi vet ikke hvem.
House.DEF was sold but we know not who
'The house was sold, but we don't know who sold it.'

In the English survey, the active-to-passive sentences got the score of 1.0 and 1.5 compared to the score of 1.0 and 1.0 in the passive to active sentences. This is not a very clear distinction³⁷, but it gets clearer when looking at the Norwegian scores. In the Norwegian survey, the passive to active sentences got scores of 1.0 and 1.5, while the active to passive sentences both got scores of 2.7. The difference is that in the passive to active sentences the different case assigner is still inside the ellipsis site while in the active to passive sentences the case assigner is not inside the ellipsis site. In other words, the case constraint is breached in passive to active sentences but not in active to passive ones. This means that the case condition can explain this pattern. Another thing the case condition can explain is why sprouting of objects of preposition is not acceptable.

When it comes to the sprouting of objects of prepositions, the case condition is able to explain this nicely. In all these cases, there is no overt correlate for the case assigner or the DP it assigns case. This means that there is no assigner in the antecedent for the assigner in the ellipsis site to correspond to. In the dative alternation, that means that the case assigner in the ellipsis site has no corresponding case assigner in the antecedent.


Stephen served dinner but I dont know who_j <_e *he served dinner to t_i* >


FIGURE 4.7 SPROUTING AND CASE - DATIVE ALTERNATION

In the voice alternation, the case assigner *by* has no equivalent in the antecedent, and can therefore not be the same as on its antecedent.


The race was won, but we dont know who_j <_e *the race was won by t_i* >


FIGURE 4.8 SPROUTING AND CASE - VOICE ALTERNATION

³⁷ It should be noted though, that one of the participants commented that, even though the score of 1 was given to all these sentences (both active to passive and passive to active) by this person, the participant meant that the supposed meaning of the active to passive sentences was clear, while the passive to active sentences were perceived as word salad.

Nor does the case assigner *with* in the locative alternation have a correlate that it can be the same as.

Jane loaded the van, but I don't know what; $\langle_e \textit{she loaded the van with } t_i \rangle$




FIGURE 4.9 SPROUTING AND CASE - LOCATIVE ALTERNATION

The gradience found in sprouting is a problem for the Case condition. In all the cases of sprouting, what happens is the same. Yet in Norwegian, sprouting of objects of prepositions is considered slightly better in sentences that can undergo the locative alternation. Why is this?

Another problem for this theory is the different scores that sprouting of objects of prepositions get from argument alternations. Assuming that argument alternations violates the rather vague argument structure condition, and that sprouting violates the case condition, both these phenomena violate one of Chung (2013)'s syntactic identity condition. There is no note in this condition that the different violations bring with them different levels of unacceptability. This means that as it is now, the limited syntactic identity in sluicing brought forward by Chung (2013) cannot explain this.

So, Chung (2013)'s limited syntactic identity on sluicing can explain that sprouting was considered unacceptable, and why voice alternations from active to passive is preferred over voice alternating from passive to active in ellipses. It has a condition that addresses argument alternations, but this condition is not specific enough for it to be claimed that it explains why argument alternations under ellipsis is not considered ideal. That the argument structure condition does not go beyond the descriptive makes it difficult to make any claims where this plays a part, but one thing that can be said is that this theory cannot account for the different scores given to sprouting of objects of prepositions and alternations under ellipsis. It also cannot address gradience given sprouting within different sentence constructions, and the difference in scores given to different argument alternations under ellipsis.

4.4 A new proposal

None of the before-mentioned theories can explain all the patterns found in this thesis. Chung (2005) can explain why the sprouting of objects of prepositions is not considered acceptable and to a certain extent why sprouting is seen as worse than argument alternations.

What this theory cannot explain is why most of the alternations under ellipsis are considered unacceptable, and why there is a gradience in both the sprouting scores and the alternations under ellipsis scores. (Merchant, 2013), on the other hand, can explain both why argument alternations under ellipsis are not acceptable, and why sprouting of objects of prepositions is considered unacceptable. The problem for Merchant (2013) is that his syntactic identity condition cannot explain why sprouting is considered worse than argument alternations, nor the gradience found in sprouting and argument alternations under ellipsis. On top of this, his theory also predicts that the sprouting of prepositional phrases should be unacceptable, but this is not the case. Chung (2013) can explain why sprouting of objects of prepositions is considered bad, and why which way voice alternates under ellipsis matters. It talks about the reason why argument alterations under ellipsis is not ideal, but it does not go as far as explaining it. This theory, like the others, fails to explain gradience within sprouting, with alternations under ellipsis and between sprouting and ellipsis. In this subchapter, I will come with an alternative version of these theories in the hopes that it will better explain the phenomena found here.

The new theory suggested here is built upon those suggested in Chung (2005), Merchant (2013) and Chung (2013). As in Chung (2013), it has an argument structure condition and a case condition. The case condition remains the same, but the argument structure condition will be made into a new version of ‘no new words’ which is a fusion of it and Merchant (2013)’s idea of no difference in functional heads. Another, quite important, difference is that the argument structure condition will count the amount of times it is violated.

(46) New limited syntactic identity condition in sluicing

- a. *Argument structure condition*: The predicate of an ellipsis must have the same lexical items and functional heads inside the ellipsis site as its corresponding antecedent clause.
- b. *Case condition*: Any interrogative phrase that is a DP has to be Case-licensed in the ellipsis site by a head identical to the corresponding head in the antecedent clause.
- c. Violations of the Case condition will lead to complete unacceptability, while violations of the argument structure condition will lead to a gradual decline in acceptability.

The new theory needs to account for why argument alternations are not all considered completely acceptable, why sprouting is not acceptable, the gradience found within these and

between them and why voice alternations seem to be a bit better when they go from active to passive instead of the other way around. First, how this theory would account for argument alternations under ellipsis, including their gradience, is looked at.

This new theory specifies that unacceptability comes from there being either new words or new functional heads inside the ellipsis site. Like Merchant (2013), since functional heads are included in what the condition is sensitive towards, it can explain why alternations under ellipsis are not considered completely acceptable. Both the dative, the locative and the voice alternations have new functional heads under ellipsis. What this theory does better than (Merchant, 2013) is explaining why the dative alternation is considered better under ellipsis than both voice and locative.

In the dative alternation, there is only one new item, the v_RECIPIENT.

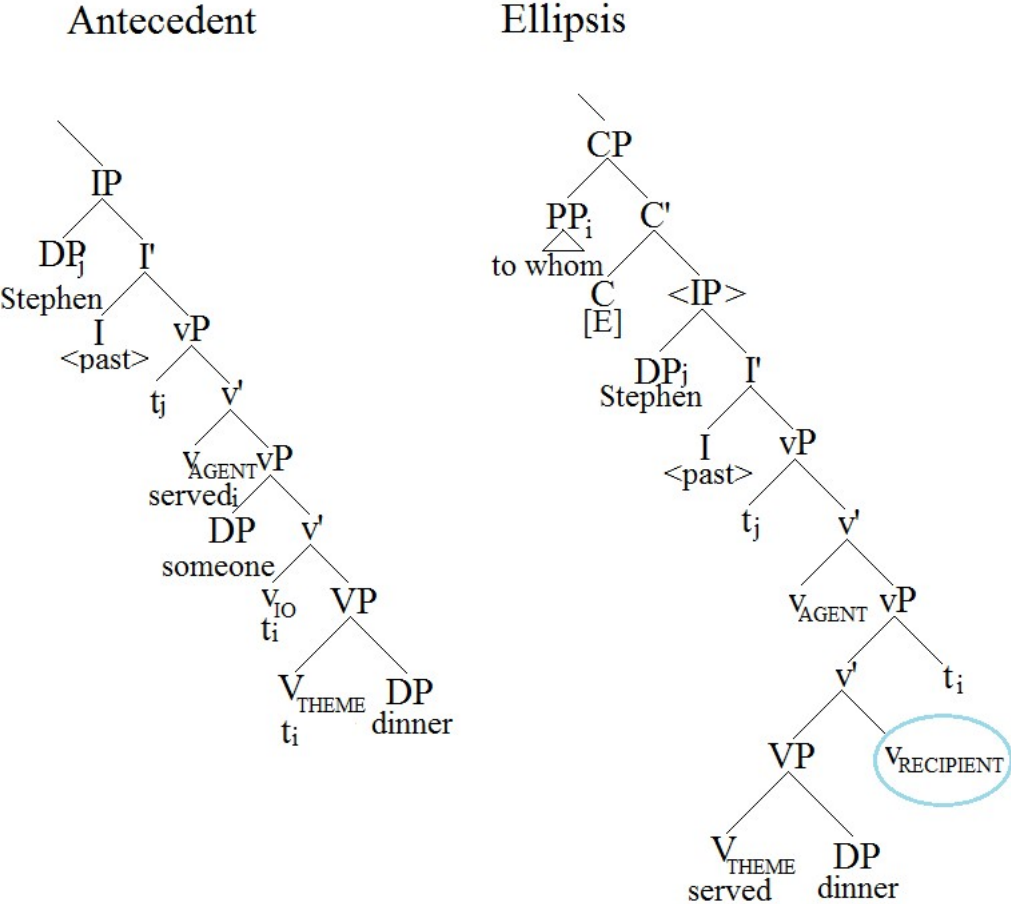


FIGURE 4.10 NEW ITEMS AND ALTERNATIONS UNDER ELLIPSIS - DATIVE ALTERNATION

In the locative alternation, there are two new items, the V_LOCATUM and the v_LOCATION, and the voice alternation has three new items, the new passive auxiliary *was*, the new head of the voice projection PASSIVE and the new functional v_AGENT³⁸ introducing a prepositional *by* phrase.

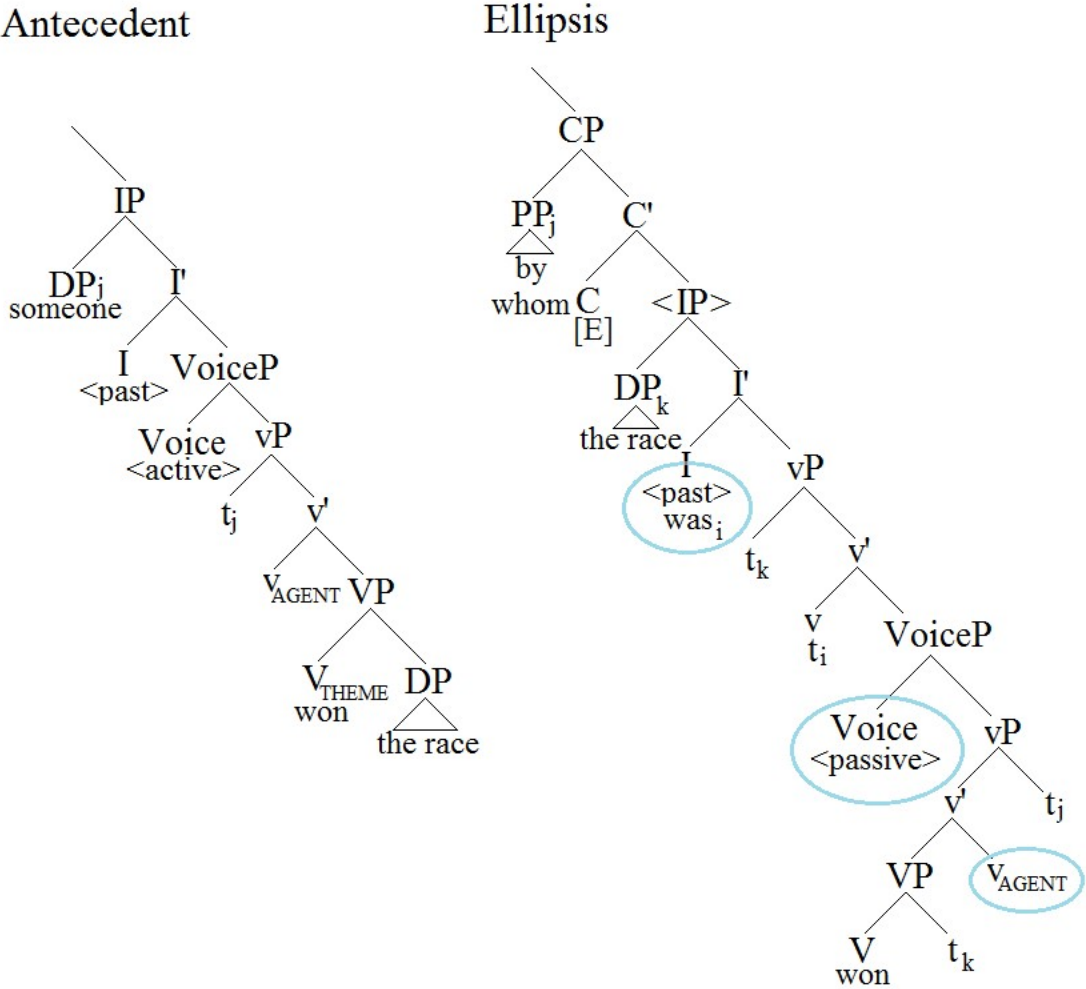
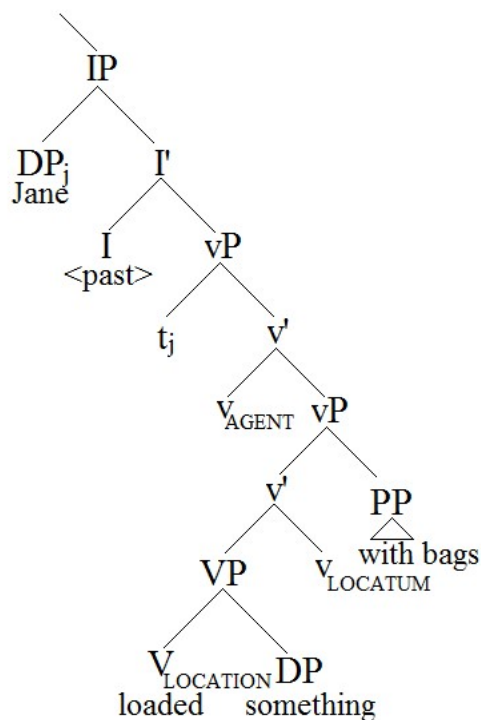


FIGURE 4.11 NEW ITEMS AND ALTERNATIONS UNDER ELLIPSIS - VOICE ALTERNATION

³⁸ It could be argued that this is not a new functional head since the AGENT in the antecedent is also sprouted from (little) v, but even without this as a new item inside the ellipsis site, voice alternations would still have two new items.

Antecedent



Ellipsis

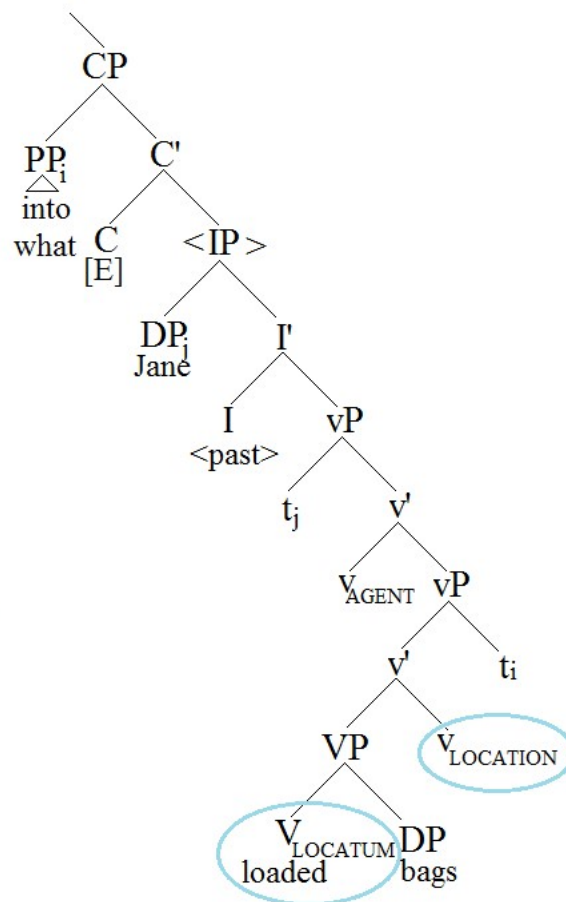


FIGURE 4.12 NEW ITEMS AND ALTERNATIONS UNDER ELLIPSIS - LOCATIVE ALTERNATION

This means that both locative and voice alternations under ellipsis have more new lexical and functional heads than the dative alternations. Because voice alternations have more of these new items, they are considered worse than the dative alternation, or the dative alternation is considered better. This means that this new argument structure condition can account for both why alternations are not seen as idea under ellipsis and the gradience found here.

The Case condition is still the one to explain sprouting, but now the argument structure condition also explains it. In the dative alternation, the case assigner of the interrogative DP does not have anything to correspond to in the antecedent and the case condition is violated. The dative alternation has two options of how the ellipsis site can be conceived, but the Case condition will be violated in both of them. When the interrogative DP is part of a prepositional phrase the new Case assigner is to. In the double object construction, the new case assigner is the verb. Sprouting of objects of prepositions also violates the argument structure condition in

that there are new functional heads inside the ellipsis site, $v_RECIPIENT$ or v_IO . Of these two violations, if this theory is correct, the one leading to complete unacceptability is the violation of the Case condition.

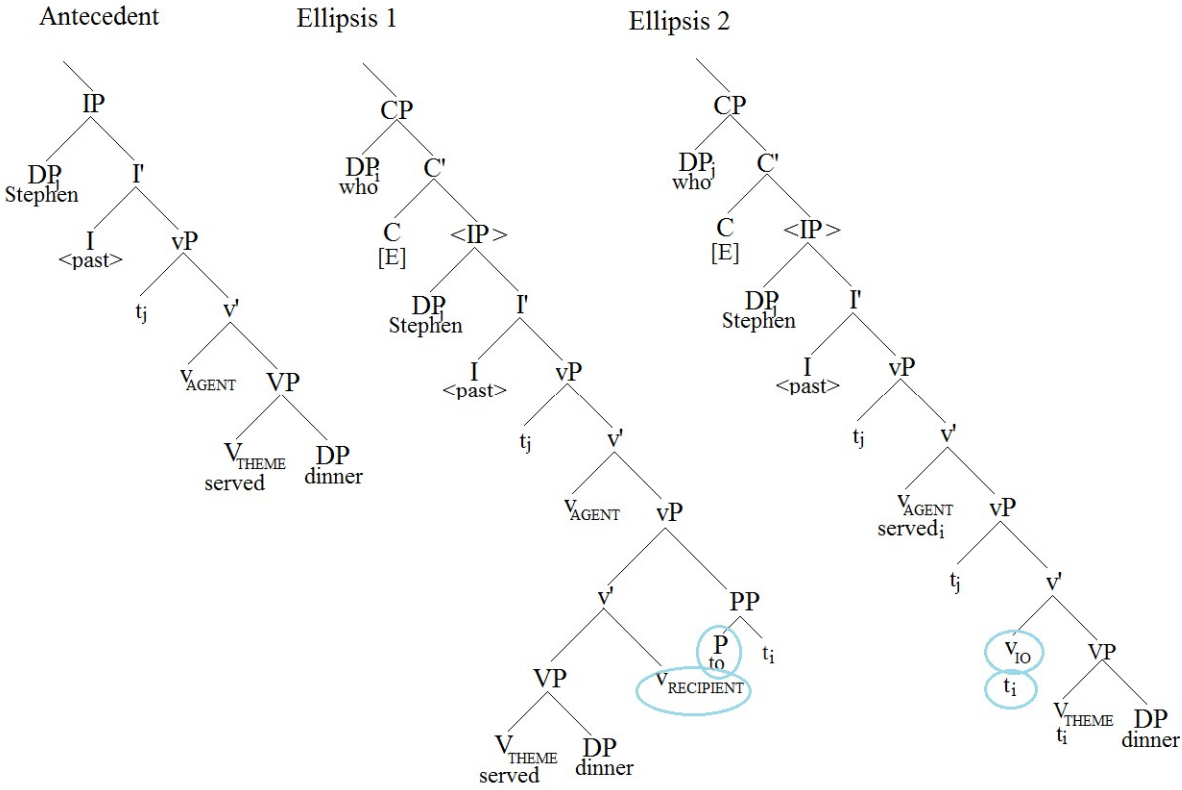


FIGURE 4.13 NEW ITEMS AND SPROUTING - DATIVE SENTENCES

Sprouting in the sentences that can undergo the locative alternation and the passive sentences can be explained similarly. In the voice sentences, there are two options (though one might be more likely than the other). The interrogative DP can be the subject of an active sentence or part of a prepositional *by* phrase. In either option, both the Case condition and the argument structure condition is violated. The ellipsis site either contains the new Case assigner *by* and a new functional head v_AGENT , or it contains the new Case assigner $\langle +FIN \rangle$, the new functional head v_AGENT and a new head in the voice projection. Even if Case is given by $\langle +FIN \rangle$ in the antecedent, the Case condition specifies that the interrogative DP must have the same Case assigner and since there is no correlate in of the interrogative DP in the antecedent then it cannot have the same Case assigner.

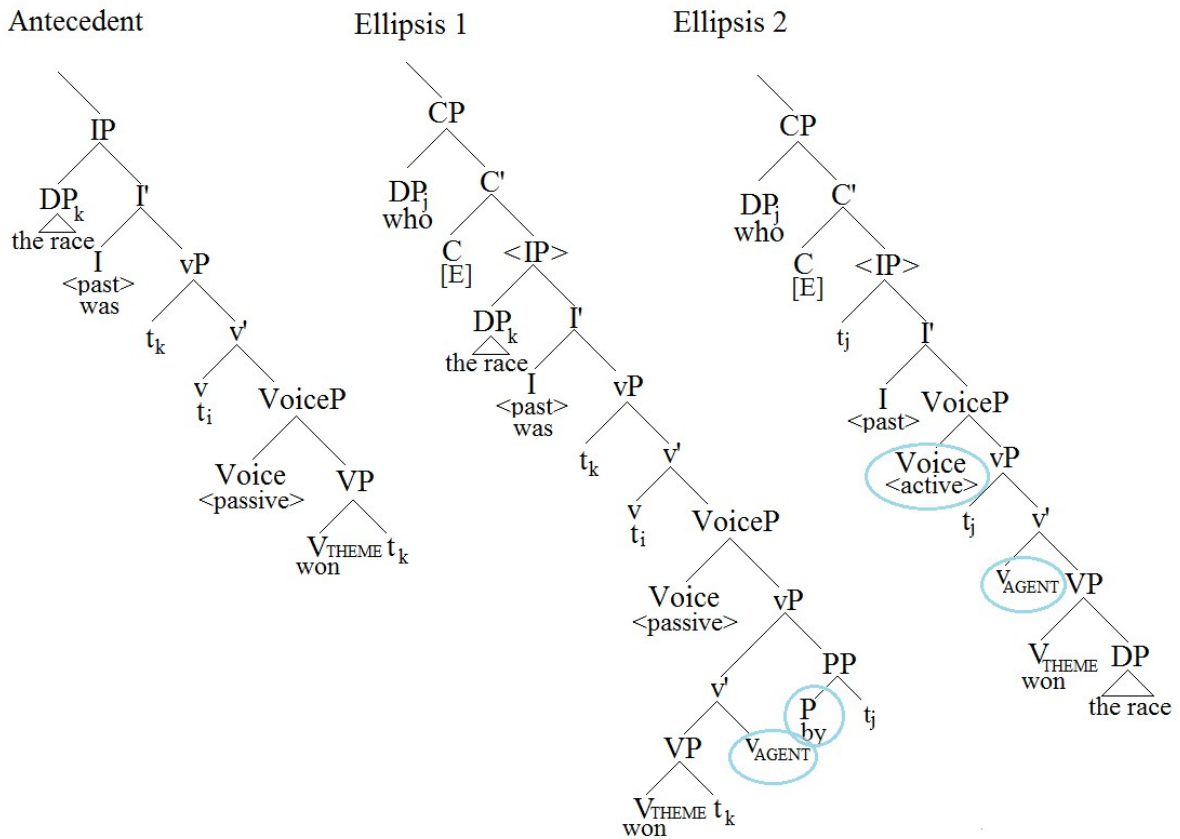


FIGURE 4.14 NEW ITEMS AND SPROUTING - VOICE SENTENCES

In the locative alternation, there is a new Case assigner, *into*, stranded inside the ellipsis site, and there is the new functional head $v_LOCATION$. This means that this theory can explain why sprouting of objects is considered bad. Can it explain why sprouting is considered worse than argument alternations?

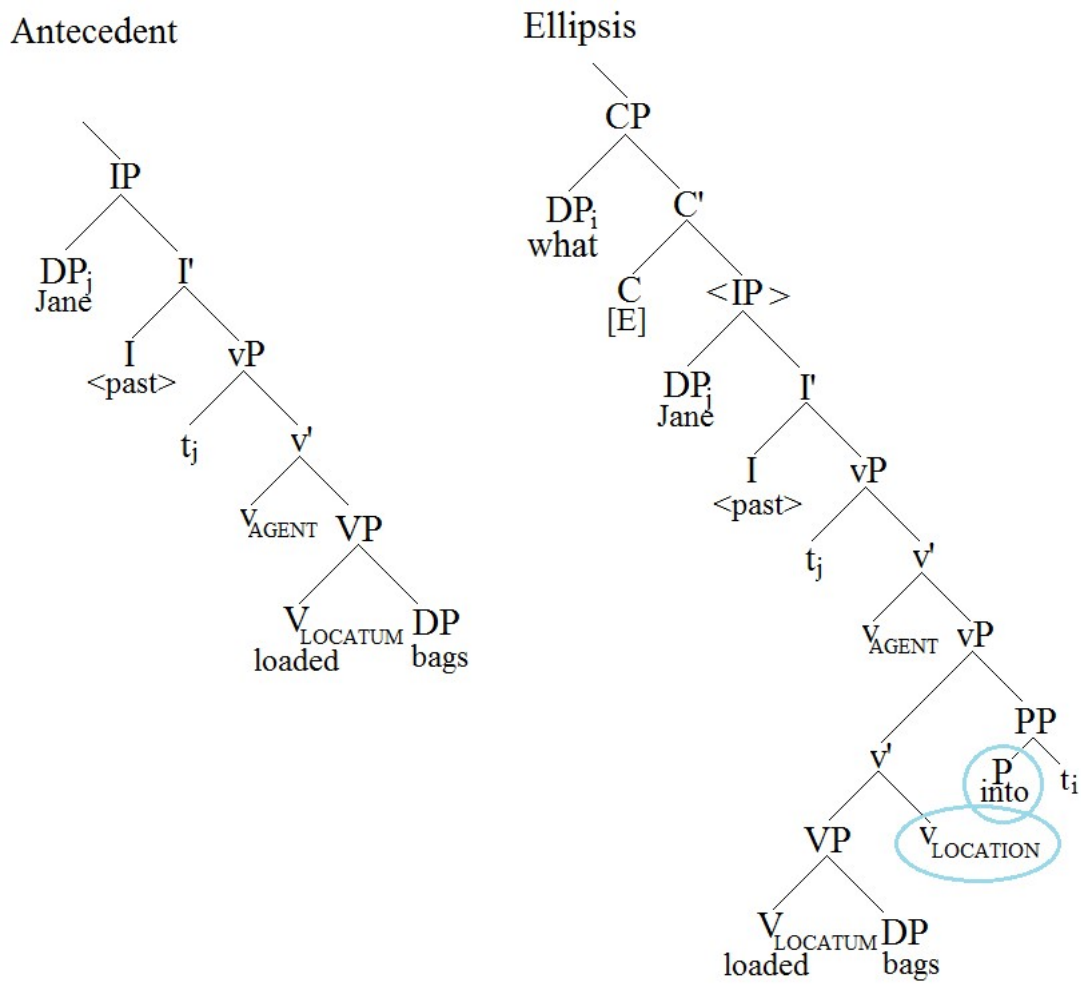


FIGURE 4.15 NEW ITEMS AND SPROUTING - LOCATIVE SENTENCES

Because this theory specifies that a violation of the Case condition immediately makes an ellipsis completely unacceptable, while new functional heads and words gradually make a sentence less acceptable, it can explain why sprouting is considered worse than alternations under ellipsis. In sprouting the Case condition is always violated, while in alternations under ellipsis it is not. As for it being considered to alternate voice from active to passive instead of from passive to active, this new version of this theory can explain this in the same way as it was explained by Chung (2013). In going from active to passive, the new case assigner is moved outside of the ellipsis site, while in those that alternate from passive to active the new case assigner remains inside the ellipsis site. This means that alternating from passive to active violated the Case condition, while alternating from passive to active does not.

It can be concluded that this new version of the limited syntactic condition of ellipsis can explain more than the theories it builds on, but there are some problems with this theory.

Specifically, that it predicts that sentences should be unacceptable when they are not, and the gradience found within sprouting.

The problem that this theory is too narrow and predicts that acceptable sentences should be unacceptable is one it shares with Merchant (2013). This is because functional heads have been included into what is not allowed to be new inside the ellipsis site. When prepositional phrases are sprouted, as in *Stephen served dinner, but we don't know to whom*, the functional head of the sprouted prepositional phrase remains inside the ellipsis site when the PP moves, making it so that that ellipsis site has a new functional head inside the ellipsis site. The problem is that if functional heads are left out the argument structure condition on sluicing, then explaining why alternations under ellipsis are (mostly) considered unacceptable becomes a problem, like in Chung (2005). There might be something else that explains why alternations under ellipsis are considered unacceptable, of course. Maybe alternations are unacceptable because of semantics³⁹. Seeing as the semantic part of the identity condition was not a focus here, this thesis can only speculate on this.

Gradience within sprouting is also problematic because the theory states that any violation of the Case condition should result in the worst possible scores. This is because the participants of the Norwegian survey gave sprouting in sentences that can undergo the locative alternation a higher average than the other two. While both dative and voice got the averages 1.2 and 1.25 respectively, the locative sentences got an average of 2.2. Why would sprouting of objects of prepositions in sentences that can undergo the locative alternation be considered less bad than in the other types? This remains a mystery as of this moment, though it could be speculated that this might have something to do with how flexible the Norwegian language is with his construction⁴⁰. This means that, though this new version can account for the gradience which the theories in Chung (2005), Merchant (2013) and (Chung, 2013) could not, some of the problems that occur in these original theories also occur in this new one. A possible solution would be to change the argument structure condition.

After discussing this first new version, it has become clear that though it is better, it is still not able to account for everything observed here. The problem is that this new theory is sensitive to new functional heads. By it being sensitive to functional heads, this condition rules

³⁹ There are those that argue that not only the locative but also the dative alternation has different semantics. See Krifka (1999), Rappaport and Levin (1988), Iwata (2005), Tenny (1994), Rappaport Hovav and Levin (2008) and their sources.

⁴⁰ Of the examples below, only one is not acceptable to me. *Kari lastet bilen* (Kari loaded the car.). *Kari lastet i bilen* (Kari loaded into the car.). *Kari lastet sekker* (Kari loaded bags.). **Kari lastet med sekker*. (Kari loaded with bags). This last one get an instrumental interpretation, as in bags was used to load.

out any kind of sprouting, including the acceptable sprouting of prepositional phrases. But what if it was changed from being sensitive to new functional heads to being sensitive of the position of the existing functional heads? What if the problem is not that there are new functional heads, but that a syntactic position that exists in the antecedent is occupied by a different functional head, item or word in the ellipsis site? In this new version, the Case condition would remain the same, as does the counting part of the theory. The change would, once again be with the argument structure condition.

(47) *Revised new limited syntactic identity condition on sluicing*

- a. *Modified argument structure condition:* If a functional head or functional item has something that corresponds to it in the antecedent, then it must be the same functional head or item as the one in the antecedent, and it must have the same syntactic position in the ellipsis site as that of its correlate.
- b. *Case condition:* Any interrogative phrase that is a DP has to be Case-licensed in the ellipsis site by a head identical to the corresponding head in the antecedent clause.
- c. Violations of the Case condition will lead to complete unacceptability, while violations of the argument structure condition will lead to a gradual decline in acceptability.

This new argument structure condition would be able to account for why alternations are dispreferred under ellipsis; the functional heads or items no longer occupy the same place in the argument structure in the ellipsis as in the antecedent or they are different functional heads. The idea is that if something has an equivalent in the antecedent then it must be the same as it when it comes to the type of functional head and/or the position it occupies. If either of these mismatch, then a sentence becomes slightly degraded. If it happens more than once it becomes more degraded. The relevant functional heads and items that correspond to each other are, in the following illustrations, marked by the same colour. Functional heads or items marked by blue in the antecedent correspond to those marked by blue in the ellipsis site, etc.

In the dative alternation, the functional heads *v_IO* and *v_RECIPIENT* are the heads correlates. They occupy the same position, i.e. they are both immediately above the VP, which this theory considered as acceptable. What makes this the dative alternation less than perfect is

that the functional heads that correlate to each other are not the same functional heads. This means that the dative alternation breaches this new constraint once.

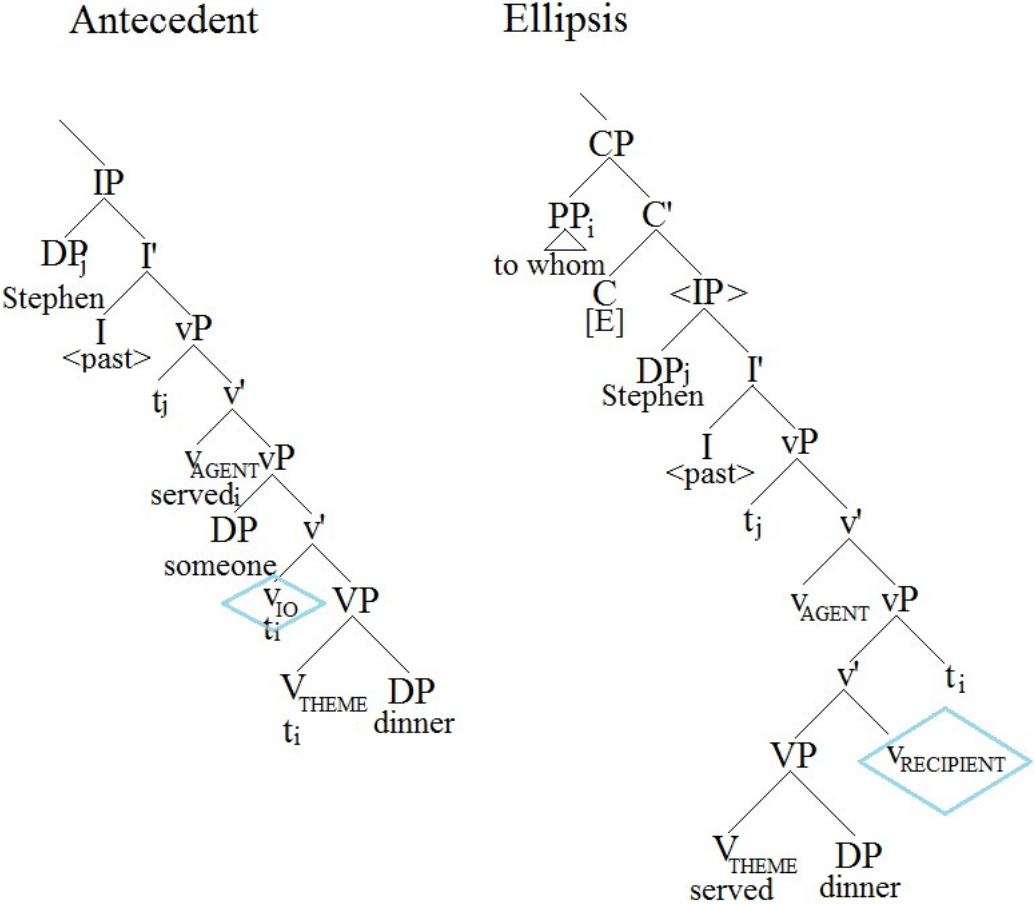
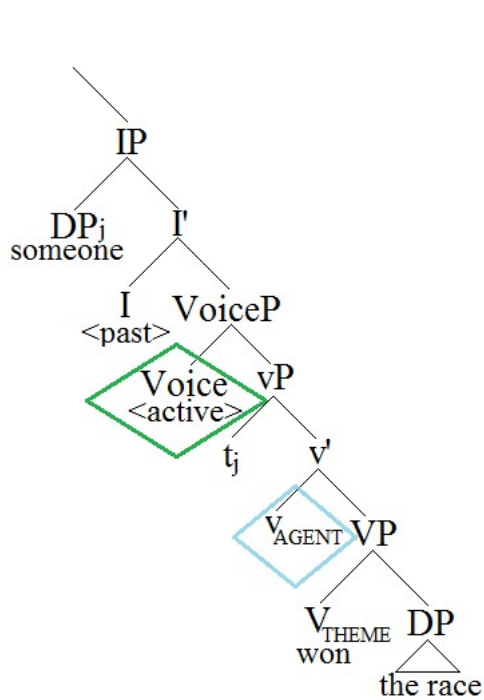


FIGURE 4.16 REVISED NEW SYNTACTIC IDENTITY - DATIVE ALTERNATION

The voice alternation also breaches this constraint. The functional items [active] and [passive] correspond to each other. They occupy the same position, but are different values and do therefore breach the new argument structure condition. In addition, though the functional head v_{AGENT} is in the same syntactic position, i.e. right above VP, it could be argued that these are not the same functional heads. The functional head v_{AGENT} that introduces the subject in active sentences may not be the same as the one that introduces *by* phrases. This means that the voice alternation breaches this revised new syntactic condition two times.

Antecedent



Ellipsis

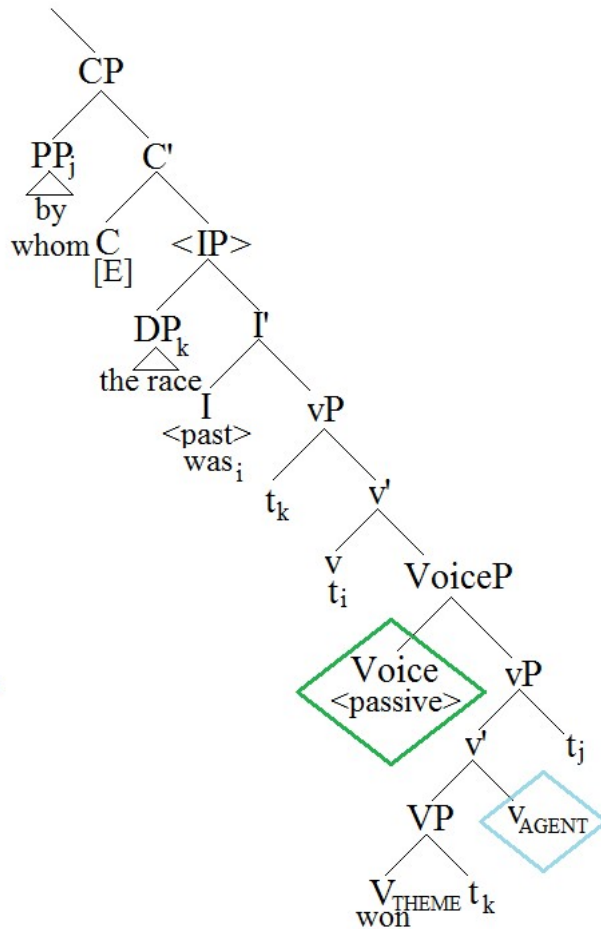
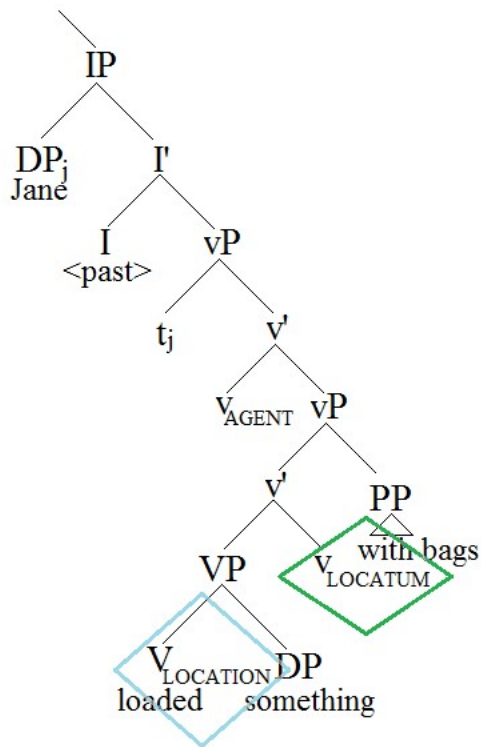


FIGURE 4.17 REVISED NEW LIMITED SYNTACTIC IDENTITY – VOICE ALTERNATION

Lastly, in the locative alternation, the functional heads that correspond to each other are $v_LOCATION$ to $V_LOCATION$ and $V_LOCATUM$ to $v_LOCATUM$. These corresponding items change where they stand in the ellipsis site, and it can be argued that $v_LOCATION$ and $V_LOCATION$ are not the same functional heads. This means that the locative alternation breaches the new argument structure condition four times, the change in position for $LOCATION$, the change in position for $LOCATUM$, $LOCATION$ not being the same type of functional head as in the antecedent, and $LOCATUM$ also not being the same type of functional head as in the antecedent.

Antecedent



Ellipsis

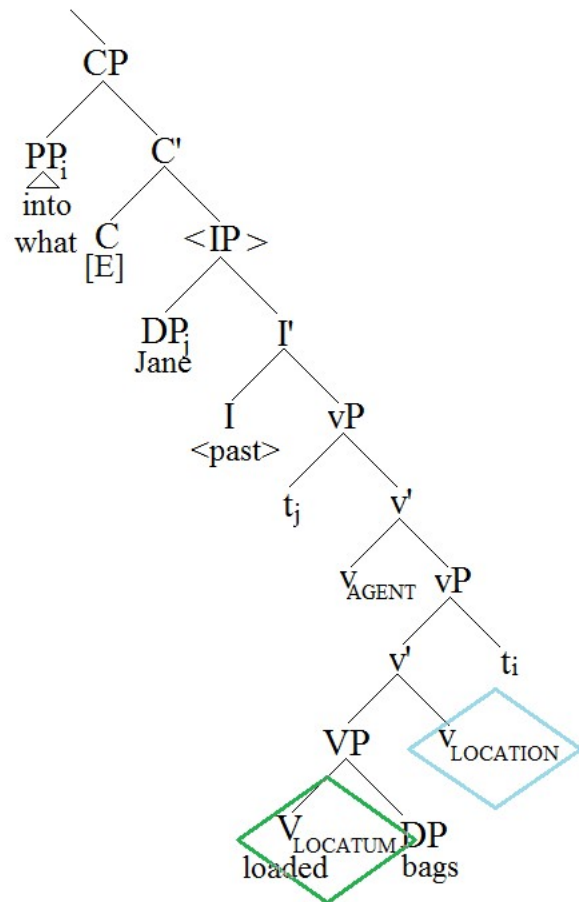


FIGURE 4.18 REVISED NEW LIMITED SYNTACTIC IDENTITY - LOCATIVE ALTERNATION

That the locative alternation and the voice alternation both have more breaches of the new argument structure condition, means that it can explain the gradience found here. With this revised theory, the sprouting of prepositional phrases is not considered bad because new functional items that do not correspond to anything in the antecedent is not a problem here. Yet, why sprouting of objects of preposition is considered unacceptable is also explained because the Case condition is still part of this new revised syntactic identity condition. It can also deal with why elliptical active-to-passive sentences are better than elliptical passive-to-active, i.e. passive-to-active sentences violate the Case condition while the active-to-passive ones only violate the argument structure condition. The only problem that remains is that sprouting in the locative alternation sentences were considered slightly better than sprouting in the other types of sentences. This could be because of the possible different interpretation that can be given sprouting in the locative alternation (see footnote 27), but this thesis cannot prove this. It seems like this issue will have to remain unsolved here.

I have only been able to give a brief sketch of this revised new limited syntactic identity condition on sluicing. There are still questions that need to be answered, but these will have to be left to future work. As it stands now, though, this new revised condition seems to be able to cope with most of the patterns found here.

5 Conclusion

The idea behind this thesis was to investigate what sprouting and alternations under ellipsis could reveal about the identity condition on ellipsis. By looking at the behaviour of sprouting and argument alternations under ellipsis, some new data has been uncovered. Most of what is new is related to gradience. Though both sprouting of objects of prepositions and alternations under ellipsis were mostly considered unacceptable to some degree, they were not all considered equally unacceptable. Sprouting of objects of prepositions is considered worse than alternations under ellipsis. The dative alternation is considered better under ellipsis than both the voice alternation and the locative alternation. In Norwegian, sprouting of objects of preposition is not considered as bad in sentences that can undergo the locative alternation as in the other types tested here. In addition, when there is a voice alternation under ellipsis, changing from active to passive is considered better than changing from passive to active. The identity conditions proposed by Chung (2005, 2013) and Merchant (2013) was then tested up against this new data in order to see if they could explain it.

Chung (2005)'s 'no new words' could explain sprouting of objects of prepositions, but not alternations under ellipsis and the gradience found within the different phenomena. The condition suggested by Merchant (2013) could explain alternations under ellipsis and sprouting of objects of prepositions. Unfortunately, this condition included the sprouting of prepositional phrases as unacceptable when they are considered completely acceptable. It also could not account for the gradience found within the various phenomena. The limited syntactic identity condition on sluicing proposed by Chung (2013) can explain the sprouting of objects of prepositions. It also addresses alternations under ellipsis, but this is more a stipulation and an explanation which leaves alternations under ellipsis unexplained. This limited syntactic identity condition also cannot explain the gradience found within the different phenomena. This means that none of these three theories can explain all the patterns found in this thesis. This led me to try to create a new limited syntactic identity condition on sluicing.

This new condition fused the idea of Chung (2005, 2013) and Merchant (2013) and added a counting component. By doing this, this new condition could explain argument alternations under ellipsis, why sprouting of objects of prepositions are considered unacceptable and most of the gradience found. Unfortunately, this new condition also has the problem of considering the sprouting of prepositional phrases unacceptable. It also could not explain the gradience found within sprouting. This led me to propose a revised new limited syntactic

identity. This revised condition seems at the moment to be able to explain every pattern observed here, apart from the gradience in sprouting, but this condition must be discussed more before anything certain can be said.

From discussing the identity condition and what it should look like for it to account for the patterns found here, there is one thing that can be concluded. Sprouting and alternations under ellipsis tell us that the identity condition on sprouting should be able to account for gradience. Sluices are not always either considered completely acceptable or completely unacceptable, but they are placed on a continuum ranging from completely unacceptable to completely acceptable. Something must explain why alternations under ellipsis are better depending on sentence type, and the identity condition should be able to account for this.

This thesis has one issue that must be stated. There were not enough participants in the survey in order for a generalisation to be made here. With only 6 Norwegian participants and 2 English participants, the averages here cannot be claimed as representative for the whole languages in general. For that to be possible, more participants are needed. This means that the most obvious next step would be to increase the number of both Norwegian and English participants, and see if the new numbers also show the same patterns. Another interesting avenue would be to look at naïve speakers of English, and see if their acceptability judgements are similar to those of the Norwegian naïve speakers or those of the English linguists who answered the English survey here. It could also be investigated whether a semantic identity condition could explain the patterns found here. I am aware that some has started to look at the Question under Discussion, and if this could be part of the identity condition on ellipsis (AnderBois, 2014; Weir, 2014). In addition, the last proposal made in this thesis of a revised new limited syntactic identity condition should be discussed in greater detail, since only a rough sketch was introduced here.

The idea was for this thesis to contribute to the ongoing discussion on the identity condition on sluicing. More specifically, what alternations under ellipsis and sprouting might indicate about this identity condition. That signs of a graded identity condition were found here will hopefully do this. Every paper and dissertation is part of an ongoing discussion, and this thesis will, hopefully, be an interesting contribution to the ongoing investigation into ellipsis and, through this, our understanding of language in general.

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Appendix A: The Surveys

English version

English Survey

Read the sentences one by one and cross off to which extent you find them acceptable or not. 1 is completely unacceptable while 5 is completely acceptable. If you have any comments, please fill in the comment section. Comments can be your interpretation of a sentence, if something is wrong with a sentence, how you would have said it etc.

Age:

Native language(s):

Handedness:

	<i>Dative Alternation</i>	1 Completely Unacceptable				5 Completely acceptable	Comments?
1	John gave someone a gift, but I don't know to whom.						
2	John gave someone a gift, but I don't know to whom he gave a gift.						

3	John gave a gift, but I don't know who he gave a gift.						
4	John gave a gift, but I don't know who.						
5	John gave a gift to someone, but I don't know who.						
6	Stephen served someone dinner, but I don't know to whom.						
7	Stephen served someone dinner, but I don't know to whom he served dinner.						
8	Stephen served dinner to someone, but I don't know who he served dinner to.						
9	Stephen served dinner to someone, but I don't know who.						
10	Stephen served dinner, but I don't know who.						

11	Susan sold someone a car, but I don't know to whom.						
12	Susan sold someone a car, but I don't know to whom she sold a car.						
13	Susan sold a car to someone, but I don't know who she sold a car.						
14	Susan sold a car to someone, but I don't know who.						
15	Susan sold a car, but I don't know who.						
16	Susan sold a car, but I don't know to whom.						

	<i>Active-passive alternation</i>	1 Completely unacceptable	2	3	4	5 Completely acceptable	Comments?
1	The race was won, but we don't know who.						
2	The race was won, but we don't know who won it.						
3	The race was won by someone, but we don't know who.						
4	Someone won the race, but we don't know by whom.						
5	Someone won the race, but we don't know by whom the race was won,						
6	The house was sold, but we don't know who.						
7	The house was sold by someone, but we don't know who.						

8	The house was sold, but we don't know who sold the house.						
9	Someone sold the house, but we don't know by whom.						
10	Someone sold the house, but we don't know by whom the house was sold.						

	<i>Locative alternation</i>	1 Completely unacceptable				5 Completely acceptable	Comments?
1	They sowed something in the field, but I don't know with what.						
2	They sowed something in the field, but I don't know with what they sowed the field.						
3	They sowed some field with tulips, but I don't know in which field.						
4	They sowed some field with tulips, but I don't know in which field they sowed the tulips.						
5	They sowed the field, but I don't know what.						
6	They sowed the field with something, but I don't know what.						
7	They sowed the field, but I don't know with what.						

8	Jane loaded something with bags, but I don't know into what.						
9	Jane loaded something with bags, but I don't know into what she loaded bags.						
10	Jane loaded something into the car, but I don't know with what.						
11	Jane loaded something into the van, but I don't know with what she loaded the van.						
12	Jane loaded the van, but I don't know what.						
13	Jane loaded the van, but I don't know what she loaded the van with.						
14	Jane loaded the van, but I don't know with what.						

Norwegian version

Spørreskjema om norsk

Les setningene én etter én, og sett kryss etter om de er akseptable eller ikke. 1 er helt uakseptabel, mens 5 er helt akseptabel. Hvis du har noen kommentarer til setningene, fyll gjerne ut kommentarseksjonen. Kommentarer kan være på din tolkning av setningen, ev. om noe ikke stemmer, hvordan du ville sagt setningen osv.

Alder:

Morsmål:

Høyre- eller venstrehendt?

	<i>Dativ alternasjonen</i>	1 Helt uakseptabelt				5 Helt akseptabelt	Kommentarer?
1	Ola ga noen en gave, men jeg vet ikke til hvem.						
2	Ola ga noen en gave, men jeg vet ikke til hvem han ga en gave.						
3	Ola ga en gave, men jeg vet ikke hvem han ga en gave.						
4	Ola ga en gave, men jeg vet ikke hvem.						

5	Ola ga en gave til noen, men jeg vet ikke hvem.						
6	Jørn serverte noen middag, men jeg vet ikke til hvem.						
7	Jørn serverte noen middag, men jeg vet ikke til hvem han serverte middag.						
8	Jørn serverte middag til noen, men jeg vet ikke hvem han serverte middag.						
9	Jørn serverte middag til noen, men jeg vet ikke hvem						
10	Jørn serverte middag, men jeg vet ikke hvem.						
11	Trine solgte noen en bil, men jeg vet ikke til hvem.						
12	Trine solgte noen en bil, men jeg vet ikke til hvem hun solgte en bil.						

13	Trine solgte en bil til noen, men jeg vet ikke hvem hun solgte en bil.						
14	Trine solgte en bil til noen, men jeg vet ikke hvem.						
15	Trine solgte en bil, men jeg vet ikke hvem.						
16	Trine solgte en bil, men jeg vet ikke til hvem.						

	<i>Aktiv-passiv alternasjonen</i>	1 Helt uakseptabelt	2	3	4	5 Helt akseptabelt	Kommentarer?
1	Løpet ble vunnet, men vi vet ikke hvem.						
2	Løpet ble vunnet, men vi vet ikke hvem som vant det.						
3	Løpet ble vunnet av noen, men vi vet ikke hvem.						
4	Noen vant løpet, men vi vet ikke av hvem.						
5	Noen vant løpet, men vi vet ikke av hvem løpet ble vunnet.						
6	Huset ble solgt, men vi vet ikke hvem.						
7	Huset ble solgt av noen, men vi vet ikke hvem.						
8	Huset ble solgt, men vi vet ikke hvem som solgte huset.						
9	Noen solgte huset, men vi vet ikke av hvem.						
10	Noen solgt huset, men vi vet ikke av hvem huset ble solgt.						

	<i>Lokativ alternasjonen</i>	1 Helt uakseptabelt	2	3	4	5 Helt akseptabelt	Kommentarer?
1	Ola ryddet noe av bordet, men jeg vet ikke for hva.						
2	Ola ryddet noe av bordet, men jeg vet ikke for hva han ryddet bordet.						
3	Ola ryddet noe for asjetter, men jeg vet ikke av hva.						
4	Ola ryddet noe for asjetter, men jeg vet ikke av hva han ryddet asjetter.						
5	Ola ryddet bordet, men jeg vet ikke hva.						
6	Ola ryddet bordet for noe, men jeg vet ikke hva.						
7	Ola ryddet bordet, men jeg vet ikke for hva.						
8	Kari lastet noe med sekker, men jeg vet ikke i hva.						

9	Kari lastet noe med sekker, men jeg vet ikke i hva hun lastet sekker.						
10	Kari lastet noe i bilen, men jeg vet ikke med hva.						
11	Kari lastet noe i bilen, men jeg vet ikke med hva hun lastet bilen.						
12	Kari lastet bilen, men jeg vet ikke hva.						
13	Kari lastet bilen, men jeg vet ikke hva hun lastet bilen med.						
14	Kari lastet bilen, men jeg vet ikke med hva.						

Appendix B: Results from the second survey

English

<i>Dative alternation</i>	Survey 1	Survey 2	Average
1.	3	2	2.5
2.	5	5	5.0
3.	4	2	3.0
4.	1	1	1.0
5.	5	5	5.0
6.	4	2	3.0
7.	5	5	5.0
8.	5	5	5.0
9.	5	5	5.0
10.	1	1	1.0
11.	3	2	2.5
12.	4	5	4.5
13.	5	4	4.5
14.	5	5	5.0
15.	1	1	1.0
16.	5	5	5.0

<i>Voice Alternation</i>	Survey 1	Survey 2	Average
1.	1	1	1.0
2.	5	5	5.0
3.	5	4	4.5
4.	2	1	1.5
5.	5	5	5.0
6.	1	1	1.0
7.	5	4	4.5
8.	5	5 ⁴¹	5.0
9.	1	1	1.0
10.	5	4	4.5

⁴¹ Informer commented that focus on ‘who’ was needed here.

<i>Locative alternation</i>	Survey 1	Survey 2	Average
1.	1	4 ⁴²	2.5
2.	5	4	4.5
3.	2	2	2.0
4.	4	4	4.0
5.	1	1	1.0
6.	5	5	5.0
7.	5	4 ⁴³	4.5
8.	2	1	1.5
9.	4	4	4.0
10.	2	4	3.0
11.	5	4	4.5
12.	1	1	1.0
13.	5	5	5.0
14.	5 ⁴⁴	4	4.5

⁴² Informer commented that the interpretation given here was ‘with what instrument’.

⁴³ It was commented by this participant that there are two interpretations for what ‘with what’ could refer to. It could refer to an instrument (what was used to load the van) or it could refer to a locatum (what was loaded into the van). The participant commented that ‘with what’ could be seen as referring to two different meanings.

⁴⁴ This participant commented that ‘with what’ could be seen as referring to two different meanings. The same two that was commented on by the other participant.

Norwegian

<i>Dative alternation</i>	Survey 1	Survey 2	Survey 3	Survey 4	Survey 5	Survey 6	Average
1.	4	5	3	5	5	2	4.0
2.	5	4	5	3	4	5	4.3
3.	5	4	4	2	1	3	3.2
4.	1	1	1	1	1	1	1.0
5.	2	4	5	3	3	5	3.7
6.	5	5	5	5	4	4	4.7
7.	4	4	5	3	2	5	3.8
8.	4	4	5	4	1	2	3.3
9.	3	4	5	4	4	5	4.2
10.	1	1	1	1	1	5 ⁴⁵	1.7
11.	5	4	5	5	5	1	4.2
12.	4	4	5	4	1	5	3.8
13.	5	4	1	4	2	2	3.0
14.	2	5	5	4	3	2	3.5
15.	1	1	1	1	1	1	1.0
16.	4	5	5	4	4	5	4.5

⁴⁵ This informant commented that this was with the interpretation that ‘hvem’ was the direct object, i.e. the thing that was being served as dinner, and commented further that other interpretations were unacceptable (1). With the interpretation that ‘hvem’ was not dinner, but the indirect object, the informant considered this sentence unacceptable.

Voice alternation **Survey 1** **Survey 2** **Survey 3** **Survey 4** **Survey 5** **Survey 6** **Average**

1.	1	1	1	1	1	1	1.0
2.	3	5	4	4	5	5	4.3
3.	5	4	5	5	4	5	4.6
4.	5	1	2	1	5	2	2.7
5.	3	4	5	5	2	5	4.0
6.	1	1	4	1	1	1	1.5
7.	4	4	5	5	4	5	4.5
8.	5	5	5	5	4	5	4.8
9.	4	2	2	4	3	1	2.7
10.	5	4	5	5	1	1	3.5

**Locative
alternation** **Survey 1** **Survey 2** **Survey 3** **Survey 4** **Survey 5** **Survey 6** **Average**

<i>1</i> ⁴⁶	1	2	1	2	1	5* ⁴⁷	2.0
2	3	3	1	2	1	5	2.5
3	1	2	1	1	2	1	1.3
4	1	4	1	1	2	5	2.3
5	4	2	1	1	4	1	2.2
6	4	3	5	5	4	5	4.3
7	5	3	4	4	2	5*	3.8
8	1	4	1	4	1	1 ⁴⁸	2.0
9	1	4	1	3	1	3	2.2
10	5	3	2	4	2	5	3.5
11	4	4	1	5	3	2	3.2
12	1	1	5	2	4	1	2.3
13	5	5	5	5	5	5	5.0
<i>14</i> ⁴⁹	5	4	5	5	4	5	4.7

⁴⁶ Two informant noted that they did not like the ‘rydde’-alternation.

⁴⁷ Similar to ‘hvem’ earlier, the items marked with * were acceptable if given a different interpretation. This time the interpretation of ‘for hva’ was ‘for what reason was the table cleared’ and not the intended ‘what items were cleared off the table’

⁴⁸ It was noted here that the person found it more logical to say ‘noe’ after the question and not before. So ‘Jeg vet ikke i hva, men Kari lastet noe med sekker.’ (‘I don’t know into what, but Kari loaded something with bags.’) This may have influenced the answers given to this alternation.

⁴⁹ Just like ‘for hva’ can have two different interpretations, ‘med hva’ can have two interpretations. One is when ‘for hva’ refers to the locatum, i.e. ‘the thing that was cleared of the table’. The other it that of instrument, i.e. ‘what was used to load the car’(instrument).

Appendix C: A complete list of sentences with sprouting of the objects of prepositions, and sentences with argument alternations

The following sentences either have sprouting or argument alternations. This means that sentences that have two different options are not included, i.e. sentences where they include either sprouting or argument alternations, or either argument alternation or no argument alternations. Sentences where prepositional phrases have been sprouted is also not included, only those that sprout indirect objects or objects of prepositions. Sentences which have sprouting are in italic while sentences with argument alternations are in bold. The number the sentences have in the survey stands in brackets after them.

English

*Dative*⁵⁰

- (1) **John gave someone a gift, but I don't know to whom.**[1]
- (2) *John gave a gift, but I don't know who.* [4]
- (3) **Stephen served someone dinner, but I don't know to whom.** [6]
- (4) *Stephen served dinner, but I don't know who.* [10]
- (5) **Susan sold someone a car, but I don't know to whom.** [11]
- (6) *Susan sold a car, but I don't know who.* [15]

Voice

- (7) *The race was won, but we don't know who.* [1]
- (8) **Someone won the race, but we don't know by whom.** [4]
- (9) *The house was sold, but we don't know who.* [6]

⁵⁰ Sentence 16 has been left out because the sprouting does here does not violate any rules since the preposition has been pied-piped.

- (10) **Someone sold the house, but we don't know by whom. [9]**

*Locative*⁵¹

- (11) **They sowed something in the field, but I don't know with what. [1]**
(12) **They sowed some field with tulips, but I don't know in which. [3]**
(13) *They sowed the field, but I don't know what. [5]*
(14) **Jane loaded something with bags, but I don't know into what. [8]**
(15) **Jane loaded something into the van, but I don't know with what. [10]**
(16) *Jane loaded the van, but I don't know what. [12]*

Norwegian

*Dative*⁵²

- (17) **Ola ga noen en gave, men jeg vet ikke til hvem. [1]**
Ola gave someone a gift but I know not to whom
'Ola gave someone a gift, but I don't know to whom.'
- (18) *Ola ga en gave, men jeg vet ikke hvem. [4]*
Ola gave a gift but I know not who
'Ola gave a gift to someone, but I don't know who.'
- (19) **Jørn serverte noen middag, men jeg vet ikke til hvem. [6]**
Jørn served someone dinner but I know not to whom.
'Jørn served someone dinner, but I don't know to whom.'
- (20) *Jørn serverte middag, men jeg vet ikke hvem. [10]*
Jørn served dinner but I know not who.

⁵¹ Sentence 6 in the survey has been left out as an argument alternation sentence because of the two options is has the most likely one chosen by the participants is the one without any violations, including argument alternation. In addition, the sprouting sentences number 7 and 14 are also left out because they include pied-piping of the preposition which means that they do not violate the sprouting rule.

⁵² Sentence 16 has been left out because the sprouting does not violate any rule here since the preposition has been pied-piped.

‘Jørn served dinner to someone, but I don’t know who.’

- (21) **Trine solgte noen en bil, men jeg vet ikke til hvem. [11]**

Trine sold someone a car but I know not to whom

‘Trine sold someone a car, but I don’t know to whom.’

- (22) *Trine solgte en bil, men jeg vet ikke hvem. [15]*

Trine sold a car but I know not who.

‘Trine sold a car to someone, but I don’t know who.’

Active-Passive

- (23) *Løpet ble vunnet, men vi vet ikke hvem. [1]*

Race.DET was won but we know not who.

Intended: ‘The race was won but we don’t know who won it.’

- (24) **Noen vant løpet, men vi vet ikke av hvem. [4]**

Someone won race.DET but we know not by whom

Intended: ‘Someone won the race, but we don’t know by whom the race was won.’

- (25) *Huset ble solgt, men vi vet ikke hvem. [6]*

House.DET was sold but we know not who

Intended: ‘The house was sold, but we don’t know who sold it.’

- (26) **Noen solgte huset, men vi vet ikke av hvem. [9]**

Someone sold house.DET but we know not by whom

Intended: ‘Someone sold the house, but we don’t know by whom the house was sold’

Locative alternation

- (27) **Ola ryddet noe av bordet, men vi vet ikke for hva. [1]**

Ola cleared something off table.DET but we know not of what

‘Ola cleared something off the table, but we don’t know of what.’

- (28) **Ola ryddet noe for asjetter, men vi vet ikke av hva. [3]**

Ola cleared something of plates but we know not off what.

‘Ola cleared something of plates, but we don’t know off what.’

(29) *Ola ryddet bordet, men vi vet ikke hva. [5]*

Ola cleared table.DET but we know not what.

‘Ola cleared the table, but we don’t know what.’

(30) **Kari lastet noe med sekker, men jeg vet ikke i hva. [8]**

Kari loaded something with bags but I know not into what.

‘Kari loaded something with bags, but I don’t know into what.’

(31) **Kari lastet noe i bilen, men jeg vet ikke med hva. [10]**

Kari loaded something into car.DEF but I know not with what.

‘Kari loaded something into the car, but I don’t know with what.’

(32) *Kari lastet bilen, men jeg vet ikke hva. [12]*

Kari loaded car.DEF but I know not what

‘Kari loaded the car, but I don’t now what.’