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The Simple, yet Complicated *Do So*:

An Analytical Study of *Do So*'s Anaphorical and Syntactical Properties

Master's thesis in Language Studies with Teacher Education

Supervisor: Andrew Weir

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Abstract

This paper is an extension of previous work on trying to examine the properties of different types of anaphora. Mainly, this paper will investigate the properties of *do so* anaphora, an area which has gotten relatively little attention. Nevertheless, *do so* has been used to discuss whether verb phrases have hierarchical structure as Lakoff and Ross (1976) argue, or if they have flat structure which is an interpretation Culicover and Jackendoff (2005) introduced in their attempt to encourage a simpler syntax. However, in this paper the internal structure of the anaphoric verb phrase *do so* will be examined, along with the category of *so*. Moreover, the thesis will discuss to what extent *do so* shares properties with the Norwegian anaphor *det* in relation to Hankamer and Sag (1976)'s terms *deep* and *surface* anaphora. This is crucial to the paper as it will progress into attempting to extend Weir (2023)'s $[\tilde{E}]$ -analysis from his subject, the Norwegian nominal anaphor *det*, to this thesis' main target: *(do) so*. By extending Weir's analysis, we will argue that *(do) so* is introduced by Weir's new $[\tilde{E}]$ -operator as a link which functions as an overt background argument 'living a double life' where it tells us that there is both a semantic as well as a linguistic antecedent present. This analysis is an alternative analysis made as a response to Lødrup (1994), Bentzen et al. (2013) and Houser et al. (2007)'s claims that such anaphoric processes are surface anaphora and conceal hidden vPs, and as such provides a new proposition on the matter of *do so* anaphora.

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Appendix A – Relevance for the teaching profession

1 Introduction

Anaphoric expressions and processes in English and Norwegian are very common both in oral and written language, however the relationship between antecedents and expressed linguistic material is not always clear even though we can immediately tell when anaphoric expressions are used incorrectly. The category of anaphors can, for example, represent noun phrases (I have been to the moon, but my family has not been there), whole clauses (A: Have you been to the moon? B: No \emptyset [~~I have not been to the moon~~]) or, what this thesis will concern itself of, verb phrases (I have never flown a space-shuttle to the moon, but my friend Jonas has done so). These are just a few examples of how we use anaphoric expressions when we communicate.

One of the core issues of the discussion lies in how anaphors can be controlled, that is, how they obtain their meaning. Anaphors can be controlled either syntactically or semantically. For an anaphor to obtain meaning, it must have an antecedent either in previous linguistic material (syntactic control) or in the context of the situation (semantic control). This property makes anaphors an interesting subject of research as they can represent a large variety of linguistic entities. However, this property introduces challenges as to how they acquire their meaning, which will be the main target of investigation in this thesis

This thesis will examine the anaphoric processes that happen with English (*do so*) and Norwegian *det* anaphora. The English construction consists of main verb *do* and adverb *so*, however, in order for *do so* to ‘capture’ meaning, it must have some linguistic material to ‘grab’ on to; this material is what we call an antecedent. In the case of *do so*, we will eventually find out that the way it captures its meaning is quite ambiguous. The abstract concept of whether (*do so*) conceals linguistic structure and therefore is elliptical can be difficult to tell. Part of what makes (*do so*) anaphora an interesting research-subject is that it is believed to be the closest translation of the Norwegian word *det*, with which it shares many properties - mainly that they are both frequently used in anaphoric expressions and the fact that they both portray ambiguous properties as to how they acquire their meaning when used in anaphoric expressions. An

example of a comparison between Norwegian *det* and English *do so* is: [Om du kan kjøre bil, kan jeg også gjøre det] compared to [If you can drive a car, then I can do so, too].

Thus, this paper will look at how *(do) so* acquires its meaning and at *do so*'s internal structure (or the lack of it), and it will use the Norwegian *det* as an element of comparison. However, it should be noted that neither *do so* or *det* are special because of their anaphoric character. They are special because of their peculiar syntactic and semantic features, which they may or may not share. The ambiguity this introduces is a mystery. In my attempt to answer this problem, I will rely on previous evidence for the provided theories. Furthermore, the analysis of *do so*'s anaphoric properties – how it captures its meaning - will be answered by extending Weir (2023)'s proposed [Ë]-operator analysis (which he proposed for the Norwegian verbal-anaphoric *det*) to the main subject of this thesis - *so*.

2 *Do so* anaphora

This section of the text will address the structure of *do so* anaphora. It will start by examining the internal structure of *do so*, discussing whether its structure is flat or hierarchical; and take a standpoint on which of these structures the paper will continue using throughout. After that, the paper will discuss the category of *so*, if it is an adjunct or some other category. The overall aim for this chapter is to investigate the meaning of the two components that together form the construction *do so*.

2.1 The Internal Structure of *Do So*

For verb phrase (VP) anaphors to be used felicitously, they must be preceded by an antecedent verb phrase. The VP anaphor then takes on the meaning of its antecedent applying meaning by referring back. *Do so*, and *so*, are such anaphors. A series of anaphoric constructions can be seen in (1). In these examples we can observe that *do so* can refer back to something that has previously been said in the discourse.

- (1) a. I [bought a car yesterday in Oslo], and my father did so, too.
 b. I [bought a car yesterday] in Oslo, and my father did so, in Tromsø.
 c. I [bought a car] yesterday in Oslo, and my father did so today in Tromsø.
 d. *I [bought] a car yesterday in Oslo, and my father did so a car today in Tromsø.

The first to write about the use of *do so* to motivate internal constituency within the VP was Lakoff and Ross (1976) (henceforth L&R), who, at the time, challenged the idea that the VP had flat structure with verb having as its sisters complements and adjuncts alike. They showed that this was not the case because, as they provided evidence for, *do so* can replace a verb, its complements and adjuncts – as seen in (1) – or it can replace the verb and its complements to the exclusion of adjuncts (Houser, 2010, p. 2). The important note, though, is that it cannot replace the verb alone (see 1d). By not being able to replace the verb alone, *do so* can target any non-head node (i.e. VP or V') in the VP.

L&R's claim was that there must be a hierarchical ordering of constituents within the VP, where the minimal VP contains the verb and its complement(s) but not the adjuncts. In sentences containing *do so*, *do so* cannot strand any constituents that make up a complement in its antecedent clause (Houser, 2010, p. 9-10). *Do so*'s minimal antecedent cannot, therefore, be anything smaller than a VP. This is illustrated in (2-4). In the grammatical (a) examples, *do so* stands in for a full VP, but in the ungrammatical (b) examples it only replaces the verb, resulting in ungrammaticality.

- (2) a. John took the exam, and I did so, too.
 b. *John took the midterm exam, and I did so the final.

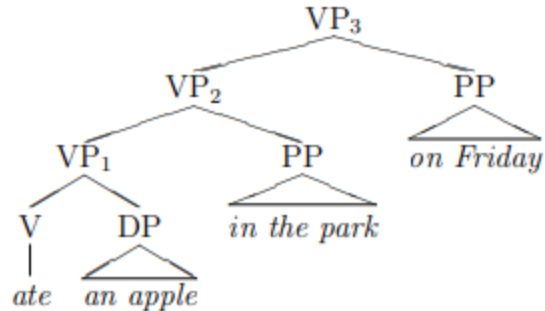
- (3) a. John gave a book to Pete, and I did so, too.
 b. *John gave a book to Pete, and I did so to Mary.

- (4) a. John loaded a sack onto the truck, and I did so, too.
 b. *John loaded a sack onto the truck, and I did so onto the wagon.

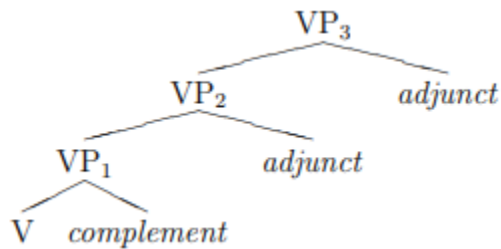
[L&R, 1976, p. 106, ex. (14-16)]

With a modern interpretation, according to Houser (2010, p. 11), L&R's arguments point towards a nested structure like the one in (5a) for the VP in (1a). In general, verb phrases have a schematic structure like in (5b) where the number of adjuncts can be any number from zero and up.

(5) a.



b.



[Houser, 2010, p. 12, ex. (6)]

This structural distinction by L&R was very influential and later became part of the foundation of X-bar Theory in Government and Binding, under which the VPs in (5) would correspond to V' levels (Houser, 2010, p. 12). Despite the evidence mentioned above regarding the internal structure of VPs containing *do so*, these notions have been challenged. Culicover and Jackendoff (2005) (henceforth C&J) are among those who challenged the validity of the structures shown in (5). Their objection to L&R's structural distinction is that a flat structure is sufficient to capture their supposed claim that the material stranded by *do so* contrasts with a corresponding focused constituent in the antecedent clause. *Do so*, then, gets its meaning from the antecedent VP minus the contrasted material. We can exemplify this. Consider the sentences in example (6) (C&J's ex. (31), p. 125). Assuming that the structure is identical in both VPs in (6c), this poses a challenge for a hierarchical structure as shown above because *do so* cannot target a VP node that would subsume 'sleep' and 'in the bunkbed', but not 'for eight hours' (Houser, 2010, p. 12-13).

2.2 The category of *so*

Having established the internal (hierarchical) structure of *do so*, exploring the syntactic level and meaning of *do so* as well as investigating the meaning of its two components, *do* and *so* by themselves, is a natural next step. What follows is a series of constructions where *so* can and cannot be used in order to exemplify its usage.

Do so consists of two individual morphemes which can occur together (8) or individually (9).

(8) a. John can kick a football across a field, and his son can do so too.

(9) a. Can you do that for me?

b. You can only kick a ball so far.

The way so can be interchanged, as in (8a), suggests that it can be both a noun and a pronoun:

(10) John kicked a football across a field yesterday, and his son will do it today. [it-pronoun]

(11) The parents are playing, and their children do the activity of playing football too. [the activity of kicking football - noun].

Houser (2010, p. 4), however, argues that *so* behaves like an adverb rather than a nominal and shows examples to prove this - given by Bouton (1970) - where we can see *so*'s adverbial behavior by looking at evidence shown by its distribution:

So cannot be the subject of a sentence if a passive verb is used:

(12) Someone broke our front window, and we think that {it/*so} was done sometime around noon. [Bouton, 1979, p. 22, ex (9b)]

So has the ability to intervene between a verb and a subject, something other nominals cannot:

- (13) Brent claimed he would steal any apple he wanted off my chart, and he {so/*that} does every day. [Bouton, 1970, p. 24, ex (17b)]

So cannot be the object of a preposition:

- (14) Jeremy had been planning to propose to Marilyn for several weeks, but the doing of {it/*so} in public he hadn't counted on. [Bouton, 1970, p. 25, ex (19b)]

So cannot be followed by an appositive noun phrase:

- (15) Bill fired his rifle into the air several times and he did {it*so} -the firing of his rifle into the air- to attract attention to himself. [Bouton, 1970, p. 25, ex (20b)]

- (16) a. Alice laughed loudly, and she loudly laughed because the cabaret was funny.
 b. Alice laughed loudly, and she so laughed because the cabaret was funny.
 [Micheler, 2015, p. 20, ex (33)]

We can see how *so* behaves as an adverbial in examples (16a) and (16b). In the latter, *so* is used to replace the manner-adverbial *loudly* of the former. The construction of the sentences in (16) is rather formal, using a 'stiff' register. A more common construction would probably be: "Alice laughed loudly, and she laughed *like that* because the cabaret was funny". Nevertheless, what is interesting about this example is that *so* cannot appear after the verb like it can, and most naturally would, in a *do so* construction, i.e. "*[...] she laughed *so* because the cabaret was funny".

Bouton (1970)'s evidence is directly targeted as evidence against *so* being a nominal. His first argument is that *so* is anaphoric to a manner adverbial in a previous clause in certain uses:

- (17) Brenda scrubbed the floor on her knees last night, and she does it *so* whenever her mother-in-law is around. [Bouton, 1970, p. 26, ex (22e)]

- (18) Steve killed his mother by wringing her neck last night, and he did it *so* because his wife, Brenda, had hidden his gun. [Houser, 2010, p. 5, ex (10b)]

In (17), *it* refers back to the verb and its object *scrubbed the floor* and *so* refers to *on her knees*, which is the manner adverbial. In (18), *it* refers back to *killed his mother* and *so* refers back to *by wringing her neck*, both portraying how *so* is anaphoric to a manner adverbial (Houser, 2010, p. 5).

However, the case of *so* being anaphoric to a manner adverbial does not seem to be the case for *so* in *do so* (Houser, 2010, p. 5). The use of *so* is only grammatical when the manner content is expressed in the lexical semantics of the antecedent verb (19a), but if there is no manner content at all, the sentences are ungrammatical like in (19b) (Houser, 2010, p. 5).

- (19) a. Steve strangled his mother last night, and he did it *so* because his wife, Brenda, had hidden his gun.
 b. Steve killed his mother last night, and he did it (**so*) because she treated his wife, Brenda, badly.

[Houser, 2010, p. 5, ex (11)]

Even without manner content in the antecedent clause, *do so* is still appropriate.

- (20) Steve killed his mother last night, and he did *so* because she treated his wife, Brenda, badly.

Because (20) is grammatical, it challenges the claim that the *so* of *do so* is always anaphoric to a manner adverbial. Bouton (1970) claims that the syntactic category of this *so* cannot be an adverb. However, Landman (2006, p. 92-97), cited in Houser (2010, p. 5), gives a semantic analysis of the *so* in *do so* where its adverbial status is maintained, and it is not only anaphoric to manner adverbials but also verb phrases. Landman proposes that *so* is an event-kind anaphor. Consider sentence (21). Landman's intuition behind her analysis is that *dancing*, for example, represents a distinct event, whereas *dancing wildly* represents a more specific kind of event. *So*,

as used in (21), therefore is anaphoric to the contextually salient event kind introduced by *wildly*, i.e. the manner adverbial (Houser, 2010, p. 6).

(21) Tonya danced wildly, and she *so* danced because she was swept away by the music.

[Houser, 2010, p.6 (ex.13)]

If we contrast this by using *do so* in a similar construction, we will see that *so* is anaphoric to the event kind denoted by the verb phrase, such as in (22).

(22) Tonya danced, and she *did so* because she was swept away by the music.

[Houser, 2010, p.6 (ex.14)]

In a case such as in (23), the antecedent of *do so* is modified by an adverb (*wildly*) and when that is the case *do so* is anaphoric to a more specific event kind - which in this case is wild dancing.

(23) Tonya danced wildly, and she *did so* because she was swept away by the music.

[Houser, 2010, p.6 (ex.15)]

This analysis of *so* can help us to understand why sentences where there is no manner component in the antecedent, such as (20) and (22), are grammatical with *do so* (Houser, 2010, p. 6).

Example (19b), on the other hand, is ungrammatical in this view because even though *so* can be anaphoric to “killed his mother”, *so* would not contribute any additional information as there is no content of manner which it can ‘take’ as its meaning, therefore, *so* would be redundant.

According to Houser, *so* is not anaphoric to manner adverbials, but to event kinds (2010, p.6).

This means that manner adverbials and verb phrases are able to denote event kinds. This does not, however, mean that *so* is not an adverbial. Bouton (1970) argues for its status as an adverb by two additional arguments. Firstly, he claims that *so* can appear in immediate preverbal position (Houser, 2010, p.6) which other adverbs also can. This is exemplified in (24).

(24) Rick was told to have his work in on time, and he will *so* do - or flunk.

[Bouton, 1970, p. 31, ex (33a)]

Bouton's second argument for *so*'s status as an adverb is that when *so* is used as part of *do so*, it is an intransitive use of the verb. *Do* is usually transitive but can be used intransitively when modified by certain modifiers as in (25).

(25) a. Zachary seldom does **that way** unless he is flustered.

b. **How well** do you expect Adam to do on this test?

c. Vernon will do **as he has always done in such a situation**.

[Bouton, 1970, p. 34, ex (42a-c)]

The cases shown in (25) make a reasonable hypothesis that *do* can be used intransitively, and the bolded adverbial constituents in these examples have the same status as *so* in (26). Therefore, the evidence laid forth by Houser (2010) and Bouton (1970) seem convincing and *so* will be treated under this assumption for the course of this work.

(26) I read the magazine in one hour, and Geoff did (*the book) *so* (*the book), (too).

[Houser, 2010, p.6 (ex.18)]

3 *Do So* – Deep or Surface Anaphor?

This chapter will review the original claim made by the two linguists Hankamer and Sag in their paper from 1976, where they introduced two terms which became very influential within the field of anaphora. The following sections in chapter 3 will present and discuss diagnostics centered around these two terms and how the relationship is between them and *do so*. We will begin by looking at the properties of deep and surface anaphora as introduced by Hankamer and Sag.

3.1 Deep- and Surface-Anaphora and their Properties

The original claim from Hankamer and Sag's (henceforth H&S) influential paper from 1976 was that anaphoric processes are separated into two categories: deep anaphora and surface anaphora. In surface anaphora the target of anaphora is what Houser (2010) calls "syntactically opaque" (p. 13). This means that the anaphor has internal structure throughout core syntax which is deleted or wholly replaced by a proform late in the derivation. On the other hand, deep anaphora is semantically controlled and has no syntactic structure other than that which is evident at the end of the derivation. The surface anaphor is dependent on the linguistic representation of its antecedent to get its meaning, while a deep anaphor is dependent on the discourse model constructed by a speaker to get its meaning.

H&S classify *do so* as surface anaphora based on three diagnostics. However, despite H&S's evidence for *do so*'s surface anaphoric nature, there have been claims that *do so* also has deep anaphoric properties. Before we investigate that, we will first look at which properties H&S identify as deep and surface anaphoric using three different diagnostics.

The first diagnostic that H&S identify is that surface anaphora exhibits something called **Missing Antecedent Phenomenon** (MAP), which deep surface anaphora does not. This phenomenon occurs when a pronoun finds its antecedent within the target of an anaphoric process (Grinder and Postal, 1971, cited in Houser, 2010, p. 14). Grinder and Postal (1971), argue that VP

anaphora must involve processes of syntactic deletion because sentences like (26a) related to surface structures shown in (27b) (Hankamer & Sag, 1976, p. 403).

(27) VP-Deletion

- a. I've never ridden a camel, but Ivan has ridden a camel_i, and he says *it*_i stank horribly.
- b. I've never ridden a camel, but Ivan has [~~ridden a camel~~_i], and he says *it*_i stank horribly.

In this example we can say that the antecedent for *it* has 'gone missing', which is where this phenomenon has gotten its name from. In these types of sentences, the right clause contains a pronoun that must get its meaning from somewhere - an antecedent - but, as we can tell, (27b) does not have a noun phrase (NP) that can function as an antecedent. Therefore, something, somewhere, must have that function since we perceive (27b) to be grammatically correct. Based on that argument, Hankamer and Sag claim that where a VP has been replaced by a null segment on the surface, the sentence must have a hidden representation of the visibly missing syntactic material (Hankamer & Sag, 1976, p. 405). In the case of (27b), the italicized pronoun refers to a camel, but the overt occurrence of *a camel* cannot serve as an antecedent for the pronoun as it is an indefinite NP under the scope of negation which cannot introduce a new entity into the discourse (Houser, 2010, p. 15). Therefore, the antecedent of *it* must be within the site of VPE, more specifically the occurrence of *a camel*. H&S themselves say the following on the matter: "On the basis of this "missing antecedent" phenomenon, Grinder and Postal argue that an interpretive theory of VP anaphora [...] that attempts to generate the structures containing null anaphors directly, without deriving them from an intermediate stage at which the anaphoric VP is syntactically represented, must be rejected." (1976, p. 404).

The second diagnostic H&S identify is that deep anaphora allows **pragmatic control**, while surface anaphora requires a linguistic antecedent. The difference between the two lies in the manner in which these two types of anaphora find their meaning. This can be explained rather simply. Sag and Hankamer (1984) argue that a deep anaphoric element obtains its reference "by reference to some object in a model of the world constructed by the interpreter of the sentence of

discourse” (328). This is different to how a surface anaphoric element obtains its reference which is “by reference to a linguistic representation associated with the antecedent, specifically a propositional representation of the kinds generally called logical form” (328). All that is required, then, for the interpretation of VP deep anaphors is that some form of pragmatically salient event is present in the discourse from where the anaphor can retrieve its meaning. A more extensive discussion on pragmatic control is found in subchapter 3.2.1, see examples (29) and (30).

The last diagnostic H&S identify is again related to the manner of how deep and surface anaphors are interpreted. According to H&S, surface anaphora requires **syntactic identity** between its antecedent and the target, a property it does not share with deep anaphora. Syntactic identity differs from pragmatic control in that (H&S argue) the linguistic antecedent and anaphor must be *identical*. We can exemplify this by contrasting a surface and a deep anaphor where the antecedent clause is passive, while the target is active¹. This will result in ungrammaticality, as in (28). In this example, the VPE fails the requirement of strict identity, that is, the surface anaphor property that requires syntactic identity is not satisfied - which results in ungrammaticality. The deep anaphor, on the other hand, does not care about strict identity and as a result the sentence remains grammatically correct.

(28) VPE - surface anaphor

*The oats had to be taken down to the bin, so Bill did [~~take them down to the bin~~].

Do it - deep anaphor

The oats had to be taken down to the bin, so Bill did it.

[H&S, 1984, p. 413 (ex. 65ab)]

¹ Some passive/active (voice) mismatches between the elided verb phrase and its antecedent are thought to be tolerated in VPE. This holds for both when the antecedent is in the active voice with a passive elided verb and vice versa (Merchant, 2010, p. 78). For a further discussion on this topic, see Merchant, Jason (2013) ‘Voice and Ellipsis’ (*Linguistic Inquiry*). Nevertheless, there is a clear contrast between the two sentences in example (28).

3.2 Is *Do So* Deep or Surface Anaphora? - A discussion

In the previous section, Hankamer and Sag (1976)'s three diagnostics on deep and surface anaphora on a general basis were discussed. How they are connected to *do so* will be discussed in a later section. We have thus far seen that surface anaphora is contrasted with deep anaphora. The classification of *do so* within either of these classes has sparked a debate within the linguistic world, a debate which Houser tries to answer in his dissertation. There are two different 'camps' in this debate; Those who advocate for *do so* being surface anaphora (Hankamer & Sag 1976) and (Fu et al. 2001) to name a couple, and those who advocate it being deep anaphora (Kehler and Ward 1995,1999) and (Houser 2010), among others. What becomes rather evident in Houser's dissertation is that there is evidence against the analysis of *do so* being both deep and surface anaphora. A foreshadowing is that Houser himself believes that *do so* is in fact deep anaphora and that it only passes diagnostics for surface anaphora due to independent properties of the anaphor (Houser, 2010, p. 16). He argues that the deep anaphoric properties of *do so*, mainly that it allows syntactic mismatches between target and antecedent, weigh heavier in favor of *do so* being deep anaphora than the evidence for *do so* being surface anaphora. The further discussion in this paper will use Houser's arguments on whether *do so* is deep or surface anaphora as a foundation to the claim to be made in chapter 5 and 6 that *do so* in fact comprises *both* deep and surface anaphora. What follows is empirical evidence that are used as arguments by different authors, summed up and discussed by Houser, on whether *do so* is deep or surface anaphora.

3.2.1 Lack of Pragmatic Control - Surface Anaphora property

Hankamer & Sag show that *do so* does not allow pragmatic control which contrasts with a deep anaphor such as *do it*. This speaks for *do so* being a surface anaphor. As shown by the examples in (29) and (30).

(29) Scene: Hankamer (again) attempting to pass 12" ball through 6" hoop.

a. *I don't think you can do so.

b. I don't think you can do it.

[H&S, 1984, p. 418 (ex. 86)]

(30) Scene: Melissa gets up to take out the trash.

- a. *She should've done so last night.
- b. She should've done it last night.

[Houser, 2010, p. 19 (ex. 25)]

Sentence (29a) shows an example of VP-deletion, whereas in (29b) the pro-form *do it* is left behind as a result of an anaphoric process. In (29a), *do so* tries to be pragmatically controlled by the context of Hankamer attempting to pass a 12" ball through a hoop which is too small, but it cannot do so because *do so* needs a linguistic antecedent, not a pragmatic one. Therefore, (29b) would only be accepted if there has been a previous linguistic context introducing Hankamer's attempt. This generalization is according to Houser very robust and speakers uniformly consider the (a) examples to be infelicitous.

3.2.2 Syntactic identity - Deep Anaphora Property

H&S claim that surface anaphora requires syntactic identity between the antecedent and the target. Houser, however, has found evidence that contradicts that. He notes that Kehler and Ward (1999) (henceforth K&W) show through many examples that *do so* allows voice alternations (31), a process nominal (32) or role nominal (33) as the antecedent and split-antecedents (34). According to Houser, this contrasts H&S's claim about syntactic identity between antecedent and the target (2010, p. 19). The antecedent phrases are bracketed in these examples.

(31) a. Since regardless of which bit is initially assigned, it will be [flipped] if more information is gained by *doing so*. (= flipping the bit)

[K&W, 1999, ex. (33)]

b. Section 1 provides the examples to be [derived by Gapping], and a formulation of gapping capable of *doing so*. (= deriving examples)

[K&W, 1999, ex. (34)]

(32) a. The [defection of the seven moderates], who knew they were incurring the wrath of many colleagues in *doing so*, signaled that it may be harder to sell the GOP message on the crime bill that it was on the stimulus package. (= defecting)

[K&W, 1999, ex. (38)]

- (33) a. One study suggests that almost half of young female [smokers] *do so* in order to lose weight. (=smoke)

[Houser, 2010, ex. (28a)]

- (34) a. Fortunately, the first person to [die in 1990] and the first couple to [file for divorce in 1990] were allowed to *do so* anonymously. (= to die and file for divorce)

[K&W, 1999, ex. (41)]

The fact that these mismatches in syntactic form are accepted by *do so* anaphora is evidence pointing towards it being deep anaphora. The reason for this is the apparent lack of a VP within the target of anaphora. K&W argue that one cannot find evidence for a VP to exist within the target of anaphora, and as such one cannot conclude that this is surface anaphora since there is no VP in their syntactic representation. This will be discussed further in the chapter “evidence against the surface anaphora analysis”.

3.2.3 Extraction - Ambiguous Properties

Surface anaphoric processes like VPE show us that we would expect that movement out of the target is possible, since the target of surface anaphoric processes start out the derivation with internal syntactic structure. Houser (2010) shows that this is the case by showing that *wh*-phrases in VPE constructions, for example, are understood to be the direct object of the verb and the object of a VP-internal preposition respectively (Houser, 2010, p. 21). This is shown in the examples below.

- (35) I don't know which puppy you SHOULD adopt, but I know [which one] you SHOULD'NT [~~adopt t~~].

[Houser, 2010, p. 21 ex. (36)]

- (36) I don't know who Tom DID go to a movie with, but I know [who] he DIDN'T [~~go to a movie with t~~].

[Houser, 2010, p. 21 ex. (37)]

Similarly, he shows that \bar{A} -movement is generally possible because topicalization from within the target of VPE is also possible.

- (37) I think the BLUE papers PETE should sign, and I think [the GREEN ones] JAN should [~~sign~~t].

[Houser, 2010, p. 21 ex. (38)]

Given these facts about VPE, we would also predict that *do so* anaphora should allow \bar{A} -movement if it is, indeed, a surface anaphor. This, however, is not the case as shown in the following examples.

(38)

- a. *I don't know which puppy you SHOULD adopt, but i know [which one] you SHOULD'NT *do so* [~~adopt~~t].
 b. *I don't know who Tom DID go to a movie with, but I know [who] he DIDN'T *do so* [~~go to a movie with~~t].

[Houser, 2010, p. 21 ex. (39)]

- (39) *I think the BLUE papers PETE should sign, and I think [the GREEN ones] JAN should *do so* [~~sign~~t].

- (40) *I saw the man that you *did so* last week [~~saw~~t].

- (41) *I visited every city Frank *did so* [~~visited~~t]

[Houser, 2010, p. 21 ex. (40-42)]

As we can tell, \bar{A} -movement out from the target is not possible here which is a strong indicator that *do so* is a deep anaphor (Houser, 2010, p. 22). However, other felicitous movement facts such as how *do so* is viable with unaccusative verbs point towards it being a surface anaphor. If we assume that unaccusative verbs take subjects that are underlying internal arguments of the

verb that arrive in the subject position of \bar{A} -movement, we would not expect these examples to be possible, according to Houser.

- (42) a. Ashley fainted at the party, and Maureen did so, too.
 b. Michelle fell down the stairs, and Jill did so, too.

The movement happening within the underlying internal structure of the sentences above is described in notations below:

Before movement: [IP [VP fainted Ashley]]
 After movement: [IP Ashley_i [VP fainted t_i]]

While this is possible, \bar{A} -movement out of the target of *do so* is not felicitous in all cases as *do so* cannot be passivized. This is to be expected from a deep anaphor because the internal argument position of the verb is where the passive subject originates (Houser, 2010, p. 22).

- (43) *The vase was broken by the children and the jar was done so, too.

Furthermore, it is not possible to raise out of the site of *do so*, as shown in (44), where *do so* is supposed to fill in for the matrix VP.

- (44) *Lousie seems to be walking quickly, and Candace does so, too.
 [*do so* = seem to be walking quickly]

[Houser, 2010, p. 21 ex. (45)]

What these facts tell us is that the availability of movement out from the target of *do so* gives us conflicting results. Passivization, raising and \bar{A} -movement are impossible, which in turn tells us that *do so* is a deep anaphor while at the same time it seems that the possible \bar{A} -movement associated with unaccusatives points toward *do so* being a surface anaphor.

The empirical facts regarding *do so*'s anaphoric nature is listed in the table below and show us *do so*'s mixed behavior. Two facts point towards *do so* being surface anaphora: One regarding the lack of pragmatic control and the other about movement of unaccusatives subjects. Whereas the fact regarding syntactic parallelism requirement, raising and \bar{A} - and passive-movement indicates it being deep anaphora (Houser, 2010, p.22). Houser further goes on to mention how these findings can be seen as proof that the surface versus deep dichotomy is false. However, he also mentions that the dichotomy can be maintained as long as the putative evidence against it can be explained in other terms and analyzed (Houser, 2010, p.22). That discussion and analysis will be discussed in the next chapter.

	DEEP	SURFACE
Pragmatic control		X
Syntactic Parallelism	X	
Extraction	\bar{A} -movement, Passives, Raising	Unaccusatives

3.3 Discussing the Evidence Against the Deep and Surface Anaphora Analysis

This chapter will be a summary of Houser's discussion of the evidence against the deep and surface anaphora analysis. He comes to a conclusion that contradicts previous claims that *do so* is an instance of surface anaphora. As the previous chapter has discussed, there seems to be sufficient evidence to claim that *do so* has properties that support an analysis of both. However, in his claim that *do so* is deep anaphora, Houser found that the evidence against *do so* being deep anaphora found explanations in terms independent of its anaphoric status, whereas the evidence against the surface anaphora analysis proved more resilient (Houser, 2010, p. 37). What follows is a discussion of Houser's arguments against both the surface and deep anaphora analysis.

3.3.1 Evidence Against the Surface Anaphora Analysis

If one wants to maintain a surface anaphora analysis of *do so*, one must adhere to the idea of syntactic identity mismatches and the unavailability of certain types of movement out of the anaphora site (Houser, 2010, p. 23). As previously mentioned in the sub-chapter about syntactic identity, *do so* does allow some kinds of syntactic mismatches. These include process nominals, role nominals, adjective antecedents, and passive/active mismatches as well as middle/non-middle antecedents and split-antecedents. However, Houser says that the analysis of *do so* being surface anaphora faces challenges that it cannot overcome when it comes to role nominal antecedents, transitivity, and middle/non-middle mismatches (Houser, 2010, p.31). Therefore, we will now take a closer look at these challenges to see if they can threaten the surface anaphoric status of *do so*.

Role nominal antecedents were previously mentioned as an element capable of being the antecedent of deep anaphoric *do so*. Additionally, however, role nominals can possess surface anaphoric properties. Fu et al. (2001) claim that process nominals (see ex. 32) contain a VP in their syntactic representation. They do, however, not explicitly discuss *do so* in relation to role nominals, but their analysis can be extended to cover *do so*, with specific focus on examples such as in example (33). Role nominals, as in (33), repeated below, can be said to contain a VP within the target of anaphora if one were to follow Fu et al. (2001)'s analysis. Consider (45).

- (45) One study suggests that almost half of young female [smokers] *do so* in order to lose weight. [Ward & Kehler, 2005, p. 15, ex. (35)]

Within the role nominal 'smokers' in example (45), one can argue that the VP 'smoke' exists. 'Smokers' is a deverbal noun, meaning it is a noun which has been modified through morphology from a verb to a noun; smoke (verb) + er (affix) = smoker (noun). On that basis, *do so* would be surface anaphoric in that it takes the VP 'smoke' within the anaphora site as its antecedent.

Ward & Kehler (henceforth W&K) (2005, p. 16) challenges Fu et al. (2001)'s claim and argue that only certain role nominals have the capability to be antecedents of *do so*. They say that there is no evidence for hidden VP in role nominals capable to take the role as antecedent for *do so* (Houser, 2010, p.24-25). Therefore, if we were to follow their analysis, we would have to say that the role nominal itself does not contain an internal structure where a VP exists (within the NP) that matches the target of *do so*. Thus, the syntactic identity requirement is not maintained, and it cannot be surface anaphoric. W&K's main source of evidence for this conclusion is linked to semantic transparency and that certain role nominals are incompatible as possible antecedents, as shown in examples (46).

- (46) a. *My [computer] does so faster than yours. (i.e. 'computes faster than yours')
- b. *The boat's [propeller] failed to do so, and now we're stuck. (i.e. failed to propel the boat)

[Ward & Kehler, 2005, ex. (39, 40), cited in Houser (2010)]

The role nominal 'smoker' in (45) is felicitous because it denotes the agent of a smoker event, which the role nominals in (46ab) fails to do. This introduces a term called *semantic transparency*, which according to (Langacker, 2000) measures "the extent to which speakers are cognizant of the presence and the semantic contribution of component symbolic elements", as cited in W&K (2005, p. 20). The essence of semantic transparency and why it can allow certain role nominals like 'smoker' to target a VP antecedent is that "hearers must use the meanings of its morphemes to derive the word's [meaning]" (Ward & Kehler, 2005, p. 20). Role antecedent 'smoker', as mentioned, denotes the agent of a smoking event and the hearer can easily interpret the event of smoking, i.e. the semantic transparency is 'high'. Role nominals like 'propeller' and 'computer', however, are not semantically transparent enough to denote the agent of 'something that propels/computes', according to W&K (2005). Therefore, the examples (46a) and (46b) above are infelicitous.

Based on the above, the original claim that *do so* is surface anaphora is therefore not valid since, according to Houser (2010), Fu et al. must have argued that certain role nominals contain a VP

whereas other do not. W&K (2005) argue that role nominals are not inherently compatible as antecedents in such a context because there is no independent evidence proving that certain role nominals contain a VP in their underlying structure whereas others do not. Fu et al. (2001)'s main problem is treated as a 'categorical issue' by W&K, whether there is a VP present or not (Ward & Kehler, 2005, p. 16). However, W&K must admit that role nominals portray a gradience with respect to compositionality which directly determines the accessibility of what it can take as antecedents (2005, p. 16). In light of these observations, they propose a discourse-based analysis of *do so* anaphora where they essentially argue that *do so* is deep anaphora (Houser, 2010, p. 25). This is the evidence Houser (2010) uses to front his narrative of a deep anaphoric *do so*.

Another type of syntactic mismatch is transitivity and middle/non-middle mismatches, and these face challenges just like role nominals, however, with the former the issue is connected to a mismatch in argument structure, as shown in (47) and (48).

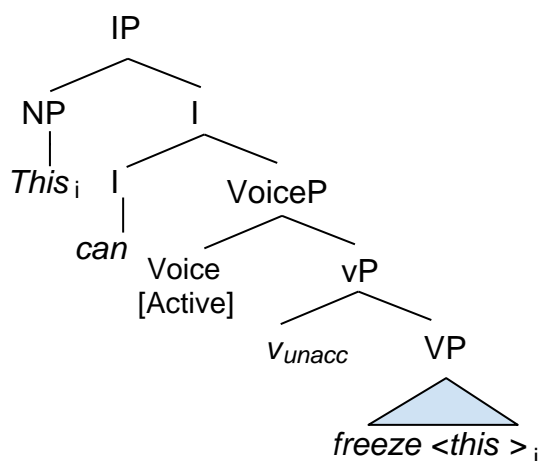
(47) This can freeze. *Grant will.

(48) *I was told that this new peanut butter spreads easily and I am very excited to.

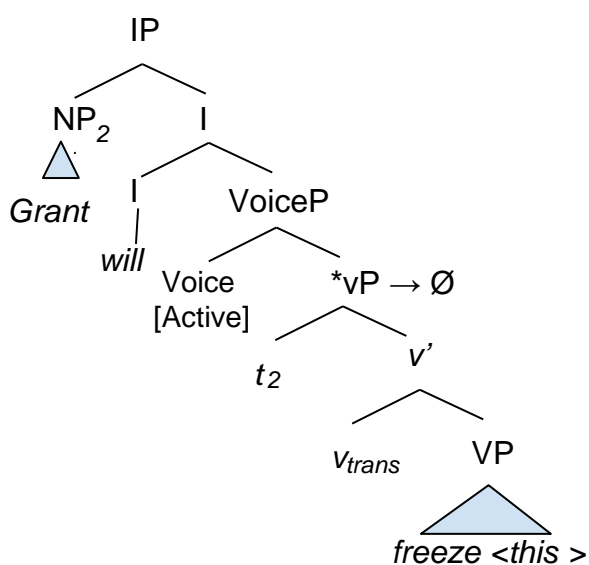
[Houser, 2010, p. 21 ex. (55-56)]

The reason why these examples are ungrammatical is that, according to an analysis by Merchant (2007) cited by Houser, the target clauses and the antecedent clauses have different argument structure. The antecedent clauses are unaccusative and do not have an external argument, whereas the target clauses are transitive and do have external arguments. This leads to a mismatch between external arguments between the antecedent clauses and the target clauses (Houser, 2010, p. 26-27). If we take Merchant's analysis where VPE is licensed by the Voice head, we cannot maintain syntactic identity between the *v*Ps since the fact that it is *v* that determines whether there is an external argument or not (Houser, 2010, p.27). The ungrammaticality of example (47) is shown in the trees in (49) which show the transitive target clause and unaccusative antecedent clause, adapted from Houser (2010, p. 27, ex. (57)).

(49) a.



b.



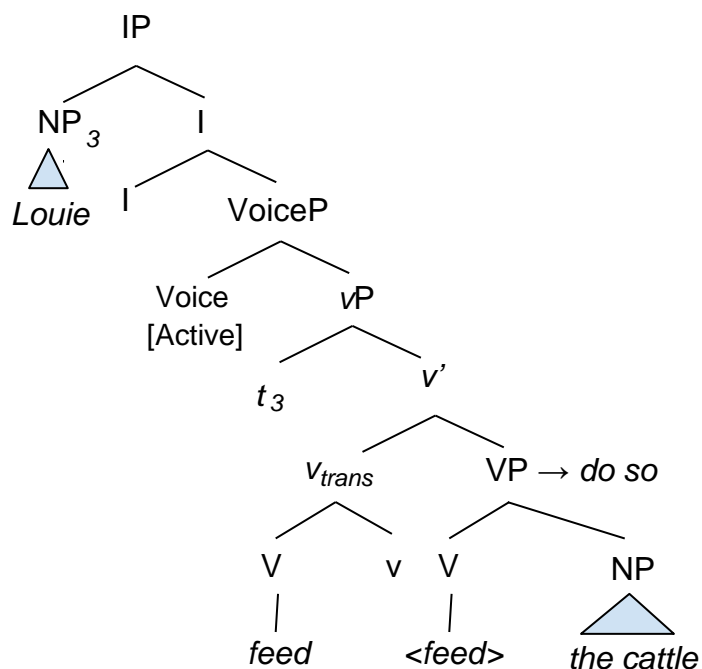
[Houser, 2010, p. 27, ex. (57)]

However, we have already seen that *do so* allows for these types of mismatches in the argument structure – see examples (31) – (34) on how *do so* allows for mismatches in process nominals, role nominals, voice alternations and split-antecedents. What this ultimately means, is that if we are to maintain the syntactic identity requirement by surface anaphora, we need to say that *do so* is not licensed by the Voice head, but rather by *v*. By following this analysis, *do so* would only

target the complement of v which is the VP. According to standard assumption, however, the verb always raises to v . Under this assumption only the VP is replaced by *do so* which would predict the infelicitous survival of the main verb along with *do so* which is demonstrated in the example below (Houser, 2010, p. 27). The tree structure for (50a) is shown in (50b), adapted by Houser (2010, p. 28, ex. (58b)).

(50) a. *Melvin feeds the cattle, and Louie feeds *do so*, too.

b.



[Houser, 2010, p. 28, ex. (58)]

Thus, the argument structure mismatch does pose a real problem for *do so*'s surface anaphoric interpretation if we are to follow Merchant's analysis.

3.3.2 Evidence against the deep anaphora analysis

This section discusses the evidence that Houser believes supports the view that *do so* is surface anaphora and that undermines *do so*'s deep anaphoric properties. Houser challenges some of these claims in order to progress with his narrative that *do so* is deep and not surface anaphora. Therefore, this section will only examine claims that directly oppose the deep anaphora analysis because they are what is relevant for this paper.

Do so's inability to take its meaning from non-linguistic context is its biggest challenge when it comes to its deep anaphoric interpretation. The hallmark of deep anaphora is the availability of pragmatic control. As Sag and Hankamer (1984) propose, surface anaphora needs a linguistic antecedent due to the mechanism through which surface anaphoric processes derive their meaning. They argue that surface anaphora derives its meaning by referencing the logical form (LF) of their antecedent. The LF is a linguistic construct and is thus inaccessible from real-world context, only from linguistic context (Houser, 2010, p.33). Houser also investigates an analysis from Kehler & Ward (2004) that examines the syntactic and pragmatic mismatches in *do so*. They come to the conclusion that *do so* shares the same properties as pre-verbal and post-verbal *so*; namely that it requires a discourse-old antecedent (that is an antecedent which has already been introduced in the discourse and is familiar to the hearer). An example of *do so*'s inability to take a non-linguistic antecedent is shown below, repeated from example (29).

- (51) Scene: Hankamer (again) attempting to pass 12" ball through 6" hoop.
 a. *I don't think you can do so. [H&S, 1984, p. 418 (ex. 86)]

In contrast, deep anaphora is by nature not constrained by the same rules since it can infer its meaning pragmatically, allowing for both linguistic and nonlinguistic antecedents.

Besides Houser's assertions, the missing antecedent phenomenon (MAP), initially proposed by Grinder and Postal (1971) to support the idea of VP deletion as a transformational process, restricts functions that typically correspond to surface anaphora. Moreover, these functions differ from those observed with deep anaphors. Missing antecedent phenomena has shortly been introduced earlier in this paper, however a more thorough explanation of this phenomena is

needed. In MAP, an anaphoric pronoun such as *it* in example (52) below takes the noun phrase internal to a predicate anaphor - which in this case is ‘a camel’ - as its antecedent. In this case, we have a surface anaphoric *do so* construction where the VP ‘do so’ elides the VP ‘ridden a camel’. Within the elided VP resides the NP ‘a camel’. This NP is the antecedent of the anaphoric pronoun *it*, which is what gives missing antecedent phenomena its name, because the antecedent is missing from overt representation, but still exists on the syntactic level.

- (52) I’ve never ridden a camel, but Ivan has done so [~~ridden a camel~~_i], and he says *it*_i stank horribly.

MAP is important evidence against the deep anaphoric analysis because it suggests that the interpretation of the pronoun relies on the surface anaphoric hallmarks. In other words, the meaning of the pronoun is determined by its covert linguistic antecedent and cannot recover its meaning through semantic or other deep anaphoric functions. Take example (53) into consideration where definite pronoun *it* is used instead of *do so*.

- (53) *I’ve never ridden a camel, and *it* stank horribly.

In the example above, we can tell that the meaning of the sentence has changed. The pronoun *it* cannot refer back to NP *a camel*. Therefore, *it* is not the kind of predicate anaphor that can introduce a putative noun phrase antecedent which is the essence of Grinder and Postal (1971)’s argument in that a pronoun such as *it* must have an antecedent which is not provided for in (53). This evidence further supports the surface anaphoric properties of *do so*.

According to Houser, *do so* also has another property which can indicate that it is surface anaphora. As previously discussed, surface anaphoric *do so* is compatible with unaccusative antecedents, as shown in (54). This is an objection to the analysis of it being deep anaphora, and it does so by stating how unaccusative subjects originate as the internal argument of the verb, as there would be no position for an internal argument if the target for deep anaphora is an atomic unit without syntactic structure (Houser, 2010, p. 35).

- (54) a. Ashley fainted at the party, and Maureen did so, too.
 b. Michelle fell down the stairs, and Jill did so, too.

[Houser, 2010, ex (76), p.35]

Houser, however, claims that this objection to the deep anaphora interpretation “is easily dispensed with”. He claims that the *do* of *do so* is an intransitive main verb, and if this is the case, then there is nothing that prohibits the existence of both an unaccusative and unergative (intransitive verbs that lack an object, i.e., they only have external arguments) *do* as well (Houser, 2010, p. 35). However, he falls short when it comes to providing evidence for this claim. A proposed syntactic diagnostic by Levin and Hovav (1995) where unaccusative verbs have the ability to appear in the resultative construction, as shown in (55), is mentioned.

- (55) a. The river froze solid.
 b. The prisoners froze to death.
 c. The bottle broke open.
 d. The gate swung shut.

[Houser, 2010, ex (77), p. 35]

Unergative verbs, on the other hand, require to be followed by a reflexive pronoun in order to be licensed in the resultative construction, as shown in (56).

- (56) Dora shouted *(herself) hoarse.

[Houser, 2010, ex (78), p. 35]

On that basis, Houser claims that we should be able to test for unaccusative *do* by using the resultative construction. Unfortunately, the resultative phrase behaves as a complement to the verb which means that it cannot be stranded by *do so* anaphora (Houser, 2010, p. 35), as in (57).

- (57) *Bill fastened the shutters open, and May did so shut.

[Houser, 2010, ex (79a), p. 35]

As Houser then must acknowledge, there is little evidence to suggest that there are two versions of the *do* in *do so*; however, he observes that there is no evidence to suggest the contrary either.

Therefore, Houser claims that his argument explaining why *do so* is compatible with unaccusatives - even if it is deep anaphora - is still a valid argument (Houser, 2010, p. 35).

To elaborate further on what Houser says about the ability of *do* to be unaccusative, there are a couple of points that should be mentioned. Houser (2010), notes what appears to be another possible objection to *do so* being deep anaphora, namely that *do so* is compatible with unaccusative verbs, but concludes that it is still deep anaphora because there is no evidence to support the contrary. His argument that there should exist both an unergative and an unaccusative *do* is based off of an argument that appears to support *so* being surface anaphoric, but it is in fact not. Example (54) may actually not be indicative of anything because of ‘variable unaccusativity’. A term which introduces the idea that verbs can vary in how their meaning is interpreted and whether the relevant argument is merged in the internal or external position (Neu, 2023, p. 77). This relates to how unaccusatives like *faint* can be agentivized and vary between unaccusative and unergative. Therefore, Houser’s choice of verb, *faint*, may actually not always be unaccusative, unlike a clearer unaccusative in *arise*. Consider (58ab) and (59ab) where unaccusative ‘arise’ is compared to the verb ‘faint’.

- (58) a. I said that there would arise problems, *and there have *done so* [~~arisen problems~~]
 b. I said many men would faint, *and there have *done so* [~~fainted many men~~]
- (59) a. I said that there would arise problems, and there have.
 b. *There fainted many men.

In the examples above, the differences in unaccusativity is shown. We would expect (58a) to be grammatical if *do so* can be unaccusative, based off of (59a), but it is not. The unaccusativity of ‘arise’ is clearer than the unaccusativity of ‘faint’ and gives the impression that *do so* cannot refer back to an unaccusative verb². Therefore, instead of focusing on Houser (2010)’s argument of there being two types of *do* (unaccusative and unergative) - which even he said is inconclusive - this paper will assume that missing structure is accounted for by MAP (Missing Antecedent

² This paper cannot provide an elaborate explanation on the term “variable unaccusativity” given its length- and time-requirements, but here is the thought behind the footnote: When it comes to unaccusatives like ‘faint’, the normal interpretation is that one does not faint on purpose, therefore implying that ‘faint’ is unaccusative. However, one can faint on purpose, adding agentivity on to the verb and making it unergative – the action is therefore transformed from being performed in a patient-like way to an agent-like way. A more true unaccusative like ‘arise’ is, to me, impossible to make unergative, which is why (58a) is infelicitous. This is the essence of variable unaccusativity.

Phenomena). Unaccusativity, based on the discussion above, is not an argument for internal structure within *do so*. Nevertheless, this paper considers MAP to be an argument for structure. The consequence of this choice is that *do* is believed to behave as main verb *do* in that it must take an external argument of its own – which is why it cannot refer back to the unaccusative *arise* in (58a) because *arise* does not take an external argument. Nevertheless, we do have evidence that support the surface anaphoric nature of *do*, namely when it is used in *do so* constructions, therefore it remains a valid argument.

Thus far we have examined the usage and anaphoric properties of *do so* and the category of *so* as an adverb. We can conclude that *do so* have properties that align with both deep and surface anaphora. This has been further emphasized by the arguments presented by Houser, Hankamer&Sag, Sag&Hankamer, Culicover and Jackendoff, Bouton, Ward & Kehler and others. The use of these much discussed anaphoric constructions exists because they are meant to simplify and make language more variable, while making it more coherent at the same time. However, when we cannot determine whether the anaphoric expressions originate from the context that surrounds us or from existing linguistic material, then the meaning can become ambiguous. What follows is a similar analysis to what has been conducted on *so*, but now the focus will be on the Norwegian word *det*. It will make an interesting point of comparison because it may or may not have some of the same peculiar syntactic and semantic features as *do so*.

4 Basic pattern of Norwegian *det*

The basic pattern of Norwegian *det* is necessary to discuss because this paper will eventually extend Weir (2023)'s analysis of *det* to English *so*. Therefore, an understanding of the basic pattern of *det* is needed before we move on to analyze *so* with the same analysis that Weir (2023) conducted on *det*. Both *det* and *so* are anaphors; and they possess several overlapping functions, even though they may not always be direct translations of each other. The case may, then, be that they share *some* functions that are directly translated between the two. Comparing the different functions of the words would therefore be beneficial to this paper. Previously, we have looked at the different functions of *so*, the following chapter, however, will discuss the basic pattern of *det* and look at its properties, following Bentzen et al. (2013) and Weir (2023).

The relevant use of Norwegian (*gjøre*) *det* is when it is used as a demonstrative and when it refers back to something mentioned previously in an utterance or a contextual situation. Norwegian, as well as other various Germanic languages, use a demonstrative pronoun parallel to 'do it' in English in constructions involving verbal anaphora with a modal or auxiliary verb. Where English anaphoric constructions tend to apply VPE and a use of the verb *do* with a singular neuter pronoun object, Norwegian offers an option not found in English; the direct use of a neuter pronoun with an auxiliary (Bentzen, 2013, p. 98). Examples of this are illustrated below.

- (60) Jan kan løse problemet; Kari {kan/ må/ bør/ gjør} ikke *det*.
 Jan can solve problem.the Kari can must should does not DET
 'Jan can solve the problem; Kari can't/musn't/shouldn't/doesn't.'

[Bentzen et al. (2013)]

4.1 *Det* anaphora and its mixed properties

VP ellipsis and anaphora in Norwegian is both similar and different compared to English constructions. VP ellipsis, or VPE for short, is the best known construction of verb phrase

anaphora in English, this is similar to Norwegian. However, the similar Norwegian phenomenon is more restricted than its English counterpart. Where English allows VPE with any auxiliary and the copula, Norwegian only consistently allows it with modals but not with aspectual ‘have’, passive ‘become’ or the copula (if the anaphora site does not require a verbal aspect, *gjøre* does not surface, but *det* is often required) (Bentzen et al., 2013, p.99).

(61)

a. Kari har skrevet ei avhandling, men Jan har ikke %(gjort *det*).

Kari has written a dissertation but Jan has not done it.

‘Kari has written a dissertation, but Jan hasn’t.’

b. Kari ble arrestert, men Jan ble ikke %(*det*).

Kari became arrested but Jan became not it.

‘Kari was arrested, but Jan wasn’t.’

[Bentzen et al. (2013)]

Where English has VPE, Norwegian requires or tends to have the pro-form *det* (as in example 61), together with a (tensed) modal, auxiliary or the pro-verb *gjøre* (which is comparable to the English *do (so/it)*) (Bentzen et al., 2013, p. 99). Modals used in Norwegian ellipsis constructions contrast with nonmodal auxiliaries and the copula which is how it is used in English ellipsis constructions. Therefore, one can say that Norwegian *det* appears to behave like a plainly apparent version of English VPE; what Hankamer and Sag (1976) call a ‘surface’ anaphor.

If we take a look at *det*, it co-occurs with modal verbs, perfect auxiliaries and *gjøre* ‘do’. Like English VPE, it also shares the qualities that it can take a range of eventuality types as its antecedent, including statives. However, an important distinction between (*gjøre*) *det* and *do it* is that *do it* anaphora cannot take stative antecedents which VPE and (*gjøre*) *det* can. VPE and (*gjøre*) *det* can take stative verbal predicates headed by verbs like *elske* ‘love’ and *kjenne* ‘know’ as its antecedent (Bentzen et al., 2013, p. 100). Thus, English VPE and Norwegian (*gjøre*) *det* behave similarly in most respects, however one must not confuse the two with *do it*. Even though they appear to be similar, they are not. *Do it* is relevant because *gjøre det* on the surface seems to resemble English *do it*, but their properties are different. *Do it* (and *do so*) involve the main verb

do and is typically believed to require a nonstative antecedent. This discovery shows us that *gjøre det* does not behave like *do it/so*, but as VPE (Bentzen et al., 2013, p.100-101). The contrast between Norwegian *gjøre det* and English *do it/so* is shown below.

(62) a. Kari elsker Jan. Gjør Jorunn det?

Kari loves Jan does Jorunn it?

‘Kari loves Jan. Does Jorunn?’

b. Jeg vet ikke om Kari kjenner Joakim, men Jens må gjøre det.

I know not if Kari knows Joakim but Jens must do it.

‘I do not know if Kari knows Joakim, but Jens must.’

[Bentzen et al., 2013, p. 100, ex.(8)]

(63) a. *Jack loves Kim. Does Jill do so/it?

b. *Jack might not know Kim, but Jill does so/it.

[Bentzen et al., 2013, p. 101, ex.9)]

Given the fact that *gjøre det* behaves like VPE we must address the anaphoric properties of the anaphor. Bentzen et al. (2013) argue that *det*’s anaphoric properties are ambiguous (p. 101). They differentiate between *det*’s deep and surface anaphoric uses, respectively when it is used as a usual pronoun and when it is used as a verbal anaphor. In a sentence like (64) *det* is in principle ambiguous between a deep and surface anaphoric reading (Weir, 2016, p. 3).

(64) Det gjør jeg ikke.

DET do I not.

a. ‘I don’t’ [surface anaphora]

b. ‘I don’t do it/that’ [deep anaphora]

[Weir, 2016, p.3]

Following the claim of Bentzen et al., the deep-anaphoric reading of *det* will interpret *det* as a pronoun. This use of *det* is labeled as *detD*. The surface-anaphoric reading of the sentence is that *det* recapitulates a verb phrase, this use of the word is labeled as *detS*.

4.2 The surface anaphoric properties of *det*

This section will set out the data and show how *det* is surface anaphora based on Weir (2023) following Houser et al. (2007) and Bentzen et al. (2013). *Det* having surface anaphoric features means that it is an anaphor with internal linguistic structure, like we see in e.g. English VPE. In addition of sharing some properties with English *do it/do that*, Bentzen et al. go through a detailed explanation of *det*'s mixed set of properties. An important takeaway is that Norwegian *gjøre det* patterns with surface anaphors like English VPE in licensing Missing Antecedent Anaphora (MAA has been demonstrated previously, see example (52)). What also emerges from their discussion, and which is prevalent throughout their entire paper, is that *gjøre det* is ambiguous in that it portrays both deep and surface anaphoric properties, much like *do so*. Therefore, in one of its structures *gjøre det* actually patterns with deep anaphors like the English *do it* in that it permits pragmatic control (Bentzen, 2013, p.104). A reading of *gjøre det* which identifies with English *do it/that* (deep anaphors) would cause it to undergo Object Shift as illustrated in (65).

(65) [Watching someone pretending to destroy something]

Slapp av, han gjør { *det* } ikke { **det* }.

relax off, he does DET not

'Relax, he won't do it.'

[Bentzen et al., 2013, p. 106, ex. (23)]

Sentences like (65) is probably one of the more usual ways of deriving sentences including VP-anaphoric *det*, along with stative predicates like *elsker* (62) and eventive predicates like *ride/ridden* (27)³. As previously mentioned, *do so* anaphora does not allow stative predicates, which means that there must be a constraint on the meaning of 'main verb' *do*. This constraint transfers over to the deep anaphoric use of Norwegian *det*, as Weir (2023) discusses.

Furthermore, the Norwegian *gjøre* can act as a parallel to *do*-support in English, which is an

³ Translation on example (27) taken from the section of "Do So – Deep or Surface Anaphor?".

I've never ridden a camel, but Ivan has [ridden a camel], and he says *it* stank horribly.

Jeg har aldri ridd en kamel, men *det* [~~ridd en kamel~~] har Ivan, og han sier at *den* stinker forferdelig.

instance where *gjøre* is not the main verb (Weir, 2023, p. 6), but it is still relevant to us here. This is illustrated in (66).

(66) (Norwegian)

Hva gjorde du?

What did you

(a) Jeg løste problemet ‘I solved the problem’

(b) Jeg red på en kamel ‘I rode a camel’

(c) #Jeg elsket brunost ‘I loved brown cheese’

(d) #Jeg visste svaret ‘I knew the answer’

[Weir, 2023, p.6, (ex.6)]

What Bentzen et al. propose, is that there must be a *det* which is separated from the *det* analyzed as the *det* in *gjøre det* ‘do it/that’ (Weir, 2023, p.6). The key point is that *gjøre det* has two meanings, one eventive using ‘main verb’ *gjøre* (roughly = to act, to perform) and one which is more analogous to English VPE. According to Bentzen et al. (2013) there are, then, two specific versions of *det*. One being surface anaphoric and one being deep anaphoric. In cases like example (65), where *det* is pragmatically controlled, the deep anaphoric *det* (*detD*) undergoes Object Shift (appears before *ikke*). The other version of *det* (*detS*) does not undergo Object Shift and is infelicitous as its use is surface anaphoric. An example of surface anaphoric *det* can be seen in the example in footnote 3.

One argument for the conclusion that the *det* that does not undergo Object Shift is a surface anaphor comes, according to Bentzen et al. as summarized by Weir (2023, p. 7): “from the possibility of A-movement out of *det*, for example of subjects when *det* resumes unaccusative (e.g. *komme* ‘come’, (67)) or passive (e.g. [*bli avsatt*] ‘be dismissed, (68))⁴ verb phrases”.

⁴ Example (68) is translated into Norwegian from an originally Danish example cited in Weir (2023).

(67)

- a. Kan bussen ha kommet nå? Nei, den kan ikke det.
Can bus have come now no it can not DET
 ‘Might the bus have come? No, it can’t have’.

b. Den_i kan ikke det [~~ha kommet~~ t_i]

[Weir, 2023, p.7 (ex. 8)]

(68)

- a. Det var første gang jeg ønsket å bli avsatt på stedet, og det ble jeg.
it was first time I wanted to become dismissed on the spot, and DET became I
 ‘It was the first time I had wanted to be dismissed on the spot, and I was’

b. jeg_i ble det [~~avsatt~~ t_i]

After fronting: det [~~avsatt~~ t_i] ble jeg_i

[Weir, 2023, p.7 (ex. 9)]

The arguments above, exemplified in (67) and (68) show us that *det* does conceal an underlying VP structure. Additionally, *det* also appears in the same syntactical position where we expect a VP to appear. This can be seen in (69) where *det* is in the anticipated syntactic position.

(69) Ivan har ikke det / [VP ridd på en kamel].

Ivan has not DET [ridden on a camel]

[Weir, 2023, p.8 (ex. 11)]

There are, then, several similarities between the Norwegian *det* and the English *do so* when they are both used in a surface anaphoric context. Like we see in examples (68) and (69), *det* shows that it has similar properties to *do so* like missing antecedent phenomena in (68), the availability of A-movement in (69) in addition to the previously discussed need for syntactic identity. What also seems to be common between the two is the need for syntactic identity. As discussed earlier, H&S argue that surface anaphors require syntactic identity, whereas deep anaphors do not.

(70) *The oats had to be taken down to the bin, so Bill did.

(71) *Havren måtte bli tatt med ned til bingen, så Bill gjorde.

Surface anaphoric *det* can be said, based on the translations above and the introduction of the chapter, to generally correspond to English VPE. Therefore, the next logical step in the narrative of this paper, would be to look into how *det* and *so* (by extension) are concealing VP structure.

5 An [É]-analysis of *so* in its use as a VP anaphor

In an attempt of trying to extend Weir's [É]-analysis ('E-squiggle-analysis') to the surface-anaphoric pronoun *so* I will follow Weir's analytical proposal that the Norwegian pronoun *det* does not 'stand' in for an elided VP, but that it is rather an overt realization of the linguistic antecedents of the relevant VPs. Weir's analytical proposal suggests that there is an operator, which he dubs [É], which licenses ellipsis of its complement and which he also mentions is semantically similar to Rooth (1992b)'s 'squiggle' (~) operator which marks redundancy of its sister with respect to a background argument (which *det* provides) (Weir, 2023, p. 3-4). This paper will try to extend that key proposal over to the properties of *so* and see if the same can be said about English *so* as for Norwegian *det*.

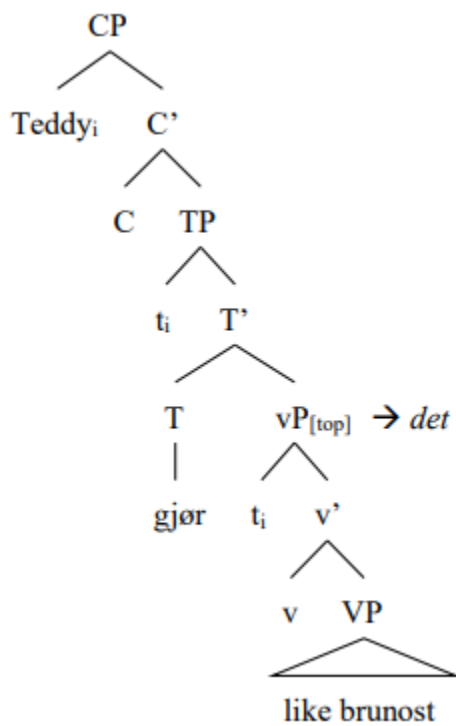
5.1 Why the [É]-analysis is necessary

Weir (2023)'s [É]-analysis is an alternative theory developed from a discussion of two previous approaches trying to explain how Norwegian *det* is used in VP-anaphora. The 'issue' at hand is trying to explain how a pronoun (apparently a noun phrase) can appear in VP position. The two previous approaches that Weir challenges come from Houser et al. (2007) and Bentzen et al. (2013). These two approaches are quite similar in that they argue that anaphoric expressions, where noun phrases (in this instance *det*) appear in VP position, conceal elided vPs and are categorized as surface anaphora. Houser et al. (2007)'s approach proposes an analysis where a [top] marked VP can be spelled out as *det* (cf. 72b) (Weir, 2023, p. 13).

(72) a. Jeg liker ikke brunost, men Teddy gjør det.

I like not brown.cheese, but Teddy does DET

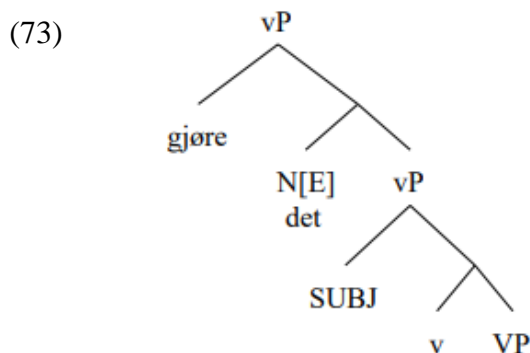
b.



[Weir, 2023, p. 14, (ex. 21b)]

Where Houser et al. propose that a [top] marked VP can be spelled out as *det*, Bentzen et al. (2013) propose an alternative analysis where *det* is of category N (noun) and is adjoined to vP. This N-categorized *det* bears Merchant's [E]-feature, a marker that licenses the ellipsis of its complement. This vP, can then be selected by auxiliaries or *gjøre* in the case of *gjøre*-support⁵ - which is akin to *do*-support in English (cf. 73) (Weir, 2023, p. 14).

⁵ Like Weir (2023), I will not address the mechanisms of (*gjøre*) *do*-support in this paper.



[Weir, 2023, p.14 (ex.22)]

There are, however, issues with both of these analyses according to Weir. He claims that Bentzen et al. (2013)'s analysis runs into problems because their adjunction-plus-ellipsis requires that *det* alone adjoins to the vP, because the [E] feature is assigned to *det*. However, since complex nominal expressions like e.g. (*akkurat det samme*) would take the rest of the nominal expression as its complement (cf. 76)⁶, the [E]-feature (which *det* carries) would be in a position where it cannot license ellipsis of the vP (Weir, 2023, p.16). How (*akkurat det samme*) can be used as a VP anaphor can be seen in (76) where the complex nominal expression is anaphoric to VP [ligger godt an / is in a good position].

Example (74) shows an example of how a complex nominal expression like (*akkurat det samme*) can be used anaphorically as a type anaphor. (75) shows the internal structure of (*akkurat det samme*).

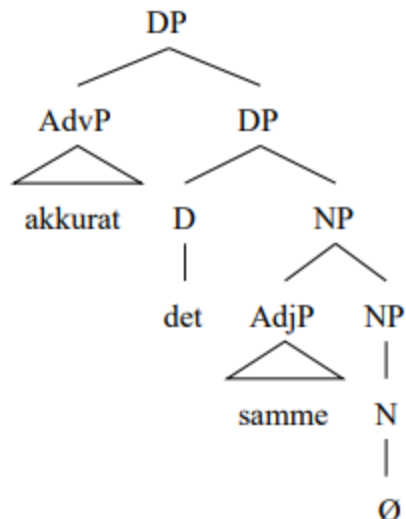
(74) (Norwegian)

Anja bestilte pizza med ananas, og jeg bestilte (*akkurat det samme*).
Anja ordered pizza with pineapple and I ordered exactly the same.
 ‘Anja ordered pizza with pineapple, and I ordered (exactly) the same thing.’

[Weir, 2023, p.15 (ex.24)]

⁶ As mentioned by Weir (2023, p. 15-16), *det samme* is assumed to contain a null N head. This is because ‘*det*’, ‘*det samme*’ and ‘*akkurat det samme*’ can be used anaphorically and that *det*+adjective (without overt noun) is a productive construction with the meaning of English ‘the [adjective] thing’.

(75)



[Weir, 2023, p. 16 (ex. 25)]

The root of the discussion lies in the fact that both *det* and *det samme* can be modified by modifiers such as e.g. *akkurat*. In these constructions, any full NP (and an arbitrary number of them) can be the anaphor. This observation is not compatible with what Houser et al. or Bentzen et al. say in their discussions, because if we were to follow their discussion, *det* could adjoin to the vP alone since it would be the one licensing ellipsis, which we have established that it cannot. Weir (2023)'s suggested answer to the issue at hand is the $[\tilde{E}]$ -analysis.

5.2 The semantics behind $[\tilde{E}]$

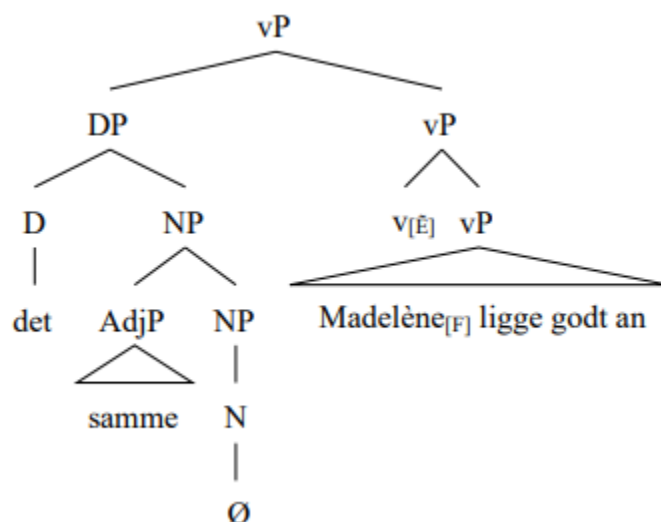
Now that the necessary background information is given, we can go into the details of the $[\tilde{E}]$ -analysis proposed by Weir (2023). His analysis proposes a syntax where an elided surface anaphoric vP is combined with a deep anaphoric NP in the specifier of a little v head. The spell-out - or pronominalization - of the elided surface anaphoric vP will then be the deep anaphoric NP (in the case of *det*). All of this happens while the structure still remains a vP which allows it to be the complement of auxiliary verbs, epistemic modals, etc. (Weir, 2023, p. 18). *Det* will in this case provide a background argument for a head which licenses ellipsis of a vP complement. The syntactic structure of this is illustrated in (76).

(76) Anja ligger godt an: det samme gjør Madelene.

Anja lies well PRT DET same does Madelene.

‘Anja is in a good position. So is Madelene.’ (Norwegian)

[Weir, 2023, p. 19, (ex.27)]



[Weir, 2023, p. 19, (ex.28)]

In the syntactic structure seen in (76), the little *v* bears the $[\tilde{E}]$ -feature. This feature elides its complement *vP*, much like Merchant (2001)’s $[E]$ -feature, but semantically it functions like Rooth (1992b)’s (\sim) operator. The combination of these two into one, is what Weir calls $[\tilde{E}]$.

What follows is a simplified explanation of the semantics of $[\tilde{E}]$. As mentioned above, $[\tilde{E}]$ is the child of Merchant’s $[E]$ operator and Rooth’s \sim operator. Where Houser’s operator is a marker of ellipsis, Rooth’s squiggle is a bit more complex. The \sim operator is a mark to say that its complement, up to focused constituents, is redundant (given), with respect to a (usually covert) background argument (Weir, 2023, p. 19). Weir’s $[\tilde{E}]$ operator, on the other hand, while quite similar to \sim , takes that background argument to be overt instead. The head licensing *vP* ellipsis, which will bear the $[\tilde{E}]$ marker, is then merged into overt syntax. The background argument taken by the $[\tilde{E}]$ bearing head will then be anaphoric to some previous *VP* (meaning) in the discourse (Weir, 2023, p. 19).

The elided vP, which is beneath the vP containing the v bearing [\tilde{E}], contains the element carrying focus (marked by [F]). Rooth (1985, 1992b) has two semantic values of constituents containing focus. The first is the ordinary semantic value of the vP where it is a predicate of eventualities. The other is the focus-semantic value of the vP, which is the set of predicates akin to the ordinary semantic value, but it contains predicates of eventualities for every alternative value for the focused constituent. This is explained in (77):

- (77) Ordinary semantic value: ‘X ligger godt an’ = X is in a good position.
 Focus-semantic value: ‘X ligger godt an’ = {A is in a good position, B is in a good position, C is in a good position, ...}

This is relevant because the [\tilde{E}] operator presupposes that its second argument is part of the focus-semantic value of its first argument. In the case of (76) where *det samme* \emptyset is the second argument, *det samme* is anaphoric to the predicate of eventualities expressed by its antecedent (Weir, 2023, p.20). What this means is that within the focus-semantic value of “Madelene_[F] ligger godt an” is the predicate of eventualities denoted by *det samme*, namely “Anja ligger godt an”. The role of [\tilde{E}] is to link the elided vP (containing meaning) with *det samme* in the correct way so that the focus-semantic value is transferred from antecedent to elided vP. To sum up, [\tilde{E}] links a surface anaphor (an elided verb phrase) with a deep anaphor (a pronoun or anaphoric noun phrase), resulting in an overall construction which has surface-anaphoric properties but resembles (is pronounced as) a deep anaphor.

Now that the basic analysis of the [\tilde{E}] operator is established, we can start to look into how we can incorporate the operator into the analysis of the syntactic nature of *so* and *det*.

6 [Ē] operator on *so*

This section will be an attempt of transferring Weir (2023)'s [Ē] analysis from Norwegian *det* to English *so*. As seen above, the [Ē]-analysis may provide us an answer in the quest of answering the seemingly ambiguity of *so*'s anaphoric properties. The syntax proposed here is based on Weir (2023)'s model but it must be altered slightly in order to fit to an analysis of *so*. As previously argued, *so* behaves like an adverb when it stands alone, and when used in the *do so* construction the construction as a whole is a verb phrase (VP). Therefore, the proposed syntax must be one where an elided surface anaphoric vP is combined with the deep anaphoric adverb *so* in the specifier of a little v head, instead of a deep anaphoric DP as proposed by Weir to fit his narrative of looking into the DP *det*.

Before we start looking into the syntax, there is one detail that must be addressed; the question of whether the combination of *do* and *so* is done through adjunction or complementation. We have previously seen that *do* and *so* cannot be separated; therefore, it is difficult to argue whether *so* is either one. However, the very fact that it cannot be separated may speak in the favor of *so* being a complement, as in (78).

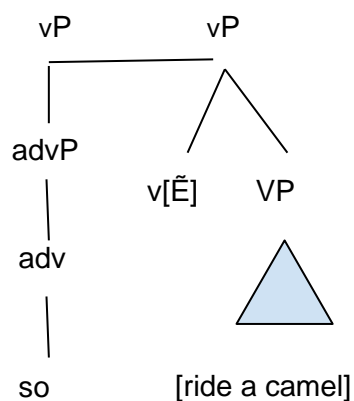
(78) *John crashed his car today, and Mary did yesterday *so*.

On the other hand, *so* also behaves like an adverb when it stands alone, and adverbs are usually adjuncts to verbs. Either way, as a result of the length requirement posed upon this paper, I will not discuss this further, but I will continue under the assumption that the combination of *do* and *so* is done through adjunction.

A crucial point in Weir's [Ē]-analysis is that he proposes that *det* provides a background argument for a head which licenses ellipsis of a vP complement. Therefore, by this extension of his analysis, we must see if *so* shares the same properties as *det*. We can do that by looking at the sentence stated in (79) - the syntactic structure for (79) is illustrated in (80).

(79) Mary has never ridden a camel, but Ivan has done so, and he said it stank.

(80)



In (80), the little *v* bears the $[\tilde{E}]$ operator which elides its complement *vP* and marks its redundancy up to its focused constituents (Ivan) with respect to the background argument - i.e. *so*. When following the $[\tilde{E}]$ -analysis, the ellipsis licensing head bearing $[\tilde{E}]$ is merged in overt syntax and takes *so* as its overt background argument. Thus, *so* is anaphoric to some previous *VP* in the discourse. How the *so*-clause in (80) is adjoined within a *VP* headed by *do* can be seen in (83) which shows the clause in its entirety.

One more thing to note here is that we know that *so* and *vPs* can share meaning. This shared meaning is what $[\tilde{E}]$ - in (80) - links. As aforementioned, *so* is an event kind anaphor in that it can describe an event in the same way a *VP* can. This property of *so* portrays how *so* can be an event-kind anaphor, which allows it to be anaphoric to event kinds like the one introduced by *wildly* in example (21), repeated in (81) (Houser, 2010, p. 6).

(81) Tonya danced wildly, and she *so* danced because she was swept away by the music.

This does raise the question of what category the $[\tilde{E}]$ -clause falls under. When we look at the whole clause, we can tell that the *vP* containing *det* (and the $[\tilde{E}]$ -operator) can be the sister of auxiliaries in the case of Weir's original analysis on Norwegian *det*. Thus, we must ask ourselves if this can be transferred over to *so*. The answer to that need not be overly complicated, because

the fact that little *v* takes big VP as its sister - as seen in (80) - suggests that $[\tilde{E}]$ -clause is a little *v*-phrase (*vP*). When we ‘slot’ this clause into a wider structure - under the assumption that *do* and *so* is adjoined through adjunction - we can assign the $[\tilde{E}]$ -clause a *vP* category on the basis that it acts like an adjunct. Adjuncts are, according to X-bar theory, represented as sisters to *X*’ (*x*-bar) levels and daughters of *X*’s levels; but can *vP*s be adjuncts one might ask. The answer to that is yes, they can. Consider example (82) below.

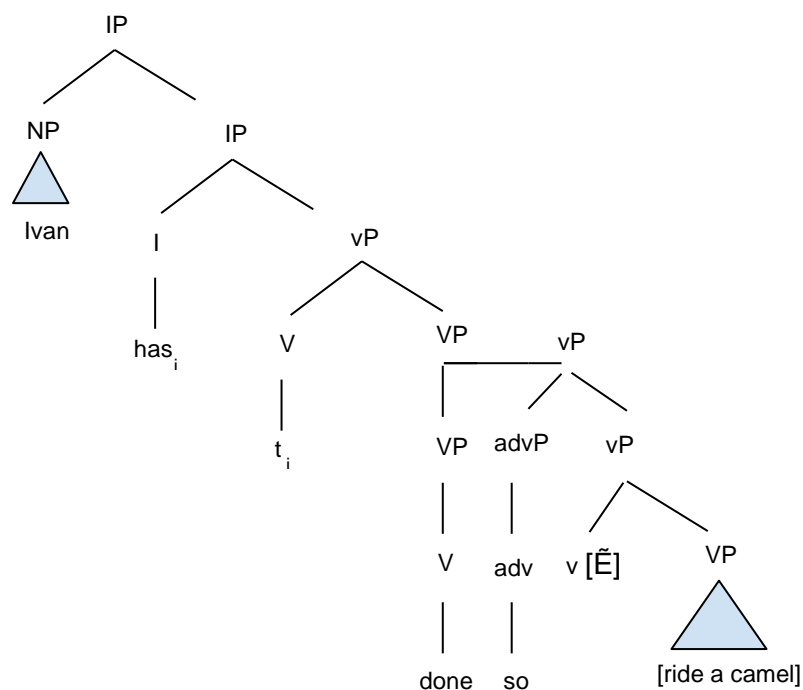
(82) He did his homework [whistling all the time].

We already know that adjuncts are elements of clauses functioning as adverbials. Adjuncts are, as a result, not arguments and arguments cannot be adjuncts as they are necessary elements for the verb. In the case of (82) *vP* [whistling all the time] functions as an adjunct while being a *vP*. Therefore, this paper will continue under the view that *vP*s can appear in adjunct position, and as a result of that it will treat the $[\tilde{E}]$ -clause as category ‘*vP*’.

Example (83b) below shows the extended *vP* syntactic structure from (79) where the *so*-phrase is adjoined within a verb phrase headed by *do*.

(83) a. Mary has never ridden a camel, but Ivan has done so, and he said it stank.

b.



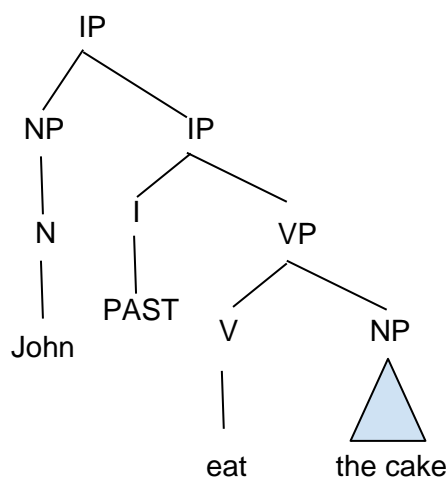
A distinction between this structure and Weir (2023)'s is that the entire vP containing *so* is an adjunct in (83b): whereas in Weir's analysis, the entire vP containing *det* is the complement of an auxiliary verb. In (83b), the subject (Ivan) of main verb *do* does not originate in the VP [ride a camel] in the same way that *Madelène* does in Weir's example, see ex. (76). Ivan does not move from object to subject position, it is born in the specifier of IP [Spec, IP]⁷. It is the external argument of lexical verb *does* as it is an agentive verb and therefore must have external arguments.

To show that the *do* of *do so* is main verb with an external argument we can recall to example (58) where we concluded that *do* is believed to behave as main verb *do* in that it must take an external argument and cannot refer back to an unaccusative verb like e.g. *arise*, repeated below.

(84) I said that there would arise problems, *and there have *done so* [~~arisen problems~~].

As a result of *do* being main verb 'do' in this construction, the subject of (79) – Ivan – is born in the specifier of [Spec, IP]. Similar to the way John originates in [Spec, IP] position in (85).

(85) John ate the cake.

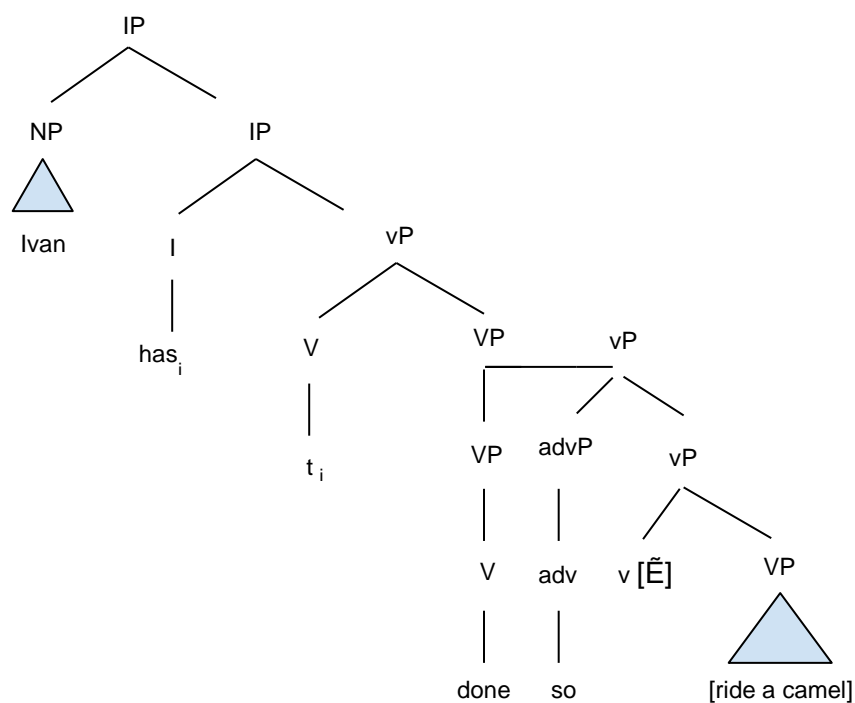


⁷ For simplicity, I assume that external arguments (here the subject Ivan) are 'born' in [Spec, IP] and not lower down in the structure – within vP.

In the case of (79), repeated in (86), *so* in the specifier of $[\tilde{E}]$ obtains its reference deep-anaphorically, but the elided VP [ride a camel] still needs to get its reference surface-anaphorically. The observation that the elided VP needs to get its reference surface-anaphorically is the reason behind the effect that *do so* requires syntactic control. *Do so*, as a deep anaphor, is the background argument for the surface-anaphoric deletion of the vP [ride a camel].

Additionally, as mentioned above, $[\tilde{E}]$ introduces a presupposition that its second argument (here *done so*) is a member of the focus-semantic value of its first argument. This presupposition must be satisfied, which it is in the context of (79), because *done so* means ‘the act of riding a camel’ because it implies agency on the part of its subject. Since *so* is an ‘event kind’ anaphor, as explained in (81), the presupposition introduced by $[\tilde{E}]$ is satisfied and the syntactic structure for (79) looks like (86), as repeated from (83).

(86) Mary has never ridden a camel, but Ivan has done so, and he said it stank.



To generalize, we can say that the $[\tilde{E}]$ marker indicates a link between the antecedent VP and the elided VP. They are alternatives to each other. *So*, in this case, is introduced by $[\tilde{E}]$ as the link between the surface anaphorically deleted syntactic material and the deep anaphoric background argument. Thus, the $[\tilde{E}]$ operator tells us that there is a contextual (semantic) antecedent as well as a linguistic one. It is here that this theory differs from the more established ones within this field of research. Where others, such as Houser (2010), Bentzen et al. (2013), Hankamer & Sag (1976) and more propose a syntax where (*do*) *so* is controlled either by deep anaphoric or surface anaphoric processes, Weir (2023)'s $[\tilde{E}]$ -analysis combines the two and propose a possible solution where the new operator elides its complement with respect to two background complements; one of which is deep anaphoric, and the other is surface anaphoric. In the case of *so* - *so* does not stand in for elided verb phrases, but it becomes an overt realization of its antecedents which function as background arguments to $[\tilde{E}]$.

7 Conclusion

This paper has looked into the intricacies that *do so* represents. We have concluded the internal structure and the category of *do so*, and that it has properties that align with both deep or surface anaphora. Additionally, we have discussed the basic pattern of Norwegian *det* and whether *det* is surface anaphora or not. These discussions led to the analysis of Weir (2023)'s $[\tilde{E}]$ -analysis on *so* and why that analysis is important to try to determine *do so*'s function as an anaphor. What this paper has concluded is that Weir (2023)'s analysis could successfully be transferred over to *do so* where we could see that *so* did function as a background argument to Weir's $[\tilde{E}]$ operator. When *do so* functions as a background argument to $[\tilde{E}]$, it can be said to 'work around' the conventional deep versus surface anaphora discussion because it can obtain its reference deep-anaphorically while being the background argument of the (surface-anaphorically) deleted vP. The link between the antecedent VP and the elided VP is thus made through the $[\tilde{E}]$ operator.

The analysis of *do so* through Weir's proposed $[\tilde{E}]$ -analysis mainly gives us two indications which can help in diagnosing the differences between Norwegian *det* and English *so*. As discussed, the two phrases are different categories, *det* when used in anaphoric constructions is a noun phrase unlike *so* which is an adverb. Additionally, they also differ in their functions as adjunct in the case of *so* and complement in the case of *det*. Despite their differences in category and function, their properties as anaphors are similar in some mysterious way. I propose that this similarity is a result of innate properties of both words. *So* is mysterious because sometimes it acts like a surface anaphor where it is a spell-out of an elided VP, while it also can act as a deep anaphor when it is pragmatically controlled. In (87), we can see a clear example of when *so* is used adverbially as a deep anaphor, whereas in (88) the *so* in *do so* acts like a surface anaphor.

(87) [Watching a badly behaved child]

He should not *so* behave.

(88) I've never ridden a camel, but Ivan has *done so* [~~ridden a camel~~_i], and he said it_i stank horribly.

So, therefore, can be said to ‘live a double life’ - it is ambiguous by nature similar to Norwegian *det* which can be a pronoun but also a verbal anaphor. They are similar in function, yet different in their categories. The changes made in the analysis of *so* in respect to [Ē] is reflected by this and what we can tell from the analysis is that Weir (2023)’s [Ē]-analysis can be extended from Norwegian *det* to English *so*.

The conclusions and discussion made in this paper has introduced a few possible ventures for further research which I could not investigate because of the scope of this thesis along with a restricted time-frame. Therefore, there was left no room to venture further into different constructions containing the apparently surface-anaphoric pronoun *so* and its various uses, an investigation which is highly relevant to this thesis. A discussion on whether the [Ē]-analysis can be extended to other kinds of *do so* anaphora where *so* is in preverbal position like (89a) and where it portrays seemingly compulsory fronting behavior like in (89b) below could yield interesting results.

- (89) a. Mary made a mess and *so* did John.
 b. Mary flew across the Atlantic in a paper airplane. – *So* she did.

Another problem that arose is the problem of extraction out of *det*. The problem of extraction is addressed by Bentzen, Merchant & Svenonius (2013) and Houser et al. (2007) in different ways. See their explanations in K. Bentzen, J. Merchant, & P. Svenonius. (2013). Deep properties of surface pronouns: pronominal predicate anaphors in Norwegian and German, [*Journal of Comparative Germanic Linguistics*], and M. J. Houser, L. Mikkelsen, & M. Toosarvandani (2007). Verb Phrase Pronominalization in Danish: Deep or Surface Anaphora, [*Proceedings of WECOL 2006*]. However, the problem is still awaiting a definite answer. Provided in (90) is an example on how extraction out of *det* is impossible:

- (90) “De bøkene likte jeg, *men de bøkene gjorde jeg ikke det”.

Linguistic research investigating especially the pre-verbal use of *so* and whether that can be extended to the [Ē]-analysis would be of interest to me personally and (I would assume) to my

supervisor A. Weir whose analysis this thesis builds upon. I believe that further research on the [E]-analysis could help unveil the strange properties of *so* (and *det*) and could lay a new path for further research in the surface versus deep anaphora discussion that has been ongoing for decades. I hope this contribution was one of the first steps in this direction and that it can help further research within the field.

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Appendix A

Relevance for the teaching profession

For my profession as an ESL (English as a second language) teacher, the process of working with this master thesis has been valuable in ways I would find hard to fathom before I started working on it. By being so involved the massive (for me, at least) undertaking that is writing a master's thesis, it has given me extensive knowledge and experience on every aspect that this thesis has introduced. This involves everything from how to find relevant literature and being a critical reader to becoming more aware of how to write in such a way that it is easy for the reader to understand new and challenging concepts. Experimenting with simplification of text and the explanation of them might be one of the factors that has given me the most valuable knowledge. Pupils must often have things simplified or explained in different ways in order for them to understand, therefore, the understanding and experience I have gained in these skills by working on this thesis is highly valuable to me as a teacher.

Another aspect which I feel more comfortable with now, is grammar and why it functions the way it does. After working on this project, I can explain grammar and sentence structure in a better and more concise way to my pupils. I believe that my - still developing, but still somewhat – extensive knowledge about the more complex and difficult aspects within grammar and syntax is what has enabled this. Furthermore, having the knowledge to be able to predict which challenges the pupils may face is something I value and something I believe will benefit my pupils greatly.

In the English subject, the core elements include being able to express opinions and ideas in an understandable and appropriate manner. This includes planning and processing of texts which I feel I have become better equipped to guide them through as my own skills within planning and processing texts has increased through working on this thesis. Moreover, and perhaps even more importantly, I have become even more comfortable with writing English. A quality which undoubtedly is important when you are an ESL teacher.



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