Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Humanities
Department of Language and Literature

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Noun Phrase Ellipsis as a probe into nominal structure

Master's thesis in English Linguistics
Supervisor: Andrew Weir
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Abstract

The D(eterminer) P(hrase)-hypothesis (Abney, 1987) has since its proposal within government and binding theory been the dominating conception of nominal structure in generative grammar. However, given the shift from government and binding theory to the minimalist program, the DP-hypothesis has been put under increased scrutiny, as many have suggested it may not hold within the minimalist framework. One particular criticism concerns Noun Phrase Ellipsis (NPE) licensing (Bruening 2009). Proponents of the DP-hypothesis have argued that a view of the nominal phrase where D is a functional head can provide a unified account of ellipsis licensors within the nominal domain. Bruening (2009) suggests instead that the elements licensing NPE appear to not be syntactically uniform.

This thesis investigates NPE licensing in detail to see if NPE licensing theories based on the DP-structure are able to give a syntactic account of NPE licensing within the minimalist program, and if an alternative to DP-structure is able to provide such an account. Bruening (2009) proposes an alternative structure of the nominal phrase where recursive nP-shells form around the core noun and the prenominal elements. Within this nP-structure, the head of the nominal phrase is n, not D. In this thesis, I expand on the proposed nP-structure and apply it to English data, suggesting that the recursive n-heads host number specification. Extending Merchant's (2001, 2004) [E] feature to English nominals, I find that if [E] can appear on the recursive n-heads, we are able to give a straightforward, syntactic explanation of ellipsis licensing as well as of the varying sizes of the ellipsis site. Furthermore, I argue that extending [E] to an nP-structure can provide a unified account of the distribution of NPE and the closely related phenomenon of *one(s)*-insertion. I propose that when a noun is elided, the number feature on the n-head to which [E] attaches m-merges with the prenominal element to spellout as a pronominal element, when $n_{[E]}$ and the prenominal element are sufficiently close. When these are not sufficiently close, e.g. if an adjective intervenes, or when spellout as a pronoun is not otherwise possible, the anaphoric element *one(s)* is inserted on $n_{[E]}$ to support the number feature.

Sammendrag

Abneys (1987) determinativfrase (DP)-analyse, utarbeidet under styrings- og bindingsteorien har vært den dominerende hypotesen om nominalfrasestruktur i generativ grammatikk siden den ble foreslått. Gitt skiftet fra styrings- og bindingsteorien til minimalismeprogrammet, har flere stilt spørsmål om DP-analysen fortsatt gjelder innenfor minimalismeprogrammet. Ett særlig fremtredende spørsmål er hvorvidt DP-analysen kan gi en god analyse av lisensiering av nominalfraseellipse (NPE). Forsvarere av DP-analysen argumenterer for at et syn på nomenfrasen med D som funksjonell kjerne kan gi en samstemmig forklaring av NPE lisensiering. Bruening (2009) mener heller at de elementene som lisensierer NPE ikke er syntaktisk uniforme, og derfor at ikke alle kan plasseres i D.

Denne masteroppgaven undersøker NPE lisensiering for å se om teorier som baserer seg på DP-analysen kan gi en syntaktisk forklaring av NPE lisensiering også innenfor minimalismeprogrammet, og for å se om en alternativ nominalfrasestruktur kan gjøre det samme. Bruening (2009) foreslår en alternativ nominalfrasestruktur der rekursive nP-skall legger seg rundt nomenet og de prenominale elementene. I nP-strukturen er n, ikke D, kjernen i nomenfrasen. I denne oppgaven greier jeg ut om nP-strukturen og anvender den på engelske nominalfraser. Jeg foreslår også at grammatisk tall er et trekk på de rekursive n-kjernene. Jeg anvender Merchants (2001, 2004) [E] trekk på engelske nominalfraser. Dersom [E] kan realiseres på de rekursive n-kjernene, kan vi gi en ukomplisert, syntaktisk forklaring av både NPE lisensiering og den varierende størrelsen på ellipsen. Dessuten kan vi gi en enhetlig redegjørelse av distribusjonen av NPE og det nært beslektede *one(s)*-innsettingsfenomenet. Jeg foreslår at når et nomen elideres vil talltrekket på n-hodet som [E] er plassert på m-spleises med det prenominale elementet dersom de står i nær nok relasjon. Når disse sendes til fonetisk form realiseres de som et pronomen. Dersom $n_{[E]}$ og det prenominale elementet ikke står i en nær nok relasjon, for eksempel om et adjektiv står imellom, eller dersom realisering som et pronomen ikke ellers er mulig, settes det anafore elementet *one(s)* inn på $n_{[E]}$ slik at talltrekket kan plasseres på dette.

Acknowledgements

First and foremost, thank you to my brilliant supervisor, Andrew Weir. Your guidance and feedback have been invaluable to me, and to this product, which I hope to never really finish. Never have I once left your office being at a loss for what to do next. Thank you also for allowing me to attend the ForEST and ForMAAL meetings, and for giving me an insight into what real linguists do. I have learnt so much. Thank you also to Giulia at the e-LADDA project for allowing me some time off drawing syntax trees and for letting me get my hands dirty with some data collection – it was so fun!

Takk til Kari og Jenny. Takk for lesestundene, kaffepausene, vinkveldene og turene. Dere har gjort dette året uendelig mye bedre. Takk til familien min – mamma, pappa, Hans og Jenny. Til mamma og pappa for at dere leste korrektur. Til hele gjengen for at dere holder ut. Og til Koskos, som har inspirert mange av eksempelsetningene i denne oppgaven. Takk til Besten og Besta og Farmor. Til Besten som har lært meg at man aldri skal ta noe for god fisk.

Og til Oskar. Tusen takk for at du har troa på meg. Tusen takk for at du er du, og for at vi er oss.

Abbreviations

BPS	Bare Phrase Structure
COMP	Complementiser
$D^{(0)}$, DP	Determiner, determiner phrase
F^0, F', FP	Functional head, intermediate level, maximal projection
GB	Government and binding theory
GenG	Generative grammar
L^0, L', LP	Lexical head, intermediate level, maximal projection
MP	The minimalist program
$n^{(0)}$, nP	Nominal shell-head, maximal projection
NPE	Noun phrase ellipsis
PF	Phonetic form, spellout
$Q^{(0)}$, QP	Quantifier head, maximal projection

Contents

1 Introduction and overview

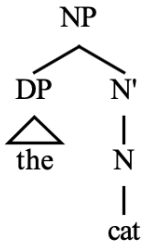
In this thesis, I investigate the structure of phrases like the following:

(1) The silly old syntax professor from Buffalo

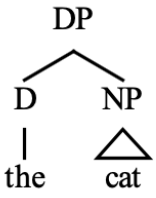
In particular, I investigate what the head of such phrases is. These are phrases with a noun at its core, and such phrases have been called both noun phrases and determiner phrases. Since Chomsky (1981), a central idea within generative grammar has been that thematic phrases, i.e. phrases headed by a thematic element, are embedded under layers of projections headed by functional elements. These have been referred to as extended projections (Grimshaw, 2005). Within the nominal domain, Abney (1987) notably proposed that the noun phrase (NP) is embedded under a functional head D. The head of the noun phrase is consequently D, not N, and the nominal phrase is consequently a determiner phrase (DP):

(2) The cat

a. [$_{NP}$ [$_{DP}$ the] [$_{N}$ cat]] (NP-view)



b. [$_{DP}$ [$_{D}$ the] [$_{NP}$ cat]] (DP-view)



This proposal, termed the DP-hypothesis, has since been the dominating view of the structure of the nominal phrase within generative grammar. The DP-structure made it possible to give a parallel treatment of the nominal domain and the sentential domain. Assigning a more "sentence-like" structure to the nominal phrase was conceptually attractive, as verb and noun was seen as constituting a fundamental opposition in grammar (Abney, 1987: 25-26). Furthermore, the DP-structure has also been argued to provide a better account of the range of

specifiers in the nominal domain, compared to the traditional structure of the nominal phrase headed by a non-functional (i.e. thematic) head N.

The DP-hypothesis was suggested within the constraints of government and binding theory within generative grammar. Government and binding theory has now been replaced in generative grammar by the minimalist program (Chomsky, 2015/1995), and the rules and constraints governing phrase structure which were assumed under government and binding are not the same within the minimalist program. Since its proposal, however, the DP-structure has remained virtually the same, and few specific arguments for the DP-hypothesis have been put forth in the literature (Salzmann, 2020: 2). In recent years, many have therefore argued against the DP-structure, suggesting that it has generally been taken for granted and that the arguments made in favour of it may not be very strong (Bruening, 2009, 2020; Bruening et al., 2018; Salzmann, 2020; Haspelmath, 2021; ao).

Bruening (2009, 2020), in particular, argues against Abney's DP-hypothesis. One of his arguments concerns ellipsis, and specifically ellipsis licensing. Ellipsis refers to a phenomenon where normally required linguistic material is not present. This missing material is interpreted anaphorically by reference to an antecedent. In the below example, the elided verb phrase *love the professor's take on ape language*, indicated in strikethrough type, is not pronounced but its meaning is understood from the antecedent phrase *loved the professor's take on ape language*.

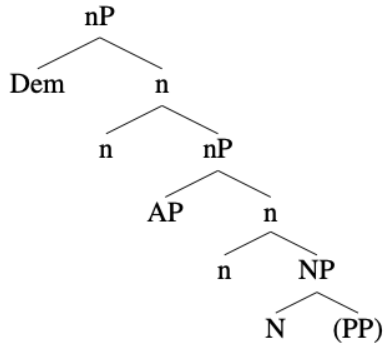
(3) John loved the professor's take on ape language but Mary didn't ~~love the professor's take on ape language~~.

It is not possible for material to be elided in all syntactic environments, however. Within the literature on ellipsis, this restriction on the possibility of ellipsis to occur is referred to as ellipsis licensing. Specifically, the elision of any given material can only happen after certain heads, i.e., ellipsis licensors. For each type of ellipsis, the possible licensors are thought to belong to a limited list of words (Johnson, 2013a: 71). A proposed advantage of the DP-structure has been that it provides a uniform account of ellipsis licensing within the nominal domain when D is the head of NP, with the functional element D as a possible ellipsis licensor (Lobeck, 2006). Bruening (2009), on the other hand, suggests that this is in fact not an advantage of the DP-hypothesis. He argues instead that it appears that the items licensing

ellipsis within the nominal domain are not syntactically uniform and therefore cannot all belong to the same functional category.

This thesis seeks to investigate the structure of the nominal phrase through ellipsis licensing. I aim to assess whether previous theories of ellipsis licensing assuming DP-structure hold when government and binding is no longer in favour, and investigate to what extent an alternative structure of the nominal phrase, as proposed briefly in Bruening (2009), can account for ellipsis licensing. Bruening (2009) suggests a view of the nominal phrase in which recursive nP-shells form around the core noun and the prenominal elements:

(4)



(Bruening, 2009: 33)

The thesis is split into two parts. The first part (Chapters 2 and 3) is concerned with nominal structure in general, where I present arguments for and against the DP-hypothesis; in the second part (Chapters 4 and 5) I shift my focus to nominal ellipsis, as I investigate the licensing of nominal ellipsis in detail to see what this can tell us about nominal structure. The DP-hypothesis is presented in detail in Chapter 2, and some of the applications of the DP-structure are presented in Chapter 3. In addition, Chapter 3 considers some of the arguments Bruening makes against Abney's DP-structure. Here, I also present Bruening's alternative nominal structure. In Chapter 4, I give an account of some previous theories of ellipsis licensing. I also focus on a phenomenon which I show is closely related to nominal ellipsis and nominal ellipsis licensing, namely *one(s)*-insertion. Previous explanations of the distribution of nominal ellipsis and *one(s)*-insertion are also presented in Chapter 4, and I assess whether some developments of DP-structure can give a better account of ellipsis phenomena. In Chapter 5, I focus on Bruening's alternative nominal structure. I develop his proposal further, and apply Merchant's (2001, 2004) theory of ellipsis licensing to this structure. I give an account of the distribution of nominal ellipsis and *one(s)*-insertion,

showing that this can straightforwardly be explained under Bruening's alternative nominal structure and Merchant's licensing theory. Chapter 6 summarises the thesis.

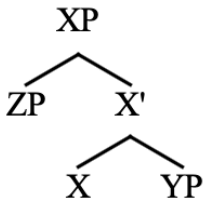
2 Abney's (1987) DP-hypothesis

In this chapter, I present the DP-hypothesis in Abney (1987) in detail. The DP-hypothesis has since its proposal been the standardly assumed structure of the nominal phrase within generative grammar. Before presenting some of the arguments made in favour of this proposal, I present some of the ideas precursing the DP-hypothesis.

2.1 Extended projections and functional elements in generative grammar

Following proposals put forth in Chomsky (1986), X-bar structure was extended so that also elements belonging to the minor syntactic categories (COMP(lementiser), Det(erminer), INFL(ection), Adv(erb), etc.) become X^0-level categories and consequently head their own projections (Grimshaw, 2005: 1). These have been called minor syntactic categories due to their peripheric role in the phrase structure system in early generative grammar. Jackendoff (1977: 32) labelled these categories "minor lexical categories", contrasting them with the major lexical categories N(oun), V(erb), A(djective), and P(reposition). Prior to Chomsky (1986), the following phrase structure was assumed, where a head X^0 projects its categorial properties onto an intermediate level X' and onto a phrase XP. The category of the head is thus the category of the phrase:

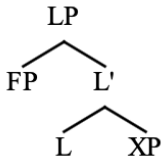
(5)



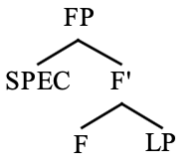
In early X-bar theory, only thematic categories (i.e. the "major categories" according to Jackendoff (1977)), were assumed to fill X. Consequently, only thematic categories could constitute phrases as only these could project to XP. The minor syntactic categories were specifiers (ZP) or complements (YP) and did not head phrases. Chomsky (1986: 3), however, proposes that the X-bar system can be extended to include non-thematic categories as well. Under the extended X-bar analysis, the minor syntactic categories thus receive a more major role, now heading their own projections. The minor syntactic categories are also called functional categories (Grimshaw, 2005: 1), and the types of projections headed by elements of

these functional categories are called functional or extended projections. This has been referred to as the Functional Head Hypothesis (Grimshaw, 2005: 2). Phrases which under the Lexical Head Hypothesis were analysed as having a thematic head with functional elements in e.g. specifier positions, are under the Functional Head Hypothesis analysed as containing a phrase headed by a thematic head, which in turn is contained within a phrase headed by a functional element. The Lexical Head Hypothesis is shown in (6a) below, whereas the Functional Head Hypothesis is shown in (6b). L, L', and LP refers to the lexical head and its projected levels, while F, F', and FP represent the functional head and its projected levels:

(6) a. The Lexical Head Hypothesis



b. The Functional Head Hypothesis



(Adapted from Corver, 2013: 5)

Chomsky (1986) proposes that the sentence C'' (i.e. CP) is headed by the functional projection C, which takes a functional IP (I'') and a thematic VP as its complement:

(7) a. C'' = [… [$_{C'}$ C I'']]
b. I'' = [NP [$_{I'}$ [$_{VP}$ V …]]]
(Adapted from Chomsky, 1986: 3)

The motivation for this is that the previously held conception of the subordinate clause[1] S' and the sentence S violated important assumptions of the (then) recently proposed X-bar structure:

[1] That is, sentences introduced by a complementiser COMP (*that, whether, if)*, where the COMP also functions as a landing site for fronted wh-phrases (Corver, 2013: 22).

(8) a. S’ → COMP S
b. S → N’’ (INFL) V’’
(Corver, 2013: 22)

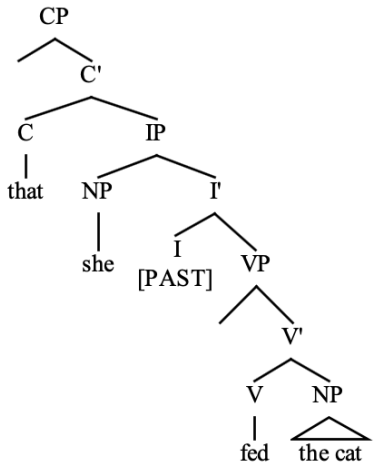
A central notion within X-bar theory is endocentricity. Endocentricity refers to the idea that phrases are organised around a core word or morpheme, which is the head of the phrase (Corver, 2013: 1). The head determines the category of the whole construction by projecting its features to the larger unit within which it is contained (Corver, 2013: 1), i.e., the phrase. This is captured by the Projection Principle, which is a requirement on phrase structure that the thematic category of the head is present on all levels of representation:

(9) *The Projection Principle*
Representations at each syntactic level (i.e. LF, and D- and S-structure) are projected form the lexicon, in that they observe the subcategorization properties of lexical items.
(Chomsky, 1981: 29)

Since the Projection Principle, and consequently endocentricity are assumed to be general principles of UG (Chomsky, 1981: 29) and are taken to be universal requirements in X-bar theoretic structure, this also applies to projections of functional categories (Jackendoff, 1977: 239). Because of this, the previously held conception of the structure of S’ and S is problematic under the X-bar view of clause structure. As shown in (8), the phrase structure rules for S are not endocentric, as there is no X^0-level category from which S projects. N’’ and V’’ are phrases (NP and VP) and INFL is an optional element, as indicated by the brackets. S’ was therefore reanalysed as CP and S as IP (cf. (7)). The subject clause in (10a), thus receives the structure in (10b) given the extended X-bar structure of the sentential domain:

(10) a. [$_{CP}$ That she fed the cat] was good.

b.



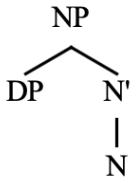
As mentioned above, C(OMP) and I(NFL) are functional elements. Within extended X-bar theory, this clause is then headed by the functional head C, taking other functional elements and thematic elements as their complements.

The reanalysis of the sentence with the introduction of functional heads and projections has also been extended to the nominal domain, notably by Abney (1987), who proposes that the noun phrase is headed by a functional element D. This proposal will be fleshed out in the next section. In the following sections, as well as in the remainder of this thesis, I refer to the noun phrase as the (extended) nominal projection or the nominal phrase. This is to avoid confusion with the noun phrase NP, which is the form of the nominal projection under the Lexical Head Hypothesis. “Noun phrase” will refer to either the constituent “NP” (e.g. the bottom-most constituent (apart from prepositional phrases) in a nominal phrase), or the traditional, pre-Abney (1987), lexicalist view of the nominal phrase. “DP” will refer to those views, e.g. Abney (1987), which posit a phrase structure of the nominal phrase headed by a functional element D (or Q).

2.2 The DP-hypothesis

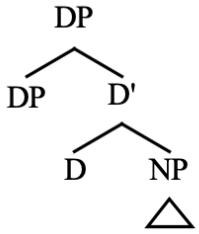
Since Abney (1986, 1987), the dominating idea within generative grammar has been that the nominal phrase is surrounded by a functional shell. Prior to Abney (1987) and the extension of X-bar structure, the nominal phrase had the following structure, headed by the lexical category N with the functional DP in the specifier position:

(11)



Abney proposed that the nominal phrase is instead headed by the functional element D, with NP as the complement of D:

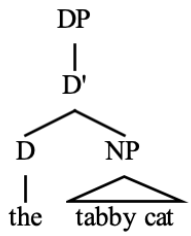
(12)

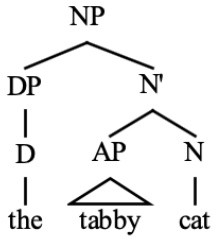


(Adapted from Abney, 1987: 321)

The phrase *the tabby cat* thus has the structure as in (13a). The earlier view of this nominal phrase is shown in (13b) (cf. the Lexical Head Hypothesis in (6a)):

(13) a. b.





Below, I present (some of) Abney's motivations for this proposal, and I summarise his discussion regarding the identity of D.

2.2.1 Parallelism between sentence and nominal phrase

Given the extension of sentential structure such that the functional heads C and I head separate functional projections, Abney (1987) argues that the same should be done for the nominal domain.

Drawing particularly on Hungarian data given in Szabolsci (1987), Abney notes that, in some languages, there is an overt agreement element marking agreement between a noun and a

possessor in the nominal phrase. Consider the following data from Hungarian, Yup'ik, and Tzutujil:

(14) a. az en kalap-om (Hungarian)
the I:NOM hat-1sg
'my hat'

b. a te kalap-od
the you:NOM hat-2sg
'your hat'

c. a Peter kalap-ja
the Peter:NOM hat-3sg
'Peter's hat'

(15) a. kiputaa-Ø (Yup'ik)
'he bought it'

b. kiputaa-t
'they (dual) bought it'

c. kiputaa-k
'they (plural) bought it'

d. kuiga-Ø
'his river'

e. kuiga-t
'their (dual) river'

f. kuiga-k
'their (plural) river'

(16) a. qa-tza7n (Tzutujil)
'our nose'

b. ee-tza7n
'your (pl.) nose'

c. kee-tza7n
‘their nose’

(Abney, 1987: 18, 20-21, 43)

In (14), for example, the noun *kalap* ‘hat’ agrees with its possessor, marking person and number with a suffix (*-om* (1SG), *-od* (2SG), *-ja* (3SG)). Abney identifies these suffixes as agreement markers (AGR). He also points out that the possessor in the Hungarian examples bears nominative case, which is the same case as the subject of the sentence. In GB, it is assumed that an AGR assigns nominative case in the sentence. Abney suggests that the same happens in the nominal phrase, such that an AGR assigns nominative case to the possessor[2] in the nominal phrase. He argues that there are a number of languages in which the nominal phrase displays properties parallel to the sentence, where there is a possessed noun agreeing with the possessor in the same way that the verb agrees with its subject, or where the possessor receives the same case as the subject of the sentence[3], or both (Abney, 1987: 37). In Yup’ik, for example, the subjects of transitive verbs are marked with ergative case, as shown in (15a-c). The possessors in the nominal phrase are marked with the same ergative AGR suffixes, as shown in (15d-f). Tzutujil lacks case marking. Abney (1987: 43) does however point out that its agreement follows an ergative/absolutive pattern as the subject agreement marker for intransitive verbs is identical to the object agreement marker for transitive verbs. In the Tzutujil examples above, the nouns agree with their possessors, and they take the subject marker, which Abney identifies as an ergative marker. He characterises the ergative marker as an AGR element associated with a functional category (I or D). This AGR differs from another type of AGR identified in the literature on Tzutujil, i.e. the absolutive marker, which Abney (1987: 43-44) argues is associated with lexical categories.

In clauses, AGR is assumed to occupy an I position above VP. Based on the observations in (14)-(16) above, Abney proposes a structure of the nominal phrase parallel to the sentence to explain the position of AGR in the nominal domain:

[2] Abney (1987: 18) labels the possessor the “subject of the noun phrase”, highlighting his proposed parallelism between sentence and nominal phrase.

[3] This is instead of the possessor receiving genitive case, like in English or Norwegian:

i. My.GEN cat (cf. *I.NOM cat)
ii. Min.GEN katt (cf. *Jeg.NOM katt)

(17) Sentence: Nominal phrase:

(Adapted from Abney, 1987: 19)

The nominal domain and the sentence thus receive a parallel treatment, as the nominal phrase is headed by D, which Abney (1987: 265) argues to be the nominal equivalent to I in the sentence. With this analysis, D in the extended nominal phrase receives the same characteristics as C and I in the extended clausal structure, in that D can take a complement and a specifier (Corver, 2013: 33). Abney (1987: 25) argues that assigning a more sentence-like structure to the nominal phrase is attractive on conceptual grounds, as presented above, as well as empirical. Empirically, Abney proposes that this structure solves the puzzle of the English gerund, presented below.

2.2.2 Gerundives

Another central argument in Abney (1987) for positing a D head and AGR in the NP is that this "yields an immediate solution for the problem of the Poss-ing gerund" (Abney, 1987: 4).

English "Poss-ing" gerundive constructions in English are constructions of the type in (18) below[4]:

(18) John's building a spaceship
(Abney, 1987: 14)

In order to give a proper account of English "Poss-ing" gerundives like (18), Abney argues that the DP-structure is the most fitting analysis of the nominal phrase. English "Poss-ing" gerundives are constructions which have both nominal and verbal properties. The gerundive is nominal in that it can appear as the complement of a preposition in the same way that the NP *John* can. As shown in (19c), sentences cannot appear in this position.

[4] Note here that *'s* in *John's* is a genitive marker, and not a contracted auxiliary.

(19) a. I told you about [John's building a spaceship]
b. I told you about [John]
c. *I told you about [CP that John built a spaceship]
(Adapted from Abney, 1987: 15)

As is evident from (20a) and (20b) below, the subject of the gerundive, *John's*, receives genitive case, like the subject of the nominal phrase. It does not receive nominative case, which the subject of the sentence does, as is evident in (20c) and (20d)[5]:

(20) a. John's destroying the spaceship
b. John's destruction of the spaceship
c. John destroyed the spaceship
d. *John's destroyed the spaceship
(Adapted from Abney, 1987: 15)

The rest of the gerundive, however, Abney argues constitutes a verb phrase. In *building a spaceship*, the *-ing* affix is a fully productive verbal affix, as the gerundive bearing the *-ing* affix displays processes like case assignment to the object, which a nominal bearing a nominal *-ion* affix does not:

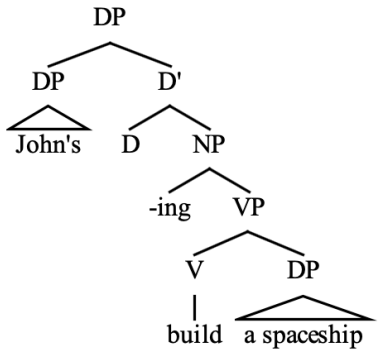
(21) a. John destroyed the spaceship
b. John's destroying the spaceship
c. *John's destruction the spaceship
(Adapted from Abney, 1987: 16)

(21c) shows that the noun is unable to assign accusative case to the object, rendering the sentence ungrammatical. To account for this split identity, Abney argues that the most proper analysis is to view the poss-ing gerundive as a DP with a possessive DP in the specifier position. He proposes that *-ing* is a nominaliser adjoining to the s-projection of V, and that the nominal *-ing* affix thus projects its nominal features to V, converting the VP to an NP (Abney, 1987: 223). This "conversion" makes it possible for the D to project from a nominal element (i.e., the NP headed by *-ing*):

[5] *'s* is also here a genitive marker. The ungrammaticality in (20d) is perhaps more clear if we substitute *John's* with a pronoun:

iii. His destroying the spaceship (gerundive)
iv. *His destroyed the spaceship (sentence)

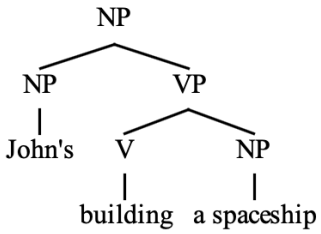
(22)



(Adapted from Abney, 1987: 223)

Abney (1987: 62) posits that both N and D share a categorial [+N] feature. Since these share this categorial feature, D can project from N. The lexicalist NP-view of the nominal phrase cannot account for this structure, Abney argues.

(23)



(Abney, 1987: 17)

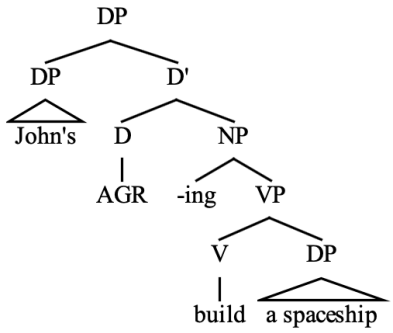
The NP-structure of the English gerundive shown in (23) violates widely assumed conditions on phrase structure (discussed previously), as the highest NP lacks an X^0-element as a head (Abney, 1987: 17). Furthermore, Abney (1987: 62) argues that V has the categorial feature [-N]. Since N is [+N], V cannot be the missing head of the NP as V and N are not of the same syntactic category.

Abney (1987: 22) points out that the Turkish gerundive displays the same properties as the English gerundive, where the distribution of the gerundive is the same as nominal phrases, while part of the gerundive is clearly a VP, as the gerundive is constructed by adding the suffix *-diğ* to a verb stem:

(24) Halil'-in kedi-ye yemek-ø ver-me-diğ-i
Halil-GEN cat-DAT food-ACC give-NEG-ING-3SG
'Halil's not giving food to the cat'
(Abney, 1987: 22)

He also points out that Turkish is a language with an overt AGR assigning-element in the nominal phrase, as shown for Hungarian, Yup'ik, and Tzutujil above. Linking these observations, Abney (1987: 23) posits that there is an AGR in both the English and the Turkish gerund which is responsible for assigning genitive case:

(25)



(Adapted from Abney, 1987: 23).

The AGR element attaches to the functional D^0 in the nominal phrase, corresponding to the AGR attaching to the functional I^0 in the clause.

2.2.3 Determiners fill D^0

Abney identifies D with the Determiner. To account for the relationship between Det(erminer) and NP, Abney (1987: 72) argues that there apparently is a selectional relation between the determiner and the noun such that Det selects NP, pointing to the observation that determiners only occur in nominal phrases, and that nouns often require a determiner. Furthermore, he argues that Det is a valid candidate for filling the functional head D^0 within the nominal phrase, as Det has all the properties of a functional element:

(26) Properties of functional elements (adapted from Abney, 1987: 65):
i. They constitute closed lexical classes.
ii. They are generally morphologically or phonologically dependent. They are generally stressless, often clitics or affixes, or sometimes phonologically null.

iii. They permit only one complement, which is generally not an argument. The arguments are CP, PP, and DP. Functional elements select IP, VP, NP.

iv. They are usually inseparable from their complement.

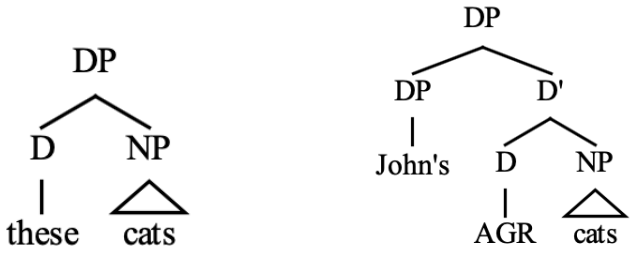
v. They lack "descriptive content". Their semantic contribution is second order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features, rather than picking out a class of objects.

Det constitutes a closed lexical class; it is generally morphologically or phonologically dependent (cf. (27a)); it permits only one complement, which is, Abney argues, an NP (cf. (27b)); it cannot readily occur without its complement[6] (cf. (27a)); it lacks descriptive content and marks grammatical and relational features of its complement.

(27) a. *[$_{Det}$ The] was cute
(cf. [$_{Det}$ The [$_{NP}$ cat]] was cute)
b.*[$_{Det}$ The [[$_{NP}$ cat] [$_{NP}$ dog]]] was cute
(cf. [$_{Det}$ The [$_{NP}$ cat]] was cute; [$_{Det}$The [$_{NP}$ dog]] was cute)

Furthermore, Abney (1987: 266) argues that positing Det in D^0 accommodates the range of elements which appear before the noun in the nominal phrase better than the standard analysis, i.e. N as head, does. Within the standard analysis, determiners and possessors are both placed in [spec, NP]. Positing that Det fills a separate projection D allows possessors to be placed in [spec, DP], while determiners, or AGR, may remain in D^0 such that the AGR relation in e.g. English gerundives, as discussed in §2.2.2, or the overt AGR element in other languages, as discussed in §2.2.1, may be structurally represented:

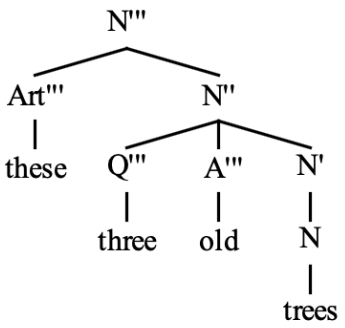
(28) a. b.



[6] There is one restricted exception to this, namely ellipsis, where D can remain without N. I return to this in Chapters 4 and 5.

Furthermore, other prenominal elements, like A(djective) P(hrases) and Q(uantifier) P(hrases), are standardly placed in N'-positions. A widely accepted property of X-bar theory is that two-bar projections are maximal projections (Abney, 1987: 288); that is, each X^0-item only projects two levels, X' and X'' (XP). Abney (1987: 289) argues that, under the Lexical Head Hypothesis, this assumption of X-bar structure raises problems with respect to the (standardly assumed) placement of APs and QPs, as there are not enough positions to accommodate the full range of nominal specifiers. Since X-bar theory allows adjunction, APs could be adjoined to the NP. According to Abney (1987: 294), this would be more difficult for QPs, however, as he argues that QPs are genuine arguments of the head noun and therefore cannot be an adjunct in the NP. To account for the occurrence of both an AP and a QP within a phrase headed by N, Jackendoff (1977) assumes three bar levels:

(29)

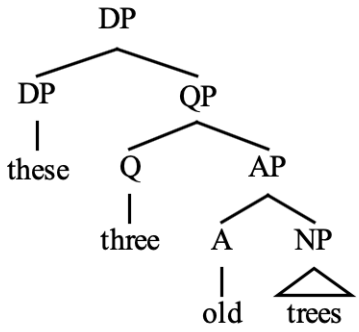


(Jackendoff, 1977: 127)

However, Abney (1987: 294) argues that QP and AP constitute functional projections[7] and posits that the DP-structure can account for the structure of this extended nominal phrase while also assuming a binary branching two-bar level analysis:

[7] Abney (1987: 292) argues that quantifiers cannot be placed in AP, as there are "a number of ways in which [quantifiers] differ from descriptive adjectives" (See Abney (1987) for further discussion). A separate QP is therefore required.

(30)



(Adapted from Abney, 1987: 339)

Abney argues further that positing Det as filling D^0 in addition to positing a nominal structure headed by the functional category D^0 also ensures a symmetrical system when it comes to clausal structure and nominal structure. The parallelisms between D^0 and I^0 were discussed in §2.2.1. Abney (1987: 76) argues that positing Det in D^0 ensures further parallelisms between D^0 and I^0 as Det and Infl are semantically similar. The function of the Det is to specify the referent of a noun phrase. This is the same function that Infl has in the verbal system. Both the NP and the VP provide a predicate, and Det and Infl pick out the specific member of that predicate (Abney, 1987: 76-77).

2.3 Brief summary

In Abney (1987), the DP-structure was motivated by, amongst other things, the wish for a parallel treatment of the nominal and sentential domain, as well as a need for a solution of the problem of the English gerundive. Furthermore, Abney argued that determiners fill D and that APs and QPs form functional projections within the extended nominal phrase. Though widely successful, the DP-structure has also faced criticisms, especially given the advent of the minimalist program (MP). Some of these criticisms, as well as some developments of DP-structure, are presented in Chapter 3.

3 DP-structure after Abney (1987)

3.1 Introduction

Since its proposal, the DP-hypothesis has been widely adopted and generally taken for granted in generative grammar (Salzmann, 2020: 2). However, in view of the shift from government and binding to the minimalist program, and from X-bar structure to B(are) P(hrase) S(tructure), it has been suggested that the DP-structure as proposed in Abney (1987) perhaps may not be the most fitting structure of the nominal phrase. In this chapter, I highlight some applications and proposed developments of the DP-structure in recent years. I then present some of the arguments made against the DP-hypothesis as well as Bruening's (2009) proposed alternative structure of the extended nominal projection – recursive nP-shells. In Chapters 4 and 5, I focus on one of the arguments Bruening (2009) makes against the DP-hypothesis, namely ellipsis licensing, and investigate whether his proposed alternative structure can better account for ellipsis licensing within the nominal phrase.

3.2 Applications and developments of DP-structure

3.2.1 DP in word order phenomena

The DP-structure has been used to account for various word order phenomena across different languages. It has for example been used to explain the various acceptable word orders in Shona nominals (Carstens, 2017; cited in Bruening, 2020). In Shona nominals, the following word orders are possible:

(31) *Acceptable word orders within Shona NPs*

a. zvipunu zvikuru zvitatu izvo
   spoons big three these

b. izvo zvipunu zvikuru zvitatu
   these spoons big three

c. zvipunu izvo zvikuru zvitatu
   spoons these big three

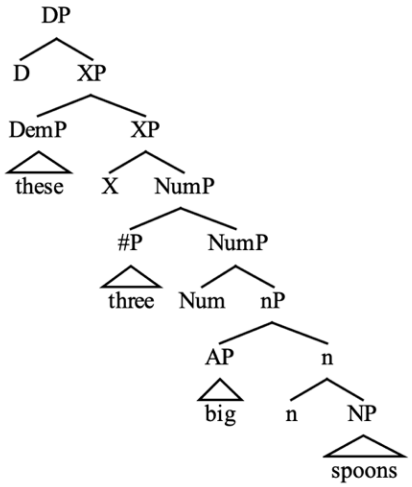
d. zvipunu zvitatu zvikuru izvo
   spoons three big these

e. izvo zvipunu zvitatu zvikuru
   these spoons three big

f. zvipunu izvo zvitatu zvikuru
spoons these three big
(Adapted from Carstens, 2017; cited in Bruening, 2020: 4)

As shown in the examples above, the Dem(onstrative) *izvo* 'these' can be the leftmost or rightmost element. Adjectives and numerals cannot precede N. If Dem is leftmost, it may occur before or after N. Carstens gives the following structure of the Shona nominal:

(32)



(Adapted from Carstens, 2017; as cited in Bruening, 2020: 5)

DP, XP, NumP, nP and NP constitute a universal order. DemP, #P and AP are adjoined to these projections. To account for the possible word orders shown in (31a-f), Carstens (2017; as cited in Bruening, 2020: 4-5) posits that Dem can appear in either Spec,DP or Spec,XP. The relative order of A and Num is free after the head noun. DemP, #P and AP, can be adjoined to the right or to the left. Additionally, she argues that there is obligatory head movement of N to D, and that it is this obligatory movement along with the other specifications mentioned above which derive the possible word orders shown in (31). On Carstens analysis, head movement of N to D is necessary to explain possible word orders in Shona nominals. N-to-D movement is not possible under the traditional NP-structure, but is under Abney's DP-structure

3.2.2 Syntactic cartography

As shown for Shona above, the DP-structure has been proposed to exhibit functional heads other than D. Furthermore, as discussed in §2.2.3, Abney proposed that also QP and AP are functional projections within DP. The AP domain in the nominal phrase has been developed

further, particularly by Scott (2002), who propose a cartographic structure of DP in which each semantic class of adjectives form separate functional projections.

Syntactic cartography, first developed in Rizzi (1997) and Cinque (1999) et seq., attempts to map out the different syntactic configurations in languages in as detailed a manner as possible. In line with Chomsky's (2001/1999) Uniformity Principle,

(33) The Uniformity Principle
In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances. (Chomsky, 2001: 2)

cartographic analyses posit that the underlying functional structure of all languages are the same, attempting to determine "a fixed universal hierarchy of clausal functional projections" (Cinque, 1999: v). Within such universal hierarchies, functional elements uniformly follow other functional elements, resulting in a rigid order of functional projections, which are argued to be present in all languages. Such cartographic hierarchies have been proposed for, for example, left-peripheral elements (34a), adverbs (34b), and attributive adjectives (34c):

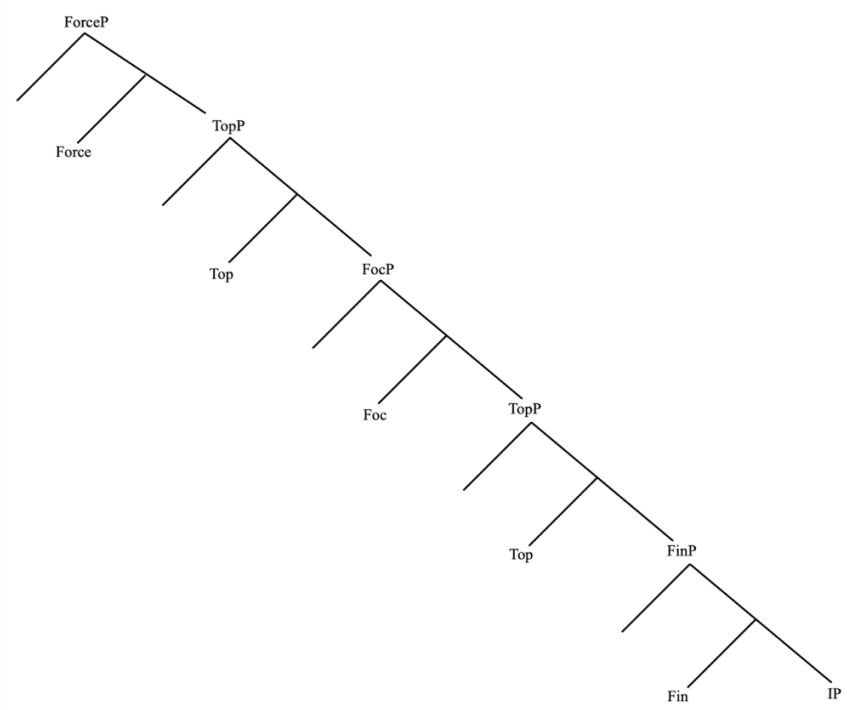
(34) a. FORCE > TOPIC > FOCUS > TOPIC > FINITENESS > TENSE > … (Rizzi, 1997)
b. HABITUAL > REPET > FREQ > VOL > CELERATIVE > ANT > … (Cinque, 1999)
c. SIZE > LENGTH > HEIGHT > SPEED > DEPTH > WIDTH > … (Scott, 2002)
(Larson, 2021: 245)

The observations of the order of functional elements made for these different domains, as shown in (34), has led to the postulation of hierarchies of functional projections, as shown below:

(35) a. [FORCE [TOP [FOC [TOP [FIN [TENSE […]]]]]]]
b. [HABITUAL [REPETITIVE [FREQ [VOLITION [CELERATIVE [ANTERIOR […]]]]]]]
c. [SIZE [LENGTH [HEIGHT [SPEED [DEPTH [WIDTH […]]]]]]]
(Larson, 2021: 245)

These functional hierarchies, in which there is a selectional constraint such that, for example, ForceP in (35a) must select a single complement which must be a Top(ic)P, and TopP must select a single complement which must be Foc(us)P, and so on, can be shown as in the following structure:

(36)



(Rizzi, 1997: 297)

Scott (2002) proposes one such hierarchy for adjectives within the nominal domain, arising from adjectival ordering restrictions. Like Abney (1987), Scott treats adjectives as specifiers of distinct functional projections taking the thematic NP as a complement, and not as adjuncts as in the traditional NP-analysis (Scott, 2002: 91). Scott argues that if (attributive) adjectives were analysed as adjuncts, and thus had the same categorial status, the syntax would incorrectly generate strings like[8]:

(37) a. *A red heavy good table (cf. A good heavy red table)

b. *Mine's the red big car (cf. Mine's the big red car)

(Adapted from Scott, 2002: 91, 94)

Scott therefore suggests that stacked adjectives (i.e., multiple adjectives preceding a nominal element) should be analysed as specifiers of functional projections of particular semantic classes as he argues this would predict ordering restrictions like the ones observed in (37). Furthermore, he also argues that this analysis provides an articulated correspondence between universal semantic properties and the syntax, as adjectives fill the specifier positions of

(37b) under a non-contrastive reading. The sentence is grammatical under a contrastive reading:

v. Mine's the **red** big car (as opposed to the blue big car).

functional projections associated with their respective semantic classes. Scott (2002: 97) suggests that adjectival ordering restrictions would fall out as a direct consequence of Universal Grammar, if they are direct and overt manifestations of the ordering of functional projections. The functional projections reflect the semantic classes by which adjectives are ordered linearly in the sentence. Scott proposes the following universal hierarchy of AP functional projections:

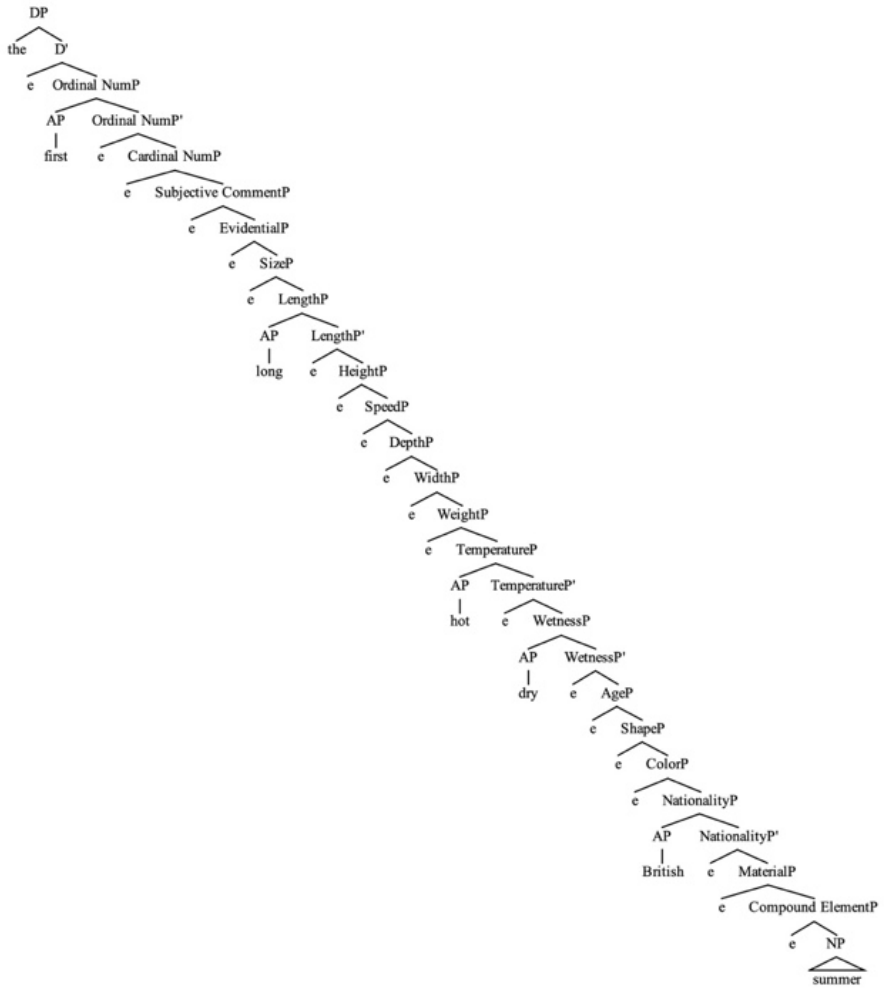
(38) DETERMINER > ORDINAL NUMBER > CARDINAL NUMBER > SUBJECTIVE COMMENT > (?EVIDENTIAL) > SIZE > LENGTH > HEIGHT > SPEED > (?DEPTH) > WIDTH > WEIGHT > TEMPERATURE > ?WETNESS > AGE > SHAPE > COLOR > NATIONALITY/ORIGIN > MATERIAL > COMPOUND ELEMENT > NP
(Adapted from Scott, 2002: 114)

The following examples show some of the ordering restrictions which the above hierarchy is based on:

(39) a. uyarnna$_{\text{HEIGHT}}$ kattiyulla$_{\text{WIDTH}}$ bhithi (cf. *kattiyulla$_{\text{WIDTH}}$ uyarnna$_{\text{HEIGHT}}$ bhithi)
high thick wall (Malayalam)
b. paksu$_{\text{WIDTH}}$ painava$_{\text{WEIGTH}}$ kirja (cf. *painava$_{\text{WEIGTH}}$ paksu$_{\text{WIDTH}}$ kirja)
fat heavy book (Finnish)
c. dugačka$_{\text{LENGHT}}$ uska$_{\text{WIDTH}}$ ulica (cf. *uska$_{\text{WIDTH}}$ dugačka$_{\text{LENGHT}}$ ulica)
long narrow street (Serbo-Croatian)
d long$_{\text{LENGTH}}$ fast$_{\text{SPEED}}$ road (cf. *a fast$_{\text{SPEED}}$ long$_{\text{LENGTH}}$ road)
e. haf hir$_{\text{LENGTH}}$ poeth$_{\text{TEMPERATURE}}$ (cf. *haf poeth$_{\text{TEMPERATURE}}$ hir$_{\text{LENGTH}}$)
summer long hot (Welsh)
(Adapted from Scott, 2002: 99-100)

These semantic classes constitute functional heads in the extended nominal projection. The cartographic structure of the phrase *the first long hot dry British summer*, would, according to the hierarchy given in (38), be the following:

(40)



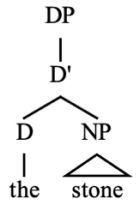
The symbol *'e'* in the tree above indicates an empty head position (Scott, 2002: 95). Scott (2002: 102) argues that under a BPS-approach, one can assume that phrasal categories are not distinguished by their bar-level and that heads and maximal projections are all of the same category. Thus, when positing an adjective as heading an AP in the specifier position of a semantically related functional phrase, e.g. for *British*, which heads an AP in [spec, NationalityP], the adjective will be both a head (X^0) and a phrase (XP). According to Scott, this has the advantage that adjectives can still be treated as fully lexical elements and so therefore have lexical meaning. Simultaneously, the functional phrases can determine both the adjectives' hierarchical syntactic ordering as well as their combinatorial semantic interpretation. With Scott's cartographic hierarchy of attributive adjectives, the nominal phrase is thus expanded with a number of functional heads and projections which are placed

below D. As shown in the projection hierarchy given in (38), D(eterminer) is structurally positioned above these functional AP projections, as well as above the thematic NP.

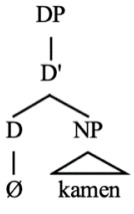
3.2.3 The DP/NP parameter

On the DP-hypothesis, the only kinds of words which are uncontroversially considered to fill D^0 are articles (Progovac, 1998: 166). Many languages, however, do not have overt articles. For such languages it has been argued (e.g. Progovac (1998) for Serbo-Croatian; Obiamalu (2013) for Igbo; ao) that there is a zero-element or some element which is not an article which fills D^0, such that nominals without overt articles are still fully-fledged DPs following Abney (1987).

(41) a. b.



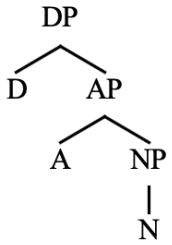
(English)

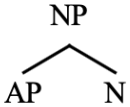


(Serbo-Croatian)

Bošković (2005, 2012, 2013, et seq) argues in favour of a different view of nominal structure in languages without articles. He proposes that there is a fundamental structural difference between languages with articles and languages without articles. Based on a number of generalisations where articles play an important role, Bošković posits a parametric view of the nominal phrase where languages with articles (e.g. English) are DP-type languages, and languages without articles (e.g. Serbo-Croatian) are NP-type languages:

(42) a. DP-type languages b. NP-type languages





(Adapted from Bošković, 2005: 21)

Bošković (2013: 78) argues that these generalisations, which are syntactic or semantic in nature, indicate that the difference between languages with and without articles cannot be purely phonological. Thus, the argument that the nominal phrase should be treated in the same

way in all languages for the sake of uniformity cannot be valid, as it fails on empirical grounds in light of these generalisations. Below, I summarise some of these generalisations.

One distinction between NP- and DP-type languages is made on the basis of evidence from adjectival left-branch extraction (Bošković, 2005). Left-branch extraction (LBE) is the possibility in some languages of moving the leftmost constituent (determiners, possessors, adjectives, etc) of a nominal phrase. This type of movement is in many languages ungrammatical, as shown for English below:

(43) a. *Whose$_i$ did you see [t_i father]?
b. *Which$_i$ did you buy [t_i car]?
c. *That$_i$ he saw [t_i car].
d. *Beautiful$_i$ he saw [t_i houses].
e. *How much$_i$ did she earn [t_i money]?
(Bošković, 2005: 2)

In some languages, however, this type of extraction is possible, as shown for S(erbo)-C(roatian) below:

(44) a. Čijeg$_i$ si vidio [t_i oca]? (Serbo-Croatian)
whose are seen father?
'Whose father did you see?'
b. Kakva$_i$ si kuipo [t_i kola]?
what-kind-of are bought car
'What kind of a car did you buy?'
c. Ta$_i$ je vidio [t_i kola].
that is seen car
'That car, he saw'
d. Lijepe$_i$ je vidio [t_i kuće].
beautiful is seen houses
'Beautiful houses, he saw'
e. Koliko$_i$ je zaradila [t_i novca]?
how-much is earned money
'How much money did she earn?'
(Bošković, 2005: 2)

The languages which allow LBE, like SC above, do not have overt definite articles. Based on this, Bošković (2005: 36) proposes that there is a correspondence between LBE acceptability and the presence of articles within a language which gives rise to a parametrisation such that NP-type languages (i.e., languages without articles) allow LBE, whereas DP-type languages (i.e., languages with articles) do not allow LBE.

Another observation regarding the difference between languages without articles and languages with articles, is adjunct extraction from the nominal phrase. This is not allowed in languages with articles (English, Bulgarian, Spanish, Icelandic), but is allowed in languages without articles (SC, Russian):

(45) a. Peter met [$_{NP}$ girls from this city]
b. *From which city$_i$ did Peter meet [$_{NP}$ girls t_i]?

(46) *Ot koj grad$_i$ Petko [sreštna momičeta t_i]? (Bulgarian)
from which city Petko met girls

(47) *¿En dónde robaron [una estatua t]? (Spanish)
in where stole a statue

(48) *Frá hvaða borg sérð þú stelpur? (Icelandic)
from which city see you girls

(49) Iz kojec gradai je Petar sreo [djevojke ti]) (Serbo-Croatian)
from which city is Peter met girls
'From which city did Peter meet girls?'

(50) Iz kakogo goroda ty vstrechal [devushek ti]? (Russian)
from which city you met girls
'From which city did you meet girls?'
(Adapted from Bošković, 2012: 183-184)

Bošković (2012: 184) proposes that only NP-type languages allow adjunct extraction from NP, whereas DP-type languages do not.

3.3 Arguments made against the DP-hypothesis

Though the DP-hypothesis has generally been taken for granted since its proposal, some criticisms have been raised, especially after Chomsky (1995). Bruening (2009, 2020) argues extensively against the DP-structure, but he also emphasises that the traditional NP-structure is not adequate either (Bruening, 2009: 33). In this section, I present some of the arguments

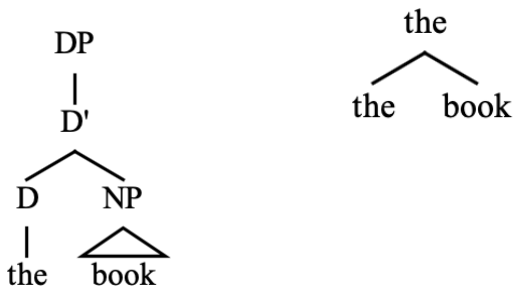
he makes against DP-structure. I also present his loosely sketched alternative to the extended nominal phrase, before giving a summary of the thesis thus far.

3.3.1 Asymmetry between CP and DP

Bruening (2009) disputes the argument that there should be a functional head D in the nominal phrase due to the apparent symmetries between CP and DP. He argues that CP and DP are in fact asymmetric.

According to Bruening (2009: 27), the motivation for assuming a DP due to the parallels which then would arise between the clause and the nominal phrase, was purely conceptual – it was proposed so that the nominal domain would better fit the X-bar schema. Bruening argues that this motivation for proposing D as the functional head of the nominal projection has disappeared with the development of BPS. In BPS, non-projecting heads are expected to exist and bar levels are abandoned, such that a projection can be both minimal (X^0) and maximal (XP) at the same time. Empty intermediate projections (X') are not required. The DP-structure of *the books*, as shown in (51a), could therefore have the structure as in (51b) under BPS, as suggested in Chomsky (1995/2015):

(51) a. b.



DP-structure was worked out so that nominal phrases headed by a functional element fit the X-bar schema. Since X-bar structures are abandoned in BPS/MP, this motivation for DP-structure is no longer compelling (Bruening, 2009: 31).

Bruening argues that there is asymmetry between the clausal and the nominal domain when it comes to complement selection. When a verb selects a clausal complement, it selects elements which are "high in the clause" (Bruening, 2009: 27). That is, verbs select elements on C or I, but not on V. This is exemplified by the sentences below:

(52) Questions versus declaratives

a. Sue thinks that the world is flat.

b. *Sue thinks whether the world is flat.

(53) Finite versus nonfinite:

a. Bertrand wants the world to be flat.

b. *Bertrand wants that the world is flat.

(54) Subjunctive versus indicative:

a. Sue asked that the answer be/*is two.

b. Sue thinks that the answer *be/is two.

(Adapted from Bruening, 2009: 27-28)

As evident from (52)-(54), verbs select elements on C or I. In (52), *thinks* selects the COMP(lementiser) *that*; in (53), a non-finite IP[9] is selected, instead of a CP introduced by *that*; in (54), a specific mood on C is selected. In the case of (54), it has been suggested that the lexical verb selects the form of the embedded main verb (Grimshaw, 2005; cited in Bruening, 2009: 28). Bruening (2009: 28) argues that it is not the case that the form of the embedded main verb is selected, but rather the form of the inflected verb. The following sentence shows that the verb selects the form of the inflected verb, i.e. I^0.

(55) I suggest that you be/*are studying when I return

(Bruening, 2009: 28; emphasis removed)

Bruening argues that V is not the head of the clause. C is the head, as it is C which is selected for when verbs select clauses. When a verb selects nominal arguments, however, Bruening points out that it never selects for particular determiners, numbers, or possessors. If a verb selects a nominal phrase, any nominal phrase is generally allowed. That is, it is never the case that a verb requires a definite nominal phrase and is incompatible with an indefinite nominal phrase[10]:

[9] Alternatively, a CP headed by a null C.

[10] Bruening (2009: 28) points to kinship *have* as possible exception to this:

vi. I have a child.

vii. *I have the/every child.

This, he argues is most likely a kind of existential construction. Constructions may select either definite or indefinite nominals, but particular verbs never do. See Bruening (2009: 28-29) for further discussion.

(56) Nonexistent selectional pattern

a. Samuel is streading a book.

b. *Samuel is streading the book

(Bruening, 2009: 28)

Bruening argues the above example must mean that D is not the head of the nominal phrase because V does not select for D. Number, however, is often apparently selected in nominals:

(57) a. I gathered the students.

b. *I gathered the student.

c. I gathered the French Club.

d. *I gathered the scissors. (where there is only one pair of scissors)

(Bruening, 2009: 29)

Gathered selects a plural complement. Bruening attributes this to semantic selection, arguing, based on (57c), that it is reasonable to view semantic number as a property of the noun and that it is therefore not clear that number should be represented as a functional head separate from N (Bruening, 2009: 29)[11]. Given these observations, and the assumption that selection is strictly local, Bruening argues that functional items are never selected in nominals, and that the head of the nominal phrase must be N and not D.

A further asymmetry between clauses and nominals is noted when it comes to form determination. Bruening argues that in the clausal domain, the form of each element within the clause is determined in a downwards fashion. That is, each head determines the form of the head of its complement. For example, each auxiliary determines the form of the next auxiliary, as shown in (58), and the form of the main verb is determined by the immediately preceding auxiliary verb, as shown in (59).

(58) a. I might have been being handed some cocaine (when the police caught me).

b. (might: bare form; have: -en form; be (Prog): -ing form; be (Pass): -en form)

(Adapted from Bruening, 2009: 30)

[11] As will be made clear below, many views adopting DP-structure, as well as some of the proposed alternatives to DP-structure, posit a separate functional projection for number (NumP or QP) within the nominal phrase. My own analysis, presented in Chapter 5, though it to some extend follows Bruening's analysis (§3.3.4), will have number structurally separate from N.

(59) a. I broke the vase.
b. I was breaking the vase (when you came in).
c. I have broken the vase.
d. I might break the vase.
e. I want to break the vase.
(Bruening, 2009: 30)

As is evident from the examples above, it is the functional auxiliary head which determines the form of other heads in the clause. Bruening argues that this is consistent with the conclusion made above regarding selection, that a functional head C heads CP. In nominals, however, the form of everything else is determined by the head noun, as shown for English and Spanish below:

(60) a. too many/*much people
b. too much/*many rice
c. these/*this scissors

(61) a. todos esos lobos blancos (Spanish)
all those wolves white
'all those white wolves'
b. todas esas jirafas blancas
all those giraffes white
'all those white giraffes'
(Adapted from Bruening, 2009: 30)

In the Spanish examples above, every element in the nominal phrases agree with the head noun in gender and number (*jirafas* 'giraffes' is feminine plural requiring the femining plural suffix *-as* on the prenominal elements; *lobos* 'wolves' is masculine plural requiring the masculine plural suffix *-os* on the prenominal elements). Bruening also points out that nouns are incapable of combining with functional elements that do not match in (e.g.) number:

(62) a. these scissors
b. *this scissors
(Bruening, 2009: 30)

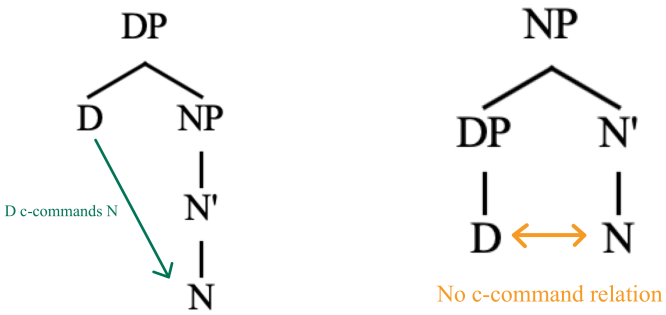
Because of this, it cannot be that the functional element in nominals determine the form of the noun, as is the case for functional elements in the clausal domain. Based on this, Bruening argues that clauses and nominals are not parallel at all.

3.3.2 N-to-D movement

As discussed in §3.2.1, one important application of DP-structure is head movement of N to D to account for word order phenomena. N-to-D movement is a type of head movement where the noun moves to D. This was discussed for Shona nominals above.

Head movement from N to D is one aspect of the DP-analysis which is incompatible with the traditional NP-analysis (Bruening et al., 2018: 36). Since head movement is the movement of one head to another immediately c-commanding head, D must take NP as its complement. D cannot be a specifier of NP, as movement between the head N and its specifier D would not be possible:

(63) a. b.



C-command is a relation between two elements where one element A c-commands another B if they do not dominate each other, and if the first branching node dominating A also dominates B (Reinhart, 1976: 32). In the traditional NP-structure ((63b)), there is no c-command relation between D and N.

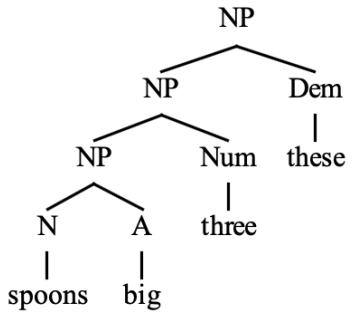
Bruening et al. (2018: 37) points to recent research arguing that N-to-D movement might not be the right analysis for any language. Cinque (2005) argues that there is no head movement inside nominals as this cannot account for word order typology. The same has been argued for Scandinavian (Hankamer & Mikkelsen, 2005), Romanian (Dimitrova-Vulchanova, 2003), Hebrew and Arabic (Shlonsky, 2004), as well as Spanish and other Romance languages (Lipták & Saab, 2014) (Bruening et al. 2018: 37).

Bruening (2020) suggests that an analysis in which the word orders are base-generated may be conceptually better than one which involves N-to-D movement as fewer stipulations and no movement postulations are required, yielding less complicated structures. He argues instead that, in principle, dependents of N can merge with N in any linear or hierarchical order. This can be illustrated by head movement in Shona nominals. As discussed in §3.2.1,

Carstens (2017; cited in Bruening, 2020) argues that N-to-D movement is necessary to capture word order facts in Shona nominals. Bruening (2020: 6) proposes instead that the different word orders in Shona nominals can be explained by different base generations, which he argues is less stipulative:

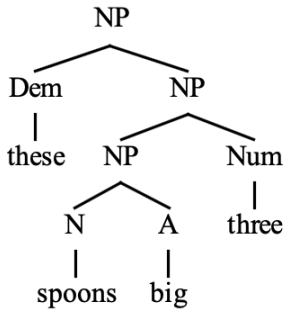
(64) a. zvipunu zvikuru zvitatu izvo (Shona)

spoons big three these



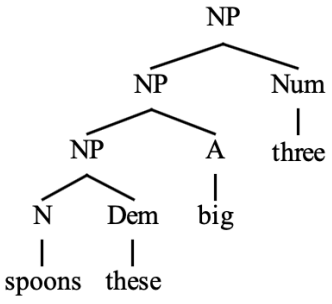
b. izvo zvipunu zvikuru zvitatu

these spoons big three



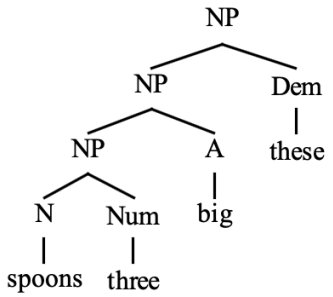
c. zvipunu izvo zvikuru zvitatu

spoons these big three



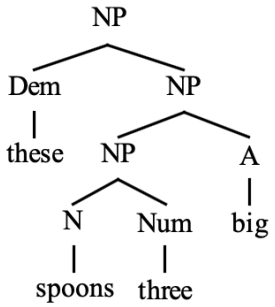
d. zvipunu zvitatu zvikuru izvo

spoons three big these



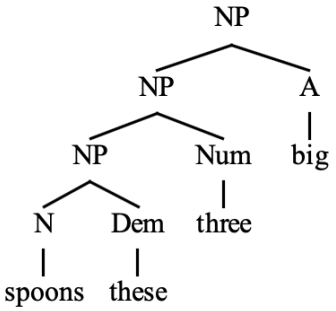
e. izvo zvipunu zvitatu zvikuru

these spoons three big



f. zvipunu izvo zvitatu zvikuru

spoons these three big



(Adapted from Bruening, 2020: 6)

Bruening concludes that since processes captured by N-to-D movement can be explained by other concepts, like base generation, the argument that the DP-structure is necessary to explain N-to-D movement is weakened.

3.3.3 Ellipsis

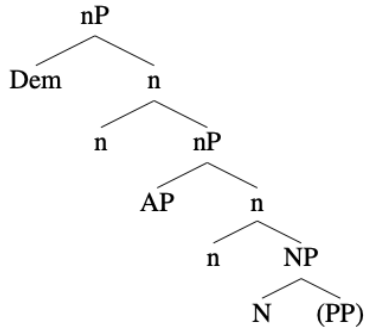
A final critique in Bruening (2009) concerns ellipsis licensing. An argument in favour of the DP-hypothesis has been that positing D as the head of the nominal phrase with NP as its complement gives a uniform account of ellipsis licensing in nominals (Lobeck, 2006). Bruening (2009: 33) points out that this is a weak argument, as the class of items licensing

ellipsis are not syntactically uniform. I discuss the issue of ellipsis licensing in detail in Chapters 4 and 5.

3.3.4 Bruening's (2009) alternative nominal structure

The alternative nominal structure to Abney's DP-structure which Bruening briefly suggests is the following:

(65)



(Bruening, 2009: 33)

Bruening proposes that the thematic NP could be surrounded by functional nP-shells where n is a recursive head devoid of any content except category. Furthermore, the various prenominal elements in the nominal phrase (demonstratives, adjectives, determiners/articles, and so on) occupy the specifier positions of the nP-shells. In Chapter 5, I elaborate on this structure and apply it to English language data.

3.4 Intermediate summary

So far, I have presented Abney's (1987) DP-hypothesis, which, since its proposal has generally been taken for granted in generative grammar. I have also presented some of the applications and developments of the DP-hypothesis, as well as arguments made against this structure. I briefly presented Bruening's argument that DP-structure cannot give a uniform account of ellipsis licensing within the nominal phrase. The remainder of this thesis is dedicated to investigating ellipsis licensing within the nominal phrase. In Chapter 4, I present and compare previous theories about the licensing of nominal ellipsis. In Chapter 5, I introduce a theory of ellipsis licensing which, to my knowledge, has not yet been applied to English nominals. I investigate whether Bruening's alternative structure of the extended nominal projection can give a provide account of the elliptical patterns observed in the nominal domain given this approach to ellipsis licensing, and I consider how this can illuminate nominal structure.

4 Accounting for licensing in Noun Phrase Ellipsis

One of the arguments made against the DP-hypothesis mentioned in Bruening (2009) is its inability to provide a unified account of ellipsis licensing. In this section, I account for some previous explanations of N(oun) P(hrase) E(llipsis) within DP-structure. To make it clear which aspect of ellipsis I will investigate, I first briefly present some questions which are central when it comes to explaining ellipsis phenomena.

4.1 Important questions in ellipsis

Ellipses are anaphoric expressions which involve a mismatch between sound and meaning. Lobeck (2006: 145) describes ellipsis as null anaphora, i.e. referring expressions, in which "some missing material is interpreted under identity with an antecedent". In elliptical constructions, some part of the sentence or phrase is not pronounced, though the meaning of the string can be recovered, and that meaning refers to something else in the (immediate) discourse context, i.e. an antecedent. An example of this is shown below:

(66) a. Mary is eating pies and John is ~~eating pies~~ as well.
b. [Mary is about to pick up a plate of pie from a table]
John: Don't ~~pick it up~~! That pie is mine!

The text in strikethrough indicates elided material, i.e. material which is not pronounced. The meaning of the elided material is understood by the presence of an antecedent.

Three important questions are central in the literature on ellipsis. Merchant (2018) summarises these:

(67) The structure question:
In elliptical constructions, is there syntactic structure that is unpronounced?

(68) The identity question:
What is the relationship between the understood material in ellipsis and its antecedent?

(69) The licensing question:
What heads or positions or structures allow for ellipsis, and what are the locality conditions on the relation between these structures and ellipsis?
(Adapted from Merchant, 2018: 3-5)

The structure question asks whether the ellipsis site contains any underlying structure. Some argue that there is no underlying structure in the ellipsis site. These are referred to as nonstructural approaches (Merchant, 2018: 6). Many of these further advocate for a "what you hear is what you get"-analysis of the ellipsis site, such that there are no unpronounced elements in the ellipsis site, and consequently also no internal structure. The ellipsis site may be a pro-form, but with no internal structure. For the ellipsis in (66a) above, we can represent the nonstructural view of the ellipsis as the following, where the triangle indicates elided material:

(70) Mary is eating pie and John is [VP Δ] as well.

Structural approaches to the structure question, on the other hand, posit that there is a fully fledged syntactic structure in the ellipsis site. This structure is either deleted at PF or is pronounced as a null element (Merchant, 2018: 7). We can represent PF-deletion of the ellipsis site in (66a) as the following, where the text in strikethrough indicates the ellipsis site:

(71) Mary is eating pie and John is ~~[VP eating [NP pie]]~~ as well.

Besides determining whether there is underlying structure in the ellipsis site, an explanation as to how the meaning of the ellipsis site is recovered is also necessary. This is what the identity question seeks an answer to. For example, the elided material in (66a) cannot be *eating apples* because the meaning in the ellipsis site is dependent on a salient antecedent, which in this case is something along the lines of [VP eating pies] or EAT PIE(x). Identity in ellipsis refers to the observation that the meaning of the elided material must be constrained by something else (an antecedent) in the (immediate) discourse context. To explain this, some views posit a syntactic antecedent, such that the understood material in the ellipsis site must be syntactically identical to the antecedent. Others posit a semantic antecedent such that the understood material in the ellipsis site must be semantically identical to the antecedent. Others still posit a mix of syntactic and semantic identity in the ellipsis site (Merchant, 2018: 4). Connected to the identity question is control. Anaphoric expressions, like ellipsis, are controlled by some antecedent from which they receive their meaning. As mentioned above, for the meaning to be recovered, some antecedent is necessary. This "meaning-recovery", i.e. control, can be either linguistic or pragmatic (Hankamer & Sag, 1976). If ellipsis is linguistically controlled, the antecedent of the elliptical phrase is present in the immediate linguistic context. If ellipsis is pragmatically controlled, the antecedent is available in the (immediate) discourse context, but not explicitly stated (Hankamer & Sag, 1976: 391). Recall

the sentences in (66), In (66a), the elided constituent is linguistically controlled, picking up its reference from the antecedent VP *eating pie*. In (66b), the elided constituent is pragmatically controlled, as its antecedent is not a linguistic utterance but rather some event in the discourse context. Some ellipses require linguistic control:

(72) [Hankamer attempts to stuff a 9-inch ball through a 6-inch hoop]
Sag: #It's not clear you'll be able to.
(Hankamer & Sag, 1976: 392)

A final question which is important when accounting for ellipsis is the licensing question. Ellipsis is possible after some elements, though some constituents can apparently not be elided even if there is a plausible antecedent. Consider the following:

(73) a. Mary is eating pies and John is ~~eating pies~~ as well.
b. *Mary's eating pies and John's ~~eating pies~~ as well.

(74) I can't believe Holly Golightly won't eat rutabagas.
a. I can't believe Fred won't ~~eat rutabagas~~, either.
b. *I can't believe Fred ~~won't eat rutabagas~~, either.
(Adapted from Johnson, 2001: 439)

In (73b) we see that eliding the VP *eating pies* is not possible if the auxiliary is contracted. In (74b), ellipsis is not possible either. The intended meaning of the ellipsis site can still be recovered, but the ellipsis itself is ungrammatical. We thus notice that ellipsis is not possible in all environments and that there must be some constraint on ellipsis in regard to which elements allow, or license, ellipsis.

To best illuminate the structure of the nominal phrase, and to examine Bruening's (2009) critique that DP-structure cannot uniformly account for the licensing of ellipsis, I only consider the licensing question in this thesis. I do not consider the fine details of the identity question, but in all cases of ellipsis considered here, identity will be clearly met by the availability of a linguistic antecedent. As will become clear below, I assume a structural approach to the ellipsis site where material is present but deleted at PF. Throughout, I will indicate the ellipsis site, with the deleted material, in strikethrough text. Below, I introduce Noun Phrase Ellipsis (NPE) and account for some previous analyses of NPE.

4.2 Noun Phrase Ellipsis licensing

Noun phrase ellipsis (NPE) involves the deletion of some part of the extended nominal projection. An example of this is shown below:

(75) I have two pies and you have three ~~pies~~.

The meaning of the ellipsis site is recovered from the preceding noun *pie*. NPE can be controlled syntactically (as shown in (76)) and pragmatically (as shown in (77)).

(76) Which cars do you like?
I like {these / those} ~~cars~~.

(77) [looking at some cars]
Do you like {these / those} ~~cars~~?
(Adapted from Llombart-Huesca, 2002: 64)

Ellipsis is possible after many prenominal elements. These include numerals and plural demonstratives as shown above. Furthermore, many quantifiers are compatible with NPE, as are possessives:

(78) a. I have many cats; have you got any ~~cats~~?
b. There were many flowers in the garden, but recently all ~~flowers~~ had started to wilt.
c. Even though most of the cherry pies were tart, there were some ~~cherry pies~~ that were sweet.
d. The men walked into the bar and both ~~men~~ ordered a beer.
e. [Pouring cat food into a bowl] Do you think this is enough ~~cat food~~?
f. They were handing out free samples and he got several ~~free samples~~!
g. I wanted to get a pastry but there were too many ~~pastries~~ to choose from.
h. You had many bad experiences but you sister only had a few ~~bad experiences~~.
i. Initially, she had a lot of motivation for drawing the syntax trees, but at the end she had little ~~motivation~~ left.
j. The river had been overflowing with water for years, but now not much ~~water~~ is left.
k. John's hate of English spelling could never be as intense as Mary's ~~hate of English spelling~~!

As shown for VP ellipsis above, not all environments allow for NPE. Singular demonstratives, some adjectives and some quantifiers are not compatible with NPE[12]:

(79) a. *She hated writing short essays so she always wrote long ~~essays~~.
b. *There were ten pies on the table and John ate every ~~pie~~.
c. *Would you like this piece of chocolate or would you rather like this ~~piece of chocolate~~?
d. *I prefer this album from Radiohead, but you prefer that ~~album from Radiohead~~.

However, for some of the cases where NPE is ungrammatical, the insertion of the element *one(s)* could be said to somehow "rectify" this ungrammaticality:

(80) a. She hated writing short essays so she always wrote long ones.
b. There were ten pies on the table and John ate every one.
c. Would you like this piece of chocolate or would you rather like this one?
d. I prefer this album from Radiohead, but you prefer that one.

Furthermore, when an adjective is present before the elided noun, *one(s)* seems to be obligatory:

(81) a. I have many white cats; have you got any black ones?
(Cf. * … have you got any black ~~cats~~?)
b. There were many colourful flowers in the garden, but recently all pink ones had started to wilt.
(Cf. *… but recently all pink ~~flowers~~ had started to wilt.)
c. Even though most of the cherry pies were tart, there were some large ones that were sweet.
(Cf. *… there were some large ~~cherry pies~~ that were sweet.)

I will come back to discussing the nature of *one(s)*, but for now we note that the presence of *one(s)* in many circumstances can make an ungrammatical elliptical construction grammatical. We also note that some elements allow for both NPE and *one(s)*:

[12] (79c-d) are ungrammatical on the NPE reading.

(82) a. You have many cats and each (one) is always hungry.
b. I gave one cat something to drink and John gave another (one) something to eat.
c. These are all the cats you can choose from; which (one) would you like?

In the following sections, I present some previous accounts of NPE licensing. In §4.3, I present their theories of the distribution of NPE and *one(s)*.

4.2.1 Lobeck (1995)

Lobeck (1995) argues that the elided constituent in NPE (as well as in other types of ellipsis) is subject to conditions of the Empty Category Principle (ECP):

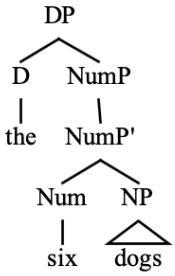
(83) Empty Category Principle (ECP)
[e] must be properly governed
(Lobeck, 1995: 8)

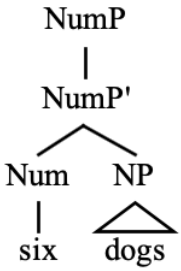
Proper government refers to the idea that the ellipsis site, or [e], must be in a sufficiently close relationship to a licensor with which it is also coindexed (Lobeck, 1995: 10). Lobeck accounts for the licensing of ellipsis through strong agreement.

(84) Strong agreement
An X^0 is specified for strong agreement iff X^0, or the phrase or head with which X^0 agrees, morphologically realizes agreement in a productive number of cases.
(Lobeck, 1995: 51)

The ellipsis site is licensed by a functional head specified for strong agreement. For NPE, Lobeck specifies three strong agreement features: [+plural], [+possessive] and [+partitive]. A functional head can only license ellipsis if [+plural], [+possessive] or [+partitive] is morphologically realised on this head (or the phrase or head it agrees with). Lobeck adopts a DP-structure of the extended nominal projection, but gives slightly different structures to definite and to indefinite nominal phrases:

(85) a. Definite nominal phrase *the six dogs*: b. Indefinite nominal phrase *six dogs*:





(Adapted from Lobeck, 1995: 82, 84)

As shown above, the definite nominal phrase contains a DP taking a NumP as its complement. D^0 is filled by demonstratives, the definite article *the*, and definite quantifiers (Lobeck, 1995: 80). Indefinite nominal phrases, however, do not contain DPs but are headed by a functional Num^0, which is filled by the indefinite article, numerals or indefinite quantifiers (Lobeck, 1995: 80)[13]. Lobeck (1995: 80) argues that all DPs contain NumP, but not all NumPs must be contained by a DP. Consequently, there are two possible functional heads inside the noun phrase, D^0 and Num^0, which act as possible licensors of ellipsis if they are specified for strong agreement.

Lobeck (1995) argues that [+plural], [+possessive] and [+partitive] are strong agreement features due to the following observations. Prenominal elements which require a plural complement, e.g. numerals and plural demonstratives, license ellipsis, as shown in (86a-b); indefinite *a* and singular demonstratives, which require a single complement, do not license ellipsis, as shown in (86c-d)[14]:

(86) a. I have six pies and you have five ~~pies~~
b. I have those pies and you have these ~~pies~~
c. *I have a pie and you have a ~~pie~~
d. *I have this pie and you have that ~~pie~~

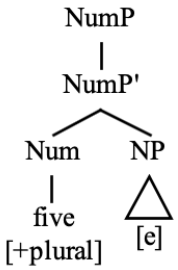
Lobeck explains this by arguing that numerals and plural demonstratives are specified for strong agreement by being [+plural]. These are morphologically realised as being [+plural] as

[13] Note here that in Lobeck, NumP is a functional projection hosting e.g. numerals or indefinite quantifiers. In Llombart-Huesca (2002), which will be discussed below, NumP is reserved for the number features [singular] and [plural].

[14] These are Lobeck's judgements. I return to similar examples in §4.2.3.

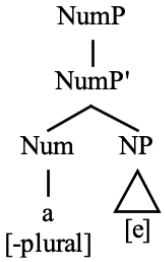
their complement must carry the plural morpheme *-s*. Singular demonstratives and indefinite *a*, taking a singular complement, are [-plural] and consequently not specified for strong agreement. For (86a), in which an indefinite nominal phrase contains an elided constituent, the ellipsis can be structurally represented as the following:

(87) I have six pies and you have five ~~pies~~



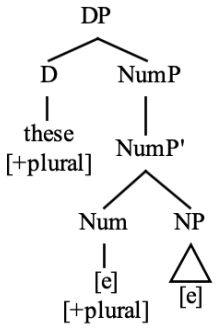
In the above sentence, the [+plural] feature on Num licenses the empty NP. In the sentence in (86c), however, indefinite *a* is not realised for strong agreement, and [e] is not licensed:

(88) *I have a pie and you have a ~~pie~~



The nominal phrase in (86b) contains both a DP and a NumP (cf. (85a)). The ellipsis in (86b) can be structurally represented as the following:

(89) I have those pies and you have these ~~pies~~



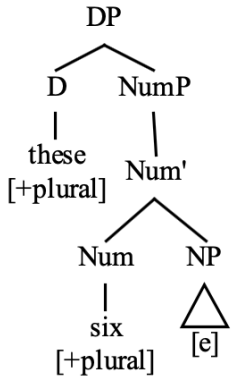
The [e] in Num in (89) is an empty category (cf. (83) above). In (89), *these* governs [e] in Num by being specified for strong agreement by [+plural]. The empty Num is consequently

licensed by *these* as the empty category [e] is properly head-governed. To explain the ellipsis of *pies* in (89), Lobeck argues that the empty NP is also properly head-governed, and the elision of *pies* consequently licensed, due to the Generalised Government Transparency Corollary (Generalised GTC)[15]:

(90) Generalised Government Transparency Corollary (Generalised GTC)
An X^0 which is coindexed with and governs an empty head governs everything that head would govern.
(Lobeck, 1995: 87)

Lobeck (1995: 87) takes 'empty' to mean void of phonological content, but not necessarily features. The Generalised GTC explains ellipsis patterns when there is an empty Num between the licensor D^0 and the elided NP (Lobeck, 1995: 72). In (89), since D governs and is coindexed with Num, D will govern everything Num governs. D thus licenses the empty NP, as N is governed by Num. For ellipsis cases like *these six ~~pies~~*, where Num is filled, it is the Num^0 *six* which lexically realises the strong agreement feature [+Plural], and consequently licenses and identifies the empty NP ~~*pies*~~ (Lobeck, 1995: 87).

(91) I have those seven pies and you have these six ~~pies~~



[15] The Generalised GTC is Lobeck's adaptation of the Government Transparency Corollary (GTC), originally proposed in Baker (1988):

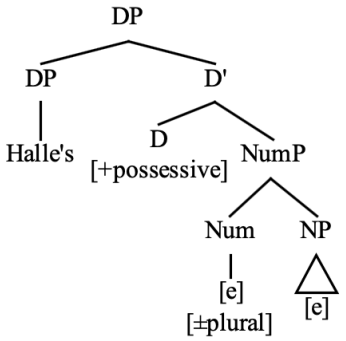
viii. The Government Transparency Corollary (GTC)
A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.
(Baker, 1988: 64)

As mentioned above, Lobeck also posits [+possessive] and [+partitive] to be strong agreement features. Since English possessive DPs can take both singular and plural noun complements, they are not specified for strong agreement by [+plural]. Ellipsis is still possible:

(92) Mary likes Chomsky's book(s) but Bill likes Halle's ~~book(s)~~
(Adapted from Lobeck, 1995: 89)

The possessive DPs are instead specified for [+possessive], which is morphologically realised by spec-head agreement with a possessive *'s*. Num^0 in the possessive DPs lack strong agreement as it is not lexically filled. The empty NP is licensed by D under the Generalised GTC:

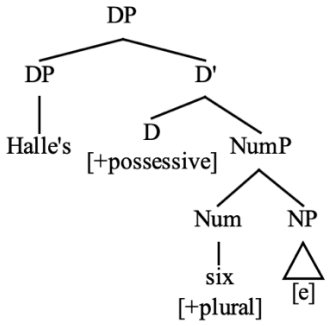
(93) Mary likes Chomsky's book(s) but Bill likes Halle's ~~book(s)~~



(Adapted from Lobeck, 1995: 89)

If Num were filled by a [+plural] element, e.g. as in *Halle's six books*, D will be blocked from licensing empty NP as the overtly filled Num^0 creates a barrier (Lobeck, 1995: 90). In this case, however, since Num is also specified for strong agreement by being [+plural], Num licenses the empty NP:

(94) Halle's six ~~books~~



Prenominal elements like *each* or *one* are not specified for strong agreement by [+plural] or [+possessive], but ellipsis is still possible[16]:

(95) a. The women came in and each ~~woman~~ sat down.
b. Though one ~~vacation~~ would certainly be nice, a vacation at this time is unthinkable
(Adapted from Lobeck, 1995: 92-93)

Lobeck argues that *each* and *one* are specified for strong agreement by being [+partitive]. She argues that the [+partitive] feature is lexically realised by a quantifier which can enter into partitive constructions (Lobeck, 1995: 94). *Each* and *one* can occur in partitive constructions, but *a* and *every* cannot:

(96) a. Each of the pies
b. *Every of the pies
c. One of the pies
d. *A of the pies

Consequently, *a* and *every* are not specified for [+partitive] (nor for [+plural] or [+possessive]), and cannot license ellipsis:

(97) a. *Though a ~~vacation~~ would certainly be nice, a vacation at this time is unthinkable
b. *The women came in and every ~~woman~~ sat down.
(Adapted from Lobeck, 1995: 92-93)

4.2.2 Llombart-Huesca (2002)

Llombart-Huesca (2002) follows Lobeck in that functional heads specified for strong agreement by being [+plural], [+possessive] or [+partitive] license an empty category (*ec*), i.e. ellipsis. Llombart-Huesca (2002) primarily focuses on giving an account of the appearance of *one(s)* in some cases of NPE. I return to this §4.3.2, but to support her argument about the

[16] For (95b) it is not clear whether *one* should be derived from a phrase *one vacation* where *vacation* has been elided, as this sentence without ellipsis is unnatural:

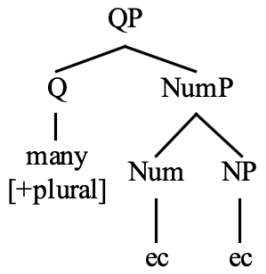
ix. Though one vacation would certainly be nice, a vacation at this time is unthinkable

One here gets a numerical reading which it lacks in the elliptical sentence; in this sentence, the use of *one* suggest that specifically one vacation (as opposed to two or three) would be nice. I return to cases like this in §5.3.2.

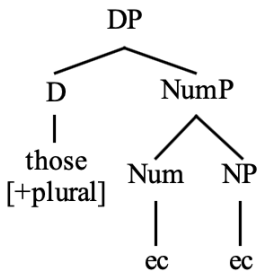
distribution of *one(s)* and NPE, Llombart-Huesca argues, unlike Lobeck, that it is empty functional heads which license an empty category by strong agreement. For NPE specifically, it is the empty[17] functional head Num^0, which Llombart-Huesca takes to be the head of the functional NumP which hosts the number features [singular] and [plural]. Numerals, which in Lobeck fill Num^0, are here placed in a separate functional projection QP.

Llombart-Huesca (2002: 77) posits that to license empty Num^0, Num^0 must be immediately c-commanded by an element specified for a strong agreement feature. This is shown below, where the empty Num^0 is immediately c-commanded by a quantifier (98a), a plural demonstrative (98b), and a possessive (98c) specified for strong agreement.

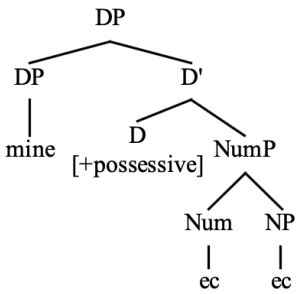
(98) a. All the students took the exam but many *ec* failed



b. All the students took the exam but those *ec* failed



c. I like your car, but I don't like mine *ec*



(Adapted from Llombart-Huesca, 2002: 76-77)

[17] I.e., void of phonology, not features.

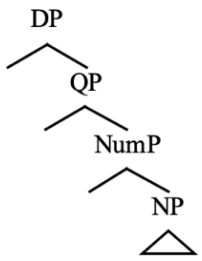
When empty Num^0 fails to be licensed, i.e. when D or Q are not specified for strong agreement or do not immediately c-command Num^0, *one(s)*-insertion takes place. I return to this below.

From the trees in (98), we see that Llombart-Huesca adopts a slightly richer structure of the extended nominal projection than Lobeck, in that a phrase can contain both QP and NumP. As mentioned above, Llombart-Huesca mainly focuses on the issue of *one(s)*-insertion. For reasons which I discuss in §4.3.2, she argues that *one(s)* is inserted in Num^0. A separate QP projection is therefore required to account for phrases like *many lazy ones*.

4.2.3 Günther (2013)

Günther (2013) posits the following structure of the extended nominal projection:

(99)



(Günther, 2013: 5)

She argues that the lexical projection NP is dominated by a number of functional projections, like DP and QP. As in Llombart-Huesca (2002), number features are hosted in NumP, which Günther (2013: 5) argues is only available for nominal phrases denoting countable entities.

Though Günther follows Lobeck (1995) in that plurality plays a role in NPE, she argues that strong agreement cannot be the right licensing requirement for NPE. For instance, she points to the observation that some descriptive adjectives (as in (100)) and discourse referential adjectives (as in (101)), which are not morphologically specified for [+plural], [+possessive] or [+partitive] may license an empty NP:

(100) a. Henrietta likes red shirts, and I like blue.
b. Knut wanted the French caterers, but I wanted the Italian.
c. I prefer cotton shirts to nylon.
d. Lucie likes young dogs, but I prefer old.
(Günther, 2013: 11; originally from Payne & Huddleston, 2002: 416)

(101) a. This bus is full: we'll have to wait for the next (one).
b. The first student wanted to take linguistics, but the second (one) did not.
c. These are excellent biscuits. Can I have another (one)?
d. These seats are still available: Which (one(s)) do you want?
(Günther, 2013: 10; originally from Stirling & Huddleston, 2002)

She also points to some data showing that singular demonstratives may occur with an empty NP[18]:

(102) a. This copy is clearer than that (one).
b. That sausage has only 25% percent meat, but this has 90%.
(Günther, 2013: 10; originally from Stirling & Huddleston, 2002: 1511 and Payne & Huddleston, 2002: 414)

In regard to strong agreement, number and genitive case are the only features that are morphosyntactically realised in the English nominal phrase. However, there are adjectives which encode neither number nor genitive, but which still function as licensors of noun ellipsis, as shown above. Furthermore, Günther (2013: 30) argues that it is not clear how far English morphosyntactically realises partitivity, and that therefore it is not clear how partitivity should be related to strong agreement. For example, the syntactic definition Lobeck adopts of partitivity, namely the ability to take a partitive prepositional phrase, is not valid for all elements which license noun ellipsis. Günther illustrates this for French, where the below prenominal elements (*l'autre* 'the other', *le mien* 'mine', *le nouveau* 'the new', *trois* 'three') all license NPE. Only one of these (i.e. (103d)) is in fact partitive following Lobeck's definition (Günther, 2013: 34):

(103) a. *l'autre de ses livres (French)
the=other of 3SG.POSS.PL books
b. *le mien de ses livres
the mine of 3SG.POSS.PL books
c. *le nouveau de ses livres
the new of 3SG.POSS.PL books

[18] Cf. Lobeck's judgements in (86d) above. For Lobeck, these sentences are ungrammatical as *that* and *this* are not specified for strong agreement.

d. trois de ses livres
three of 3SG.POSS.PL books
'three of his books'
(Adapted from Günther, 2013: 34; my glosses)

Günther (2013: 37) further suggests that positing partitivity as a feature involved in the licensing of empty elements does not capture the differences between the silent noun and *one(s)* as nominal elements, as the notions posited for partitivity also apply to the use of *one(s)*. As will be made clear below, the view Günther has of *one(s)* differs significantly from the view in e.g. Llombart-Huesca (2002).

In Günther (2013), licensing via strong agreement is replaced by two licensing requirements: a contrast condition and a countability requirement. The contrast condition is a semantic condition on ellipsis licensing, and the countability requirement determines the distribution of NPE and *one(s*). As these are connected to Günther's analysis of anaphoric *one(s)*, I return to a more detailed description of her licensing requirements in section §4.3.1. Below. I show how *one(s)* and NPE are related, before stepping through Llombart-Huesca's and Günther's respective analyses of the distribution of these.

4.3 *One(s)* and Noun Phrase Ellipsis

In English, anaphora in nominals can be expressed in three different ways, as pointed out by Günther (2013: 36). The antecedent nominal phrase can simply be stated again (as in (104a)). Another possibility is that the core noun in the anaphoric nominal phrase is not stated but left empty (as in (104b)). A third possibility is that the core noun in the anaphoric nominal phrase is not stated but *one* is instead present (as in (104c)).

(104) a. You have [many pies]$_i$ and I have [many pies]$_i$ as well.
b. You have [many pies]$_i$ and I have [many]$_i$ as well.
c. You have [many sweet pies]$_i$ and I have [many sweet ones]$_i$ as well.

As alluded to in previous sections, the presence of a semantically empty *one(s)* as in (104c), where *one(s)* is used anaphorically, is somehow connected to NPE. The observation is that the semantically empty *one(s)* can appear in certain positions where a noun has been elided, and that *one*, like NPE, refers to some antecedent in the discourse context. Another observation is that *one(s)* sometimes must be present when an adjective appears in-between the licensor and

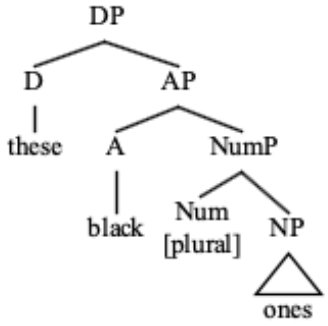
the ellipsis site. If we compare (104c) with (105) below, this becomes clear as the combination of *many* and *one(s)* with no adjective in-between is ungrammatical:

(105) *You have [many sweet pies]$_i$ and I have [many ones]$_i$ as well.

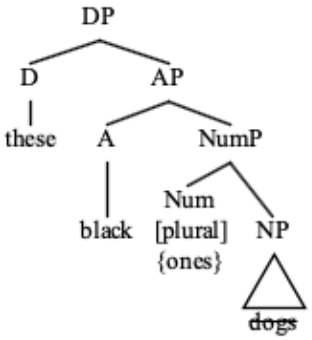
Below, I present in more detail two of the views of the distribution of NPE and *one(s)* given in the literature on NPE. The first view posits that *one(s)* is a pro-form of the head noun, and the second argues that *one(s)* is inserted as a last resort procedure at PF:

(106) You have those white dogs and I have these black ones

a. … and I have (Pro-form view)



b. … and I have (PF-insertion view)



Under the pro-form view, there is an empty nominal element in the position of the elided *dogs* in (106) above. *Ones* is the overt form of this empty nominal element. When the noun is elided, *one(s)* will be present unless it is deleted. In certain environments, *one(s)* is either optionally or obligatorily deleted.

Under the PF-insertion view, the number affix in Num^0 fails to attach to any material when the noun is elided. It cannot attach to the adjective as English adjectives do not display plural morphology. *One(s)* is therefore inserted at PF as a last resort strategy to give phonological

support to the stranded affix. The form of *one(s)* depends on whether the number affix is plural or singular.

4.3.1 *One(s)* as a pro-form

Traditionally, *one(s)* has been analysed as a nominal pro-form (Panagiotidis, 2003: 281). Ross (1986; originally published 1967) and Jackendoff (1977) pursue a view of the nominal phrase where a thematic N dominates the topmost node of the phrase. Ross (1986; cited in Lobeck, 2006: 147) argues that the source of NPE is the pronoun *one(s)*, which in deep structure replaces some part of the nominal phrase which is then deleted by a transformation rule before surface structure. Jackendoff (1977) argues that NPE is derived from nominal phrases with base-generated empty pronominal (PRO) heads, and not from deletion. Determiners preceding PRO undergo a substantivisation rule. For some determiners, this rule will also convert the determiners into appropriate phonological forms, such that *no* preceding PRO is converted to *none* (Jackendoff, 1977: 114). In these views, *one(s)* is placed in the position of the head noun.

Although the arguments in Ross (1986/1967) and Jackendoff (1977) are based on an earlier view of the nominal phrase assuming GB, Günther (2013) also argues in favour of a view of *one(s)* as a pro-form of the head noun within MP. She argues that both *one(s)* and NPE are empty nominal elements, but that NPE is the silent form and *one(s)* is the overt form of the empty element (Günther, 2013: 46). These are subject to the same semantico-pragmatic condition (a contrast condition, detailed below), but their distribution is determined by morphosyntactic factors. Specifically, the choice between the two is determined by whether countability is expressed in the nominal phrase. Furthermore, in the environments where the covert silent form of the empty nominal element is used, i.e. NPE, it is argued that *one(s)* is subject to deletion conditions (Günther, 2013: 47). Below, I describe these in more detail.

The contrast condition is the semantic condition which applies to both the silent empty noun (i.e., NPE, or *ec* in Lobeck and Llombart-Huesca) and to the overt empty noun *one(s)*, determining the environments in which these are allowed. The contrast condition states that the antecedent nominal phrase and the one containing the anaphoric form have to be nonidentical (Günther, 2013: 83). Nonidentity can apply either at the lexical or at the referential level. The prenominal modifiers in the antecedent nominal phrase and the anaphoric nominal phrase can be identical, but will then not be coreferential. This is

illustrated below, where the antecedent nominal phrase is underlined and the anaphoric nominal phrase is indicated in bold type:

(107) a. Why are you less likely to get caught speeding in a black car and most likely in **a red one**?
(Günther, 2013: 50)

b. In Britain it has long been believed that if a black cat crosses your path or enters your house **it** will bring you good fortune.
(Günther, 2013: 51)

c. A: Would you like me to change the pictures in your room?
B: No, I think I'd like to keep **the same ones.**
(Günther, 2013: 52; originally from Dahl, 1985: 67f)

d. In Britain it has long been believed that if a black cat crosses your path or enters your house **#the black one** will bring you good fortune.
(Günther, 2013: 51)

In (107a) the anaphoric nominal phrase and the antecedent nominal phrase have the same referent. However, the prenominal modifiers in the phrases are not the same. If the antecedent nominal phrase and the anaphoric nominal phrase are to have the same referent, the entirety of the anaphoric nominal phrase must be replaced by a pronoun, as shown in (107b) or the prenominal modifier must be changed, as shown in (107c). The sentence in (107d) shows that if the prenominal modifier remains unchanged in the anaphoric nominal phrase, the referent of the two phrases cannot be the same[19]. A further requirement of the contrast condition is that the licensor must add some level of restrictive information about the entity in question, which further strengthens the contrast between the antecedent noun phrase and the anaphoric noun phrase (Günther, 2013: 63). Thus, according to Günther, *the* in (107d) violates the

[19] A possible counterargument to this is the below conversation, which is retrieved from a corpus:

x. Dorothy: Is that a nice cat, do you stroke it?
Tim: <-|-> Yeah.
Christopher: <-|-> Yes <-|-> it is **a nice one** mummy.
(Günther, 2013: 51)

Günther (2013: 52) argues that for cases like this, the two nominal phrases are not in fact coreferential, as *one* functions as a predicate.

contrast condition because it does not add enough restrictive information about the entity in question. Consequently, it cannot license ellipsis.

The countability requirement on empty nominal elements determines the distributional differences between the two. Countability is assumed to be a property of the entire nominal phrase, and previous research suggests that English NPE is closely related to a [count] feature (Günther, 2013: 56). Günther (2013: 48) argues that if the element immediately preceding the nominal form is specified for [±count], the empty noun will remain silent because it expresses redundant information. *One(s)* will for example not be present after *ten* in (108b) below, as the [count] feature is already expressed by *ten*, which is [+count]:

(108) a. Do you want more tapes for them to take away? I've got **ten**.
(Günther, 2013: 57)
b. *… I've got ten ones.

Since *one(s)* is argued to overtly express the number morphology of an empty noun, Günther argues that *one(s)* is only available for count nouns. This is shown in the following, where (110b) shows the incompatibility of the mass noun *beer* with *one(s)*:

(109) a. There is another ~~bottle~~ in the cupboard
b. There is another one in the cupboard
(110) a. There isn't much ~~beer~~ left
b. *There isn't much one(s) left

Since Günther follows Ross (1986/1967) and Jackendoff (1977) in that *one(s)* is a pro-form of the noun, it also follows that *one(s)* cannot be the overt version of a silent mass noun since *one(s)* is a count noun (Günther, 2013: 56).

As for the numeral *ten* in (108), other prenominal elements like plural demonstratives, genitives, and some determiners and quantifiers only combine with a silent empty noun. However, if an adjective appears after the prenominal element, *one(s)* is required. This is predicted as many of these prenominal elements are compatible with count readings, but is less straightforward when it comes to discourse-referential modifiers like ordinals, *(an)other* and *(n)either* when combined with a noun with mass interpretation (Günther, 2013: 57). The grammaticality of the sentence in (111) is explained since *beer* has a count interpretation when combined with modifiers like *first* of *next*, as the use of the ordinal implies a sequence of referents such that *the next one* refers to another bottle of beer.

(111) Whereas he drank the first beer slowly, he wolfs **the next one** in an instant, thoughtlessly and without passion.
(Günther, 2013: 58)

Thus far, we have seen that *one(s)* is compatible with count interpretations but not with mass interpretations. We have also seen that *one(s)* is sometimes not necessary if the prenominal element preceding it is specified for [+count]. Günther (2013: 72) argues that when *one(s)* is not present, it has been deleted. *One(s)* is subject to deletion under the following rules:

(112) i. Deletion under adjacency I
Delete *one* if the adjacent element preceding it is [+plural]
ii. Deletion under adjacency II
Optionally delete *one* if the adjacent element preceding it is [+count]
(Günther, 2013: 71)

The above deletion rules could explain why *one(s)* is not spelled out after *few* or *all*, which are [+plural], as shown in (113), and why *one(s)* is optional together with *each* or *another*, which are [+count], as shown in (114).

(113) a. You have many cats but I have few/all cats.
b. You have many cats but I have few/all (*ones).
(114) a. You have many cats and each (one) is always hungry.
b. You have a cat and I have another (one).

Günther (2013: 29-30) argues against a view of *one(s)* as a lexical item which is inserted if NPE cannot be licensed or identified. For example, she posits that the observation made in (114), that NPE and *one(s)* are not in complementary distribution, speaks against a conclusion in which *one(s)* is inserted where NPE is not possible. Furthermore, she argues that NPE and *one(s)* are not subject to different conditions, contrary to Llombart-Huesca's argument, which will be discussed below.

4.3.2 *One(s)* as a last resort PF-insertion

Llombart-Huesca (2002) argues that the pro-form analysis of *one(s)* (as in Ross (1986/1967), Jackendoff (1977), Günther (2013)) cannot be the right analysis of *one(s)* for a number of reasons. She proposes instead that *one(s)* is inserted at PF in order to support a stranded number affix when the licensing of an empty Num^0 is not possible. *One(s)* is thus not a pro-form but a phonological support for a stranded number morpheme in the nominal phrase.

Below, I present Llombart-Huesca's arguments against the view of *one(s)* as a pro-form. The arguments in favour of *one(s)* as a PF-insertion are then laid out.

Llombart-Huesca argues that NPE and *one(s)* are subject to different conditions and are in complementary distribution, and that they should therefore receive different analyses. Above, we showed that anaphoric *one(s)* is not possible if its antecedent is a mass noun. This difference was mentioned by Günther to be subject to a countability requirement. However, Llombart-Huesca (2002: 60) argues that if *one(s)* is a pro-form of a noun, the relation between *one(s)* and the position it appears in should be arbitrary since that position is not subject to a countability restriction. Furthermore, the observation made in (104)-(105) that *one(s)* is not possible after a quantifier or a numeral unless an adjective is also present, does not hold for nouns, as shown below:

(115) a. Many pies
b. Many green pies
c. *Many ones
d. Many green ones

Llombart-Huesca (2002: 61) argues that if *one(s)* is a noun, the restriction that it cannot combine with quantifying expressions remains unexplained. Related to this, the fact that *one(s)* can only appear in "contexts of restrictive modification" (Ibid.), whereas nouns do not have this restriction, does not follow if *one(s)* is a pro-form of the noun. As shown in (116), *one(s)* must be modified by an adjective (116a), a demonstrative (116b), a prepositional phrase (116c), or a relative clause (116d):

(116) a. Mary likes the blue car and I like the pink one.
b. Mary likes the blue car and I like that one.
c. John talked to that man and Mary talked to the one with the black hat.
d. John talked to that man and Mary talked to the one she met the day before.
(Llombart-Huesca, 2002: 61)

She further notes that analysing anaphoric *one(s)* as a noun is problematic on conceptual grounds (Llombart-Huesca, 2002: 62). For example, *one(s)* is only compatible with nouns which are [+count], which she argues in English is a feature realised in NumP. Analysing *one(s)* as a pro-form of the head noun does not immediately account for this restriction on *one(s)*.

Furthermore, Llombart-Huesca (2002: 62) argues, like Günther, that NPE and *one(s)* display the same syntactic and semantic properties. These syntactic and semantic properties are not shared by other constructions involving ellipsis, such as stripping and gapping. Llombart-Huesca takes this to indicate that NPE and *one(s)* are different manifestations of the same construction. I summarise some of these shared properties here.

DPs containing an elided nominal phrase and DPs containing anaphoric *one(s)* can appear in a clause which is subordinate to the clause containing the antecedent:

(117) a. We'll take my car because my sister's ~~car~~ is too old.
b. We'll take my car because this one is too old.
(Adapted from Llombart-Huesca, 2002: 62-63)

Furthermore, the antecedents of both NPE and anaphoric *one(s)* can be pragmatically recovered (as shown in (118)), and both NPE and *one(s)* can occur in a clause separated from the clause containing the antecedent by an utterance boundary (as shown in (119b)):

(118) a. (looking at some cars):
Do you like those ~~cars~~?
b. (at a car dealer's):
Which one do you like?
I like the pink one.

(119) a. Which car do you like?
I like these ~~cars~~.
b. Which car do you like?
I like the pink one.
(Adapted from Llombart-Huesca, 2002: 63-64)

Another property shared by NPE and *one(s)* is that both anaphoric processes must apply to the entire nominal phrase. That is, the complement of the noun, as shown in (120), cannot co-occur with NPE or *one(s)*-insertion. Adjuncts in the nominal phrase, as shown in (121), however, can co-occur with these anaphoric elements.

(120) a. *I talked with these students of physics and with these ~~students~~ of chemistry.
b. *I met the student of physics but I didn't meet the one of chemistry.

(121) a. I talked with these students from Germany and with these ~~students~~ from Italy.
b. I met the student from Germany but I didn't meet the one from Italy.
(Adapted from Llombart-Huesca, 2002: 64-65)

To support her argument further, she posits that NPE and *one(s)* are in complementary distribution, contrary to Günther. Llombart-Huesca argues that whenever NPE is not possible, *one(s)*-insertion is, but NPE and *one(s)* are not grammatical in the same environments[20]. Llombart-Huesca presents the following examples where she argues that NPE is not available when an adjective appears after the prenominal element, but *one(s)*-insertion is (cf. (122)); *one(s)* must appear with the singular demonstratives, but NPE cannot (cf. (123)); NPE is available after some quantifiers, whereas *one(s)*-insertion leads to ungrammaticality (cf. (124)).

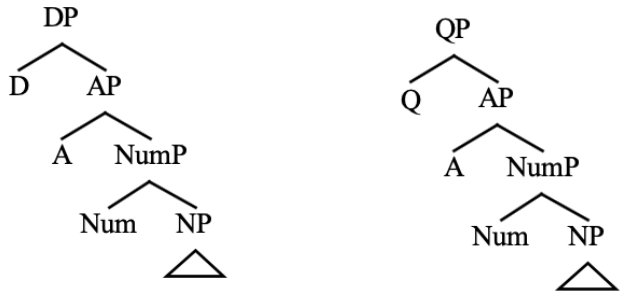
(122) a. I like the blue car but I don't like the pink one.
b. *I like the blue car but I don't like the pink ~~car~~.
(123) a. I like this car but I don't like that one.
b. *I like your car but I prefer that.
(124) a. All the students took the exam, but {many / some / three} failed.
b. *All the students took the exam, but {many / some / three} ones failed.
(Adapted from Llombart-Huesca, 2002: 66-67)

She argues that the generalisations shown here are not captured if *one(s)* is analysed as a noun, but are both captured by analysing NPE and *one(s)* as underlyingly being the same constructions where both involve nominal ellipsis (Llombart-Huesca, 2002: 68).

Llombart-Huesca assumes the following structures of the nominal phrase, where NumP hosts number features (and not numerals, as in Lobeck (1995)) and AP is a functional projection above NumP. Definite nominal phrases are DPs, and nominal phrases headed by quantifiers are QPs:

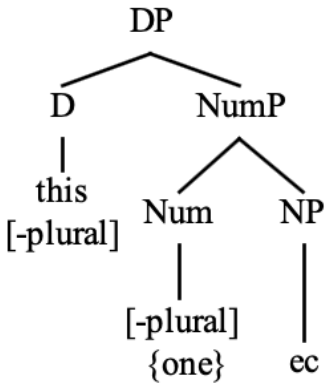
[20] The one exception to this generalisation is indefinite *a*, which is not compatible with either NPE or *one(s)*. Llombart-Huesca (2002: 67) argues that indefinite *a* is simply not compatible with empty nominals, explaining this impossibility by a cliticisation requirement. She argues that *a* is the clitic version of the lexical item A|ONE which consists of indefinite *a*, numeral *one* and anaphoric *one*, and that *a* must cliticise to some phonological material which cannot be a variant of A|ONE. I return to this argument in §5.3.2 below.

(125) a. b.

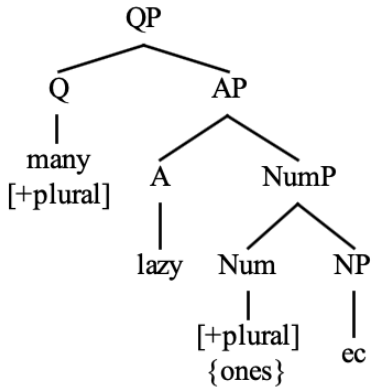


In sentences with nominal ellipsis, Llombart-Huesca assumes that Num^0 and NP can be null, i.e. empty categories (*ec*). She follows Lobeck in that empty Num^0 is licensed if D or Q are specified for strong agreement and if they immediately c-command Num^0. When D or Q are not specified for strong agreement (as in (126a)) or when there is an adjective present in-between D/Q and Num (as in (126b)), the licensing of empty Num^0 is blocked.

(126) a. I like this car but I don't like this one



b. All the students took the exam but many lazy ones *ec* failed



(Adapted from Llombart-Huesca, 2002: 78-79)

If empty Num^0 is licensed, it does not need to attach to any phonological material. When an empty Num^0 is not licensed, however, it must be overt. That is, it must attach to some phonological material. Llombart-Huesca (2002: 77) argues that *one(s)* is inserted to give phonological support to the stranded number affix in sentences like (126) above. The form of *one(s)* is determined by the number specification of the Num^0 in which it is inserted, and the number morpheme (ø for [-plural], *-s* for [+plural]) is consequently overtly expressed. *One(s)* in curly brackets indicate that they are inserted as phonological support at PF.

To explain why *one(s)* cannot combine with mass nouns, as shown previously, Llombart-Huesca (2002: 79) posits a count restriction on *one(s)*. She argues that there is a restriction [+count] on *one(s)* which is related to the features of the Num^0 where *one(s)* is inserted. She argues that mass nouns and [+plural] are mutually exclusive, since the former is morphologically specified as singular (Llombart-Huesca, 2002: 80). Furthermore, Llombart-Huesca (2002: 80) posits that for mass nouns, the [+mass] specification is also realised in Num^0, but the {mass} affix and the number specification in count nouns are different kinds of quantification and must be kept conceptually distinct. *One(s)*-insertion is thus not available for mass nouns as *one(s)* has a [+count] specification which is not consistent with the [+mass] specification in Num^0 in mass nominal phrases. In cases of NPE in mass nominal phrases, the empty Num^0 must be properly licensed by a functional head specified for strong agreement since no last resort procedure, i.e. *one(s)*-insertion, is available. This will correctly predict the following (un)grammaticalities, where no adjective can intervene between the prenominal D/Q and the Num^0:

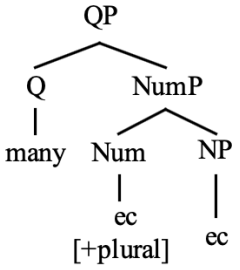
(127) a. I want some beer but there isn't much ~~beer~~ left.
b. *I want some beer but there isn't much cold one(s) left.

Though *one(s)*-insertion explains licensing of the empty Num^0, it cannot explain how the empty NP is licensed (Llombart-Huesca, 2002: 81). Since *one(s)*-insertion is a last-resort PF-insertion, *one(s)* itself cannot license NPE as this must be done before Spell Out. She posits two possibilities for explaining the licensing of NPE:

(128) i. It is the feature encoded in Num^0 which licenses the empty NP (whether this is overt or not).
ii. The conditions of licensing of empty categories only apply to empty functional heads. Lexical categories are not subject to such conditions.
(Llombart-Huesca, 2002: 81)

According to (128i), in the elliptical structure in (129), the empty NP is licensed by the [+plural] feature in the empty Num^0.

(129)

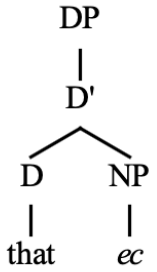


According to (128ii), it is only Num^0 which needs to be licensed. Since NP is a lexical category, it can be freely elided and empty NP does not need to be licensed. Llombart-Huesca shows that (128i) does not hold in certain contexts:

(130) a. (in a bookstore, to a salesperson holding a book):
Give me that one.
b. (to a person holding a book):
Give me that.
(Llombart-Huesca, 2002: 82)

In the above sentences, the singular demonstrative *that* has deictic meaning as it points to something in the discourse context (Llombart-Huesca, 2002: 82). Llombart-Huesca argues that in the context in (130a), *one(s)* must be present for the sentence to be grammatical. In other words, in the specific context in (130a), *that* is not able to license empty Num and *one(s)* must be inserted. In the context in (130b), however, Llombart-Huesca argues that the speaker is not referring to *that book* as opposed to *that other book* (which is the case in (130a)), but the reference is rather *that thing* (as opposed to some other thing which the person might be holding). Therefore, the argument is that in contexts as in (130b), no NumP is selected because *that* is not signaling an unambiguous (count) object distinguishable from any other object (Llombart-Huesca, 2002: 82). The nominal phrase in (130b) thus has the following structure:

(131)



Based on this, Llombart-Huesca argues that (128i) cannot be the correct analysis since ellipsis is possible in cases where, she argues, a NumP is not selected. However, the fact that NP can remain empty in (131) is still not explained since *that* is not specified for strong agreement. Llombart-Huesca therefore pursues the possibility in (128ii) that the lexical NP in (131) is freely elided. She proposes that "(…) the licensing conditions of non-referential empty elements can be reanalyed as the necessity to preserve the functional skeleton of a phrase" (Llombart-Huesca, 2002: 83). The empty NP only has to be identified by an antecedent (which can be syntactic or pragmatic). The antecedent only identifies the lexical content of the elided NP, but not its functional properties. This is clear from the following sentence, in which the elided NP has the same thematic content as the antecedent nominal phrase but not the same functional properties:

(132) I like this car and she likes those ~~*cars*~~.
(Adapted from Llombart-Huesca, 2002: 83)

Specifically, the number feature must be identified. Llombart-Huesca argues that this happens either by the presence of a licensor specified for strong agreement, or by insertion of *one(s)* to support the number affix if licensing by strong agreement is not possible.

4.4 Taking stock

In the above sections, I presented some previous analyses of NPE licensing and of the anaphoric element *one(s)*. Lobeck (1995) and Llombart-Huesca (2002) propose a syntactic condition on NPE licensing where only elements specified for strong agreement are possible NPE licensors. Furthermore, Llombart-Huesca argues that *one(s)* is inserted as a last resort procedure at PF to save a stranded number affix when empty Num^0 is not properly licensed. Günther (2013), on the other hand, posits a semantico-pragmatic approach to explaining the environments in which NPE can occur. Furthermore, she argues that *one(s)* is not inserted to

"save" a stranded number affix, but rather that *one(s)* is a pro-form of the head noun that is sometimes deleted in certain environments which allow the silent form of the empty nominal element. The distribution of NPE and *one(s)* is determined by a [±count] restriction such that the overt form of the empty nominal element, *one(s)*, is obligatorily deleted in [+plural] environments and optionally deleted in [+count] environments.

There are some immediate issues with these analyses. In the rest of this section, I discuss these problems, summarised in (133). I then preview a possible solution to these problems, which will be presented and discussed in Chapter 5.

(133) i. We no longer assume government, but would still like to attempt a syntactic explanation of NPE licensing.
ii. As NPE and *one(s)* seem to be connected, we would like to give a unified treatment of these and explain their distribution, in a way which is not ad hoc.

4.4.1 A syntactic explanation of NPE licensing without government is not available

Government has been abandoned in favour of a feature checking-approach. Lobeck's (1995) proposal crucially relied on government and the identification of certain heads or features as "proper governors". There is no equivalent of this in MP. If we are to dispense with government, we also have to dispense with Lobeck's strong agreement-approach to ellipsis licensing, which is based on a notion of feature sharing under government.

We should also consider Günther's (2013) argument that partitivity is not a good diagnosis of ellipsis licensing. As mentioned in §4.2.3, she argues that it is not clear how far English morphosyntactically realises partitivity, and that the syntactic definition of partitivity given in Lobeck, namely the ability to take a partitive prepositional phrase, is not valid for all elements which license noun ellipsis. Though Günther underpins this argument with data from French, she argues for English that the concept of partitivity is too vague to be applied to noun ellipsis (Günther, 2013: 33). She further argues that partitivity as a strong agreement feature involved in ellipsis is relevant for very few licensing elements, and that there should be a way to uniformly account for NPE licensors in English without postulating additional conditions and constraints (Günther, 2013: 39). The way she solves this, however, is through a primarily semantic approach to NPE licensing, i.e., the contrast condition which states that the antecedent and the nominal phrase containing the ellipsis site must be nonidentical. She argues that instead of, e.g., a [+partitive] requirement on the ellipsis licensor, ellipsis is

instead licensed if the prenominal elements determine a contrast between the referent of the antecedent nominal phrase and the referent of the elliptical nominal phrase. If this contrast is in place, ellipsis is licensed. It might be, however, that the contrast condition is not empirically salient for all cases of NPE in English. Consider *each* and *every*, where *each* licenses ellipsis but *every* does not. In Lobeck, this was explained through strong agreement such that *each* has a [+partitive] feature whereas *every* is not specified for strong agreement. Given Günther's pursuit of a semantic contrast condition instead of Lobeck's [+partitive] requirement, we would therefore expect the reference of *each woman* to semantically contrast with the reference *the women* below, as *each* licenses NPE. Since *every* does not license NPE, we would however not expect a semantic contrast between *every woman* and the antecedent *the women*:

(134) a. The women came in, **each ~~woman~~** sat down.
b. *The women came in, **every ~~woman~~** sat down.

While *the women* and *every woman* in (134b) do not semantically contrast, it is not clear that there is a semantic difference between the antecedent *the women* and the elliptical nominal phrase *each woman* in (134a). Furthermore, in the below sentences, the elliptical nominal phrases (marked in bold type), have the same referent as their antecedent (underlined). Günther (2013: 83) states that nonidentity can occur at the lexical or referential level. In (135c), the antecedent nominal phrase and the elliptical nominal phrase are identical at both the lexical and the referential level:

(135) a. The men walked in. **Both ~~men~~** sat down. **Both ~~men~~** ordered a beer.
b. The cats flocked around the food bowl. **All ~~cats~~** were hungry.
c. Both men sat down and **both ~~men~~** ordered a beer.

The contrast condition on NPE licensing seems not to apply to all cases of NPE. In many cases, the antecedent and the elliptical nominal phrase will be nonidentical at the lexical level as they often have different prenominal elements. This does still not explain why ellipsis is possible in some cases where the antecedent and the elliptical nominal phrase are identical also at the lexical level.

4.4.2 The explanation of the distribution of NPE and *one(s)* is problematic

In regard to the distribution between NPE and *one(s)*, Llombart-Huesca (2002) argues that NPE and *one(s)* are in complementary distribution and are thus two realisations of the same

underlying phenomenon, whereas Günther (2013) argues that they are in fact not in complementary distribution and that NPE and *one(s)* are therefore two different processes. I follow Llombart-Huesca in arguing that they should be regarded as belonging to the same underlying phenomenon, in that *one(s)* is a last resort PF-insertion when NPE is not licensed. I do, however, propose a different licensing strategy for NPE, which will be presented in more detail in the next chapter, where I also show how this might better explain the distribution of NPE and *one(s)*.

If *one(s)* is analysed as a nominal element, as in Günther, it does not follow why *one(s)* is subject to more restrictions than nouns in terms of where *one(s)* can appear. If *one(s)* is a pro-form of a noun, it should be able to replace the noun in all contexts. As Llombart-Huesca argues, we are also unable to explain the count restriction on *one(s)* if we take the pro-form view of *one(s)*, as nominals can be mass or count. Günther's deletion rules target this problem, as she argues that *one(s)* is obligatorily deleted if the adjacent element preceding it is [+plural] and optionally deleted if this element is [+count]. This explains why ones can combine with *another* and *each*, which are [+count], but not with for example *three* which is [+plural]. For mass nouns, she argues that if the preceding element is [-count] (i.e. mass), the empty noun remains silent. These deletion rules seem, however, to border on restating the empirical observations (that *one(s)* is not present when the element preceding it is [+plural]) in order to circumvent Llombart-Huesca's critique that the analysis of *one(s)* as a pro-form does not account for all aspects of the distribution of NPE and *one(s)*.

Some things regarding the distribution of NPE and *one(s)* are not captured by Llombart-Huesca's PF-insertion analysis of *one(s)*, however. As mentioned above, Llombart-Huesca argues that NPE and *one(s)* are in complementary distribution, whereas Günther argues they are not. To circumvent this problem, Llombart-Huesca (2002: 84) suggests that for cases where both NPE and *one(s)* are possible, there is a dialectal parametrisation between speakers in terms of strong agreement features. For example, for the sentences in (136), she posits that some speakers accept (136b) whereas others do not. Thus, for those who accept (136a), [+plural] is a strong agreement feature. For those who accept (136b), [+plural] is not a strong agreement feature which can license nominal ellipsis[21].

[21] Note also that if (136b) is accepted, Günther's deletion rules do not account for this grammaticality as *those* is [+plural].

(136) a. I like this car and he likes those.

b. I like this car and he likes those ones.

If this were a parameter, the prediction should be that the speakers that accept (136b), where [+plural] is not a strong agreement feature, should not accept (136a). The same goes for other prenominal elements specified for [+plural] like *many* or *all*. According to Llombart-Huesca's analysis, the speakers accepting (136b) (where [+plural] cannot license NPE) should also accept the below sentences, which are clearly ungrammatical.

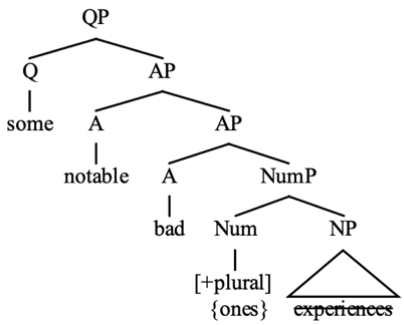
(137) a. *I don't have that many cats but you have many ones!

b. *I can't decide which chocolate bar to choose; I want all ones!

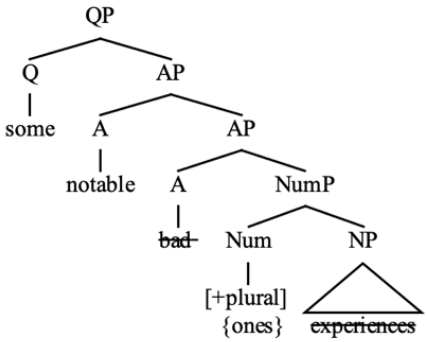
Furthermore, we notice that the size of the ellipsis site in nominals can vary. That is, the following elliptical nominal phrases are all possible:

(138) I have some bad experiences with this company and you definitely have some notable bad experiences as well.

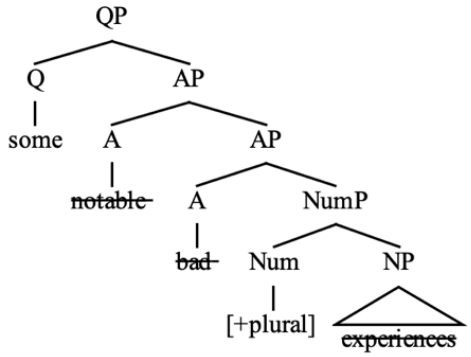
a. … you definitely have some notable bad ~~experiences~~ {ones} as well.



b. … you definitely have some notable ~~bad experiences~~ {ones} as well.



c. … you definitely have some ~~notable bad experiences~~ as well.



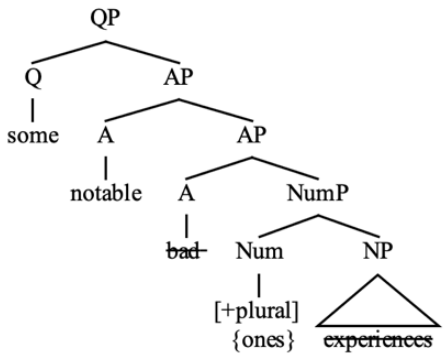
For all the above sentences, ellipsis is possible. We notice that for the first two cases of ellipsis where the adjective is not elided, *one(s)* must be inserted. This is not possible if the adjective is elided, as in (138c):

(139) *… you definitely have some {ones} as well.

Llombart-Huesca argues that *one(s)* is inserted when an adjective blocks the licensing of empty Num by intervening between a licensing element specified for strong agreement and the NumP. Since government, and consequently strong agreement, has been abandoned, we need some other way of explaining why *one(s)* must be inserted when the adjective is present, but cannot be inserted when the adjective is elided.

The DP-structure is not flexible enough to explain the varying sizes of the ellipsis site. Lobeck, Llombart-Huesca, and Günther all assume some variant of DP-structure, as shown in the previous sections. The structure of the elliptical nominal phrases in (138), given above, follows Llombart-Huesca's phrase structure of the extended nominal projection. Recall (138c), restated here:

(140) I have some bad experiences with this company and you definitely have some notable ~~bad experiences~~ {ones} as well.



It is not clear how *one(s)*-insertion should be explained here. Llombart-Huesca posits that the NumP takes NP as a complement, and that APs form functional projections above the NumP (Llombart-Huesca, 2002: 78, fn10). In the case of NPE above, the NP and the bottommost adjective *bad* is elided. It thus follows that the NumP is also elided given its position in relation to the elided AP and the elided NP. If this is the case, it is not clear how *one(s)* should be inserted, given that its place of insertion has been elided. The case of NPE shown here is ungrammatical unless *one(s)* is inserted:

(141) a. *I have some bad experiences with this company and you definitely have some notable ~~bad experiences~~ as well.

b. I have some bad experiences with this company and you definitely have some notable ~~bad experiences~~ {ones} as well.

4.4.3 Can alternatives to the DP-structure handle these problems?

In Chapter 3, I presented some proposed alternatives to DP-structure. One of these was syntactic cartography, where I focused on Scott's hierarchy of adjectival projections in which different APs form an intricate functional hierarchy organised by their semantic meaning. I argue that the cartographic structure as proposed in Scott (2002) cannot uniformly account for distribution of NPE and *one(s)*, nor straightforwardly explain the appearance of *one(s)*. From the examples given in the previous section, we notice that *one(s)* can "replace" a noun, or one or more adjective(s) and a noun. Recall Scott's (2002) proposed hierarchy of adjectival projections within the nominal phrase, where different adjectives appear in the specifier positions of semantically corresponding functional projections, based on the following ordering hierarchy:

(142) DETERMINER > ORDINAL NUMBER > CARDINAL NUMBER > SUBJECTIVE COMMENT > (?EVIDENTIAL) > SIZE > LENGTH > HEIGHT > SPEED > (?DEPTH) > WIDTH > WEIGHT > TEMPERATURE > ?WETNESS > AGE > SHAPE > COLOR > NATIONALITY/ORIGIN > MATERIAL > COMPOUND ELEMENT > NP
(Adapted from Scott, 2002: 114)

Let us consider possible sizes of the ellipsis site in a sentence containing multiple prenominal adjectives:

(143) You have those young black French dogs, whereas …

a. … I have these old grey British ~~dogs~~ {ones}.

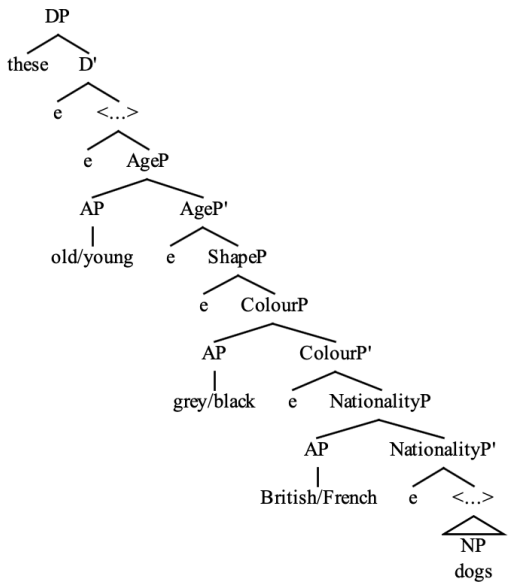
b. … I have these old grey ~~French dogs~~ {ones}.

c. … I have these old ~~black French dogs~~ {ones}.

d. … I have these ~~young black French dogs~~.

The cartographic structure for the above nominal phrases would be the following[22]:

(144)



Scott's cartographic structure does not include a NumP filled by [±plural], as in Llombart-Huesca (2002). When *dogs* is elided, it is therefore not evident where *one(s)* should be inserted, if we assume that *one(s)* is inserted at PF to support a stranded number affix. If we do not pursue the PF-insertion explanation of the appearance of *one(s)*, it is still not clear how *one(s)*-insertion should be explained within cartography. Taking the view that *one(s)* is a pro-form of the noun, we cannot explain why *one(s)* can replace (multiple) adjectives in addition to the noun. Furthermore, given the observation that *one(s)* can replace varying sizes of the nominal phrase (cf. (144) above), *one(s)* does not have a uniform 'category' to attach to, as it does for NumP in Llombart-Huesca's DP-structure. We would in this case, for each instance

[22] To simplify, I have not shown all Scott's (2002) proposed adjective projections in this structure, only those which have an overt lexical realisation. See (142) above or (40) from §3.2.2 for a complete phrase structure.

of *one(s)*-replacement, have to specify what type of adjectival functional phrase *one(s)* would replace or attach to.

I argue instead that Bruening's (2009) proposed nP-structure, presented in §3.3.4, can better account for NPE licensing as well the varying sizes of the ellipsis site. I also argue that it is possible to provide a more uniform account of the distribution of NPE and *one(s)* if we pursue this structure of the extended nominal phrase. The arguments for this, as well as an elaboration on Bruening's nP-structure, are laid out in detail in the following chapter.

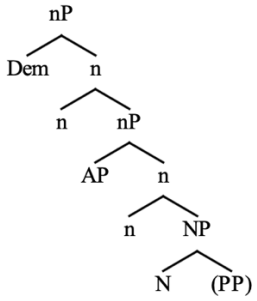
5 Noun Phrase Ellipsis licensing within nP-structure

In this chapter, I flesh out Bruening's (2009) sketch of nP-structure and apply this to data from English. I then briefly present Merchant's (2001, 2004) theory of ellipsis licensing, which I extend to nP-structure. Finally, I give an account of NPE licensing as well as the distribution between NPE and *one(s)* given nP-structure and Merchant's [E] feature, linking NPE and pronominalisation. Adopting a version of m(orphological)-merger (Marantz, 1984; Matushansky, 2006), I propose that certain prenominal Ds/Qs can combine with a number feature on an n^0 with an [E]-feature when these are sufficiently close, and consequently spell out as a pronoun. When this is not possible, *one(s)* is inserted to support the number affix.

5.1 Another look at nP-structure

Recall Bruening's (2009) proposed alternative to the DP-structure presented in §3.3.4:

(145)

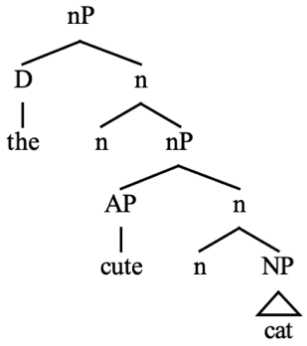


(Bruening, 2009: 33)

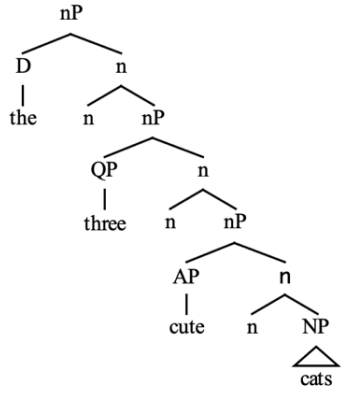
Bruening suggests a structure of the extended nominal phrase where the NP is dominated by recursive nP-shells where n is a head void of anything except category. He argues that prenominal functional elements fill the specifier positions of these nP-shells. In this section, I apply this structure to English nominals, suggesting also that n is the locus of number specification.

I apply the structure in (145) to the phrases *the cute cat* and *the three cute cats* and assume that *three* fills QP in [spec, nP]:

(146) a.

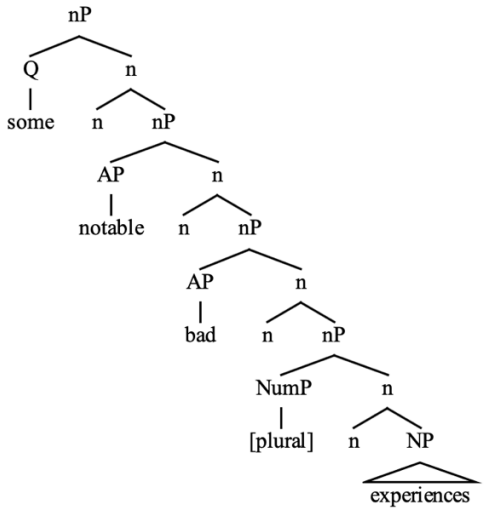


b.



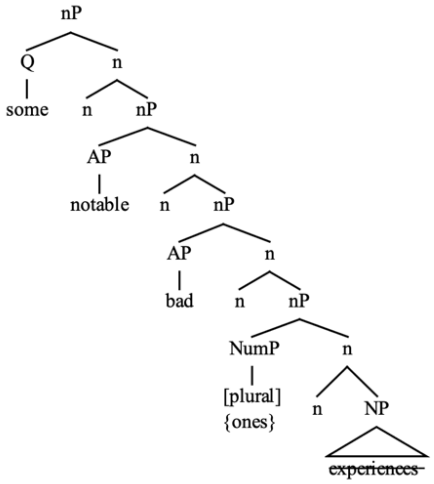
In the above structures, (grammatical) number has not been specified. As noted earlier, number is important in NPE. Lobeck (1995), Llombart-Huesca (2002) and Günther (2013) all discuss number to some extend in their analyses. For Lobeck and Llombart-Huesca, [±plural] is a strong agreement feature involved in the licensing of ellipsis. For Günther, a NumP is available for count nominal phrases, and the distribution between NPE and *one(s)* is determined by the presence of [±plural] or [±count] in the prenominal element. To see if the nP-structure can account for NPE, grammatical number therefore must be represented in some way. The null hypothesis is that number is a feature on N. I argue instead that number is not a feature on N but rather that it is separated syntactically from N, as this may allow us to better explain NPE and *one(s)-insertion,* as well as their distribution. I come back to this in §5.3. The NPE-analyses presented in §4.2 represent number on a separate NumP. Let us attempt, as we did for the cartographic structure in §4.4.3, to insert a NumP as the locus of grammatical number in the nP-structure:

(147)



We assume that the complement of NumP is elided, and that *one(s)* attaches to NumP at PF (cf. discussion in §4.4.2). For the above structure, we can then show how the noun is elided:

(148) Some notable bad ~~experiences~~ {ones}



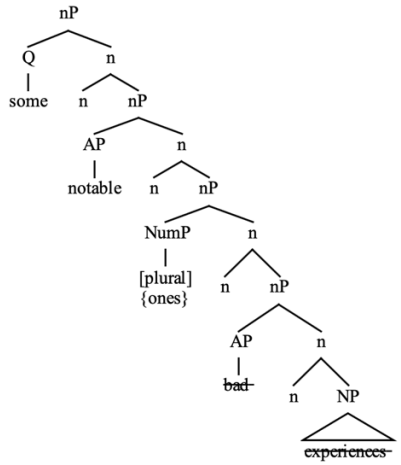
However, the ellipsis site within the nominal phrase is flexible. Recall (138) from §4.4.2, restated here:

(149) a. Some notable bad ~~experiences~~ {ones}
b. Some notable ~~bad experiences~~ {ones}
c. Some ~~notable bad experiences~~

If we assume that the complement of NumP is elided, NumP would somehow have to move to account for all the possible ellipses shown above. There is, however, no reason (apart from accommodating ellipsis) as to why NumP should move within the phrase. It could instead be

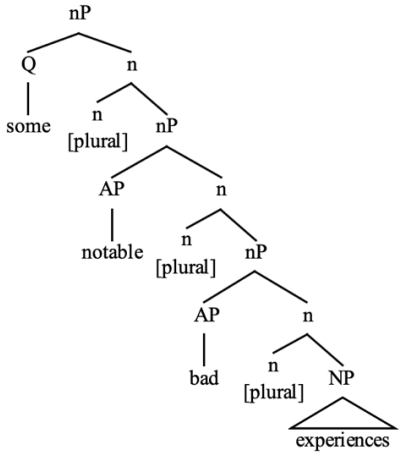
that the NumP is base generated in different positions based on the size of the ellipsis site. That is, for the ellipsis in (149b), we could assume that the NumP appears in [spec, nP] as in the following:

(150) Some notable ~~bad experiences~~ ones



This reasoning, however, seems to be an ad hoc solution, restating the empirical observation that *one(s)* can 'replace' various sizes of the nominal phrase. On this view, it is also not immediately clear how the noun and the number morphology in NumP should interact. To circumvent the issues arising when proposing a moving NumP, I instead suggest that grammatical number appears on the n^0s, as in the following:

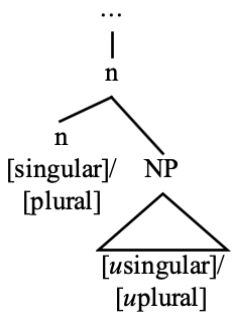
(151)



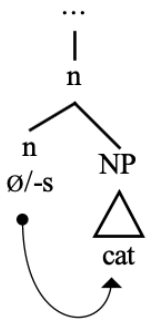
In the above structure, number specification is present on all n^0s in the structure. I argue that number starts out at the n^0 closest to the NP and then percolates upwards such that it is present on all n^0s within the extended nominal phrase. I assume that number is base generated in the n^0 just above the NP. There are two possibilities for how the noun in the NP realises this

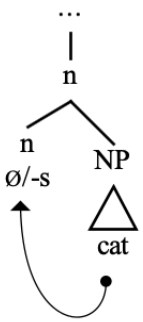
number specification. Either, number is a feature on n^0 which checks a corresponding uninterpretable feature on NP, as in (152), or there is a number affix *-s/Ø*/[mass] which the noun combines with, as in (153).

(152)



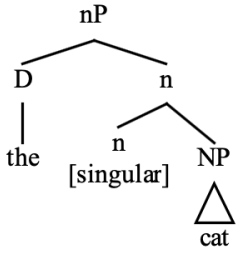
(153) a. b.

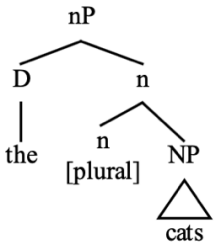


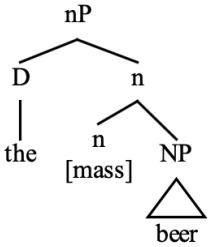


I return to this is §5.3.1, where I suggest that (153a) better accounts for the form of *one(s)* and *one(s)*-insertion. To account for both count and mass nominals, I assume three number features, [plural] (realised as *-s*), [singular] (realised as ø), and [mass]:

(154) a. b. c.







The assumption that number percolates upwards in the nominal structure is not unreasonable. An argument for percolation which does not involve ellipsis is for example pluralia tantum nouns. Pluralia tantum nouns are nouns like *scissors*, *trousers*, *glasses*, which are plural in form but may denote singular entities. These nouns do not have singular form:

(155) [There is one pair of scissors on the table]

a. Give me the scissors on the table, please.

b. *Give me the scissor on the table, please.

Pluralia tantum nouns cannot combine with determiners or quantifiers taking singular complements:

(156) a. These scissors are nice.

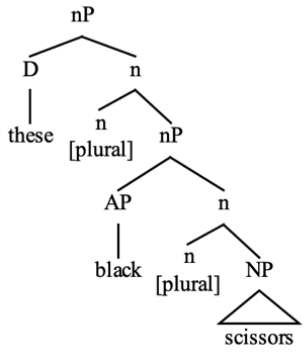
b. *This scissors is nice.

c. We need many scissors!

d. *We need every scissors!

The pluralia tantum nouns thus agree with the prenominal element in number, as in (156a) and (156c) above. This agreement is not disrupted by the presence of adjectives between the prenominal element and the noun. The prenominal element *these* must combine with plural number, but adjectives in English are not morphologically specified for number. It is therefore reasonable to think that number percolates upwards such that there is some kind of formal feature [plural] with which *these* can agree:

(157)

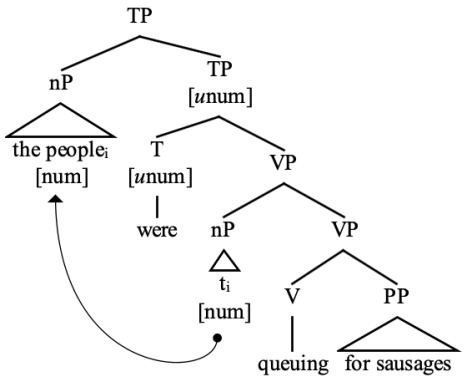


Furthermore, another piece of evidence in favour of positing number percolation in the nominal is the observation that T probes for number. Number should therefore be associated with the entire nominal phrase by percolating up to the topmost n^0. In the below sentence, for example, there is number agreement between the subject nominal phrase and the finite verb. The finite verb cannot be singular, but must be plural:

(158) The people {were / *was} queuing for sausages.

Assuming that *these people* is an nP, this sentence may be structurally represented as in (159):

(159)



We see that to satisfy EPP[23], it is the whole nP that moves. Since T is sensitive to number and nP and T must agree in number, number should be high up in the nP, as it is the whole nP which is selected.

I thus posit that number is a feature present on all n^0s by percolation. I now turn to an account of ellipsis licensing, which I argue can straightforwardly be adopted to the nominal domain if we assume an nP-structure with number features on n^0.

5.2 Extending Merchant's [E] feature to Noun Phrase Ellipsis

5.2.1 Merchant's (2001) [E]-feature

Merchant (2001) proposes a feature [E] which is responsible for licensing ellipsis. He argues that explaining ellipsis licensing by [E] retains the advantage of government approaches like Lobeck (1995) in requiring a local relation between the head bearing [E] and the ellipsis site, while employing mechanisms which are compatible with MP (Merchant, 2001: 61). He applies this to sluicing, but I will argue that this can also be extended to nominal ellipsis[24], and that the nP-structure presented above is compatible with an [E] feature[25].

[23] The Extended Projection Principle, which (slightly simplified) is a requirement on all clauses to have a subject (first proposed in Chomsky (1982: 10); carried into MP in Chomsky (1995), ao)

[24] Previously, [E] has been extended to nominal structure in Dutch (Corver and van Koppen, 2009) and in Greek (Merchant, 2022). As far as I am aware, this has not been done for English nominal structure.

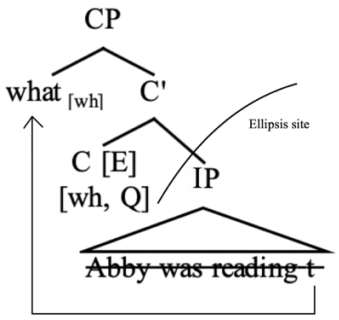
[25] In Merchant (2001), this feature is E. I indicate this feature in square brackets. Note also the difference between the feature [E] (which instructs PF not to pronounce whatever the complement of [E] is) and [e] (which Lobeck, amongst others, uses to indicate the ellipsis site). When I discuss the ellipsis site, this is indicated in strikethrough type or by "ellipsis site" (or both).

[E] instructs PF to not pronounce its complement (Merchant, 2001: 60). [E] also has a semantic effect, marking its complement as e-GIVEN. e-GIVENness refers to a condition that the complement of [E] must meet a particular identity condition. For an ellipsis site to be e-GIVEN, it must have a salient antecedent and it must meet a particular focus condition which is also discussed in Merchant (2001). As I focus on the (syntactic) licensing requirement of nominal ellipsis and not the identity question, I do not consider this any further.

For sluicing, Merchant (2001: 60) argues that [E] is a feature born on C which can appear only on a C head specified for [+wh, +Q]. This checking triggers the deletion of the IP at PF. Sluicing can only appear after this type of C^0. The sluicing in (160a) is analysed structurally as in (160 b):

(160) a. Abby was reading something, but I don't know what ~~Abby was reading *t*~~

b.



(Adapted from Merchant, 2004: 670)

In Merchant (2004: 670), the syntax for the [E] occurring in sluicing (E_S) is represented as the following, where '*' indicates that the feature must be checked before spellout:

(161) E_S [*u*wh*,*u*Q*]
(Merchant, 2004: 670)

Merchant (2004: 670-671) argues that this feature specification is applicable to all types of sluicing in English. He thus recasts the licensing requirement on ellipsis, such that in order for ellipsis to take place in a specific environment syntactically, there has to be feature-matching between an [E] feature and a specific head. For sluicing, this means checking of the [*u*Q] feature of [E] by a C^0 bearing [Q][26]. For NPE, however, we notice that the elements present in

[26] [*u*wh] in the feature specification for sluicing in (161) relates to the requirement on sluicing specifically that a wh-phrase moves to the specifier of the head bearing [E].

the environments where nominal ellipsis can occur are not syntactically uniform. That is, though ellipsis takes place after D and Q, not every element which fills D or Q can license nominal ellipsis (unless, for some cases, *one(s)* is inserted). This might pose a problem when it comes to determining what specific kind of head [E] appears on in NPE. In the next sections I show how an [E] feature can be extended to nominal ellipsis given the nP-structure sketched out above.

5.2.2 [E] and nP-structure

Instead of positing that the presence (or absence) of certain features in prenominal elements determines the possibility of licensing ellipsis (as in e.g. Lobeck (1995)), I argue instead that there is an optional feature [E] which can appear on certain heads in the extended nominal projection. Adopting the nP-structure sketched out above, I argue that these heads are the recursive n^0s.

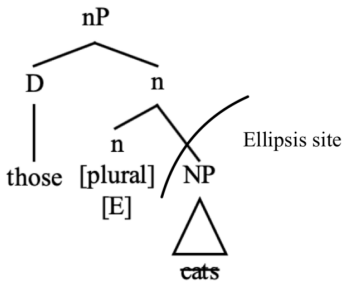
As noted previously, it seems like nominal ellipsis is connected to number and wants to see some kind of number specification. Furthermore, the presence of *one(s)* seems to be connected to (grammatical) number. In Lobeck (1995) and Llombart-Huesca (2002) a strong agreement feature [+plural] licenses ellipsis and *one(s)* is inserted to support a stranded number affix; for Günther (2013), the presence of *one(s)*, and consequently the ability of a prenominal element to have a zero complement, depends on whether the prenominal element is [±plural] or [±count]. Thus, NPE licensing seems to be sensitive to some number feature which I here assume to be [plural], [singular] and [mass]. Above, I proposed that number appears on all n^0s in the nP-structure. I propose also that there is an [E] feature for NPE which can optionally appear on any n^0. Above, I argued that n^0 is the locus of the number features [plural], [singular], and [mass] within the nominal phrase. The syntax for [E_{NPE}] can thus be stated as the following, where [number] represents these three number features:

(162) E_{NPE} [*u*[number]*]

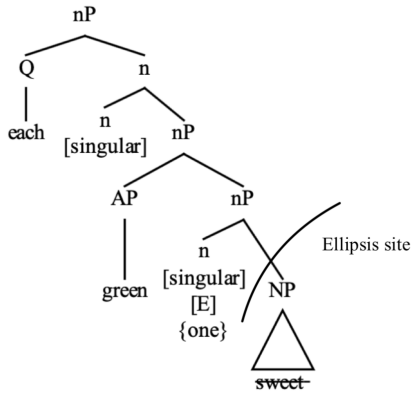
The uninterpretable features in $[E]_{NPE}$ can only be checked by a head n which bears a [number] feature. This feature has to be realised at PF, and the realisation of [number] in English is as an affix (or, as *one(s)* as a last resort). [E] therefore attaches to n^0. As noted in the previous section, [E] has a phonological interpretation such that its complement is not

pronounced. The complement of the n carrying [E] is then elided[27]. Ellipses licensed by [E] in nP-structure has the following structures:

(163) a. I have these cats and you have those ~~cats~~.

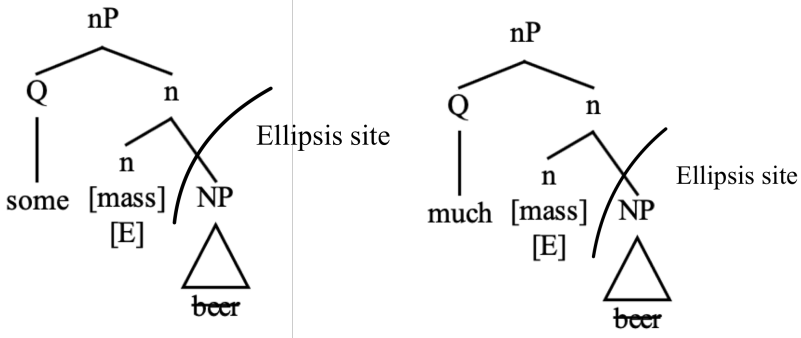


b. There were so many sweets left, so I took each green ~~sweet~~ {one}.



c. [Drinking some beer]

Have some ~~beer~~! There is so much ~~beer~~ left.

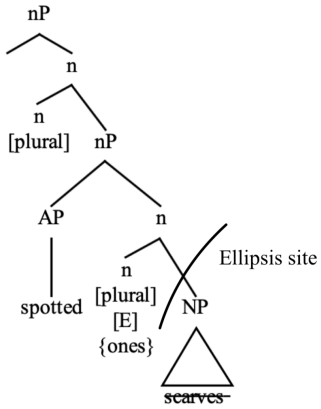


As we see from the above trees, [E] acts as the licensor of the different ellipses, as the complement of the n to which [E] attaches is elided. The size of the ellipsis site thus depends

[27] [E] will also enforce a semantic identity requirement on its complement. I do not focus on this here.

on the position of [E]. In Lobeck (1995) and Llombart-Huesca (2002), the ellipsis licensor was a prenominal element in D^0 or Q^0 specified for strong agreement. However, in some cases, we see that the prenominal element in D^0 or Q^0 is not necessarily significant when it comes to licensing ellipsis. In the below sentence, there is a bare plural without a prenominal D^0 or Q^0:

(164) You bought stripy scarves, and I bought spotted ~~scarves~~ {ones}.



As shown in the structure above, ellipsis can occur in bare plurals without an overt element in D^0 or Q^0. In the above sentence, *one(s)* is inserted on $n_{[E]}$. Despite these surface differences between NPE and *one(s)*, I propose that [E] always appears on n, both when this n is followed by a silent noun (i.e., NPE) and when it is filled by *one(s)*. In section §5.3, I explain why these surface differences arise.

If we assume that [E] can optionally appear on any n^0 in the nominal structure, we are able to provide a straightforward account of the varying sizes of the ellipsis site. Recall (143) from §4.4.3, restated here:

(165) You have those young black French dogs, whereas …

a. … I have these old grey British ~~dogs~~ {ones}.

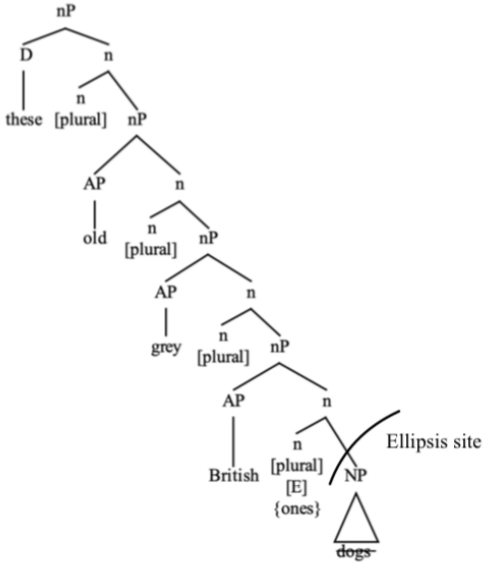
b. … I have these old grey ~~French dogs~~ {ones}.

c. … I have these old ~~black French dogs~~ {ones}.

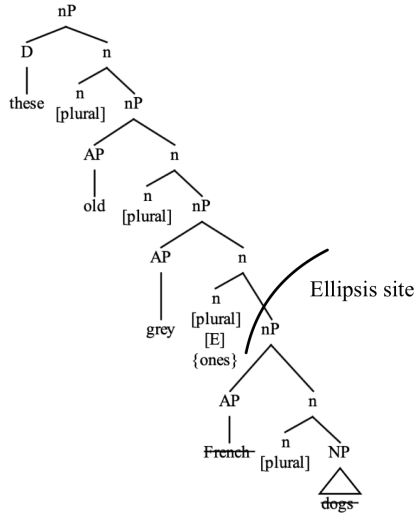
d. … I have these ~~young black French dogs~~.

Under an nP-analysis assuming [E] as the ellipsis licensor, the ellipses in (165) can be represented as the following:

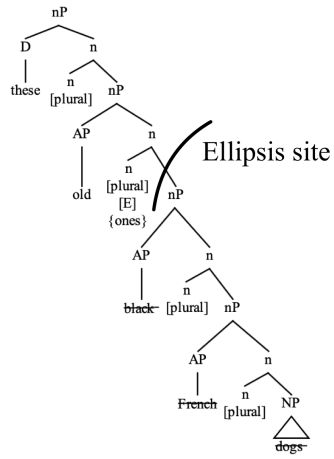
(166) a. … I have these old grey British ~~dogs~~ {ones}.



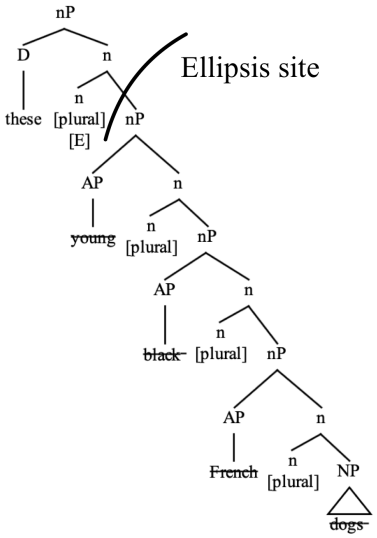
b. … I have these old grey ~~French dogs~~ {ones}.



c. … I have these old ~~black French dogs~~ {ones}.



d. … I have these ~~young black French dogs~~.



5.3 Accounting for the distribution of NPE and *one(s)*

The approach to ellipsis and the structure of the nominal phrase sketched out above allow us to give a syntactic account of NPE licensing which does not assume government. Furthermore, it straightforwardly accounts for the varying sizes of the ellipsis site. In the following sections, I give an account of the distribution of NPE and *one(s)* given the present analysis. I first explain those cases where *one(s)* must be inserted. I then give an account of why *one(s)* is not inserted in other cases, arguing that the number feature can m-merge at

spellout with certain D^0/Q^0-elements when they form a sufficiently close relationship. Finally, I comment on some outlier cases for my proposal.

5.3.1 Obligatory insertion of *one(s)* after adjectives

We have noticed that *one(s)* must be inserted when an adjective appears in-between the prenominal D/Q element and the noun (or adjective and noun) which is elided:

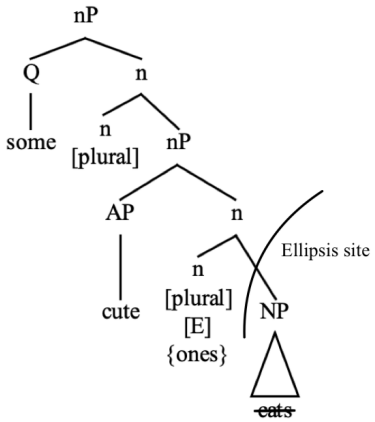
(167) a. Some cute ~~cats~~ {ones} (cf. *some cute ~~cats~~)

b. Some cute ~~tabby cats~~ {ones} (cf. *some cute ~~tabby cats~~)

I follow Llombart-Huesca (2002) in assuming that *one(s)* is inserted to support a stranded number affix. As discussed in §4.3.2, Llombart-Huesca argues that anaphoric *one(s)* is inserted in cases where the empty NumP is not licensed by a proper governor, i.e. an element specified for strong agreement by [+plural], [+possessive], or [+partitive]. In this analysis, however, number features are not realised on a separate NumP, but rather as percolating features on n^0. Number features need to be overtly realised. I argue that *one(s)* is inserted when the number affix on n^0 does not have a noun, or, as will be discussed in §5.3.2, a prenominal element, to attach to.

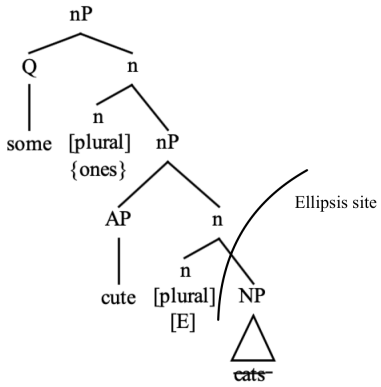
In the above examples, the plural number affix *-s* cannot attach to the noun as this is elided. Furthermore, since English adjectives do not show number morphology, the number affix cannot attach to the intervening adjective either. I argue therefore that when the noun is elided and an adjective is present in-between D^0/Q^0 and the ellipsis site, the number affix has no host to attach to and *one(s)* is therefore inserted to support the stranded number affix:

(168)



Furthermore, I propose that the number feature only has to be realised once, and it must be realised as low in the tree as possible. When no ellipsis occurs, the number affix attaches to a noun. When this noun is elided, however, *one(s)* is inserted. The number feature must be overtly realised as close as possible to the noun if there is no ellipsis, or to the ellipsis site. This will rule out ungrammatical strings like **some ones cute ~~cats~~*:

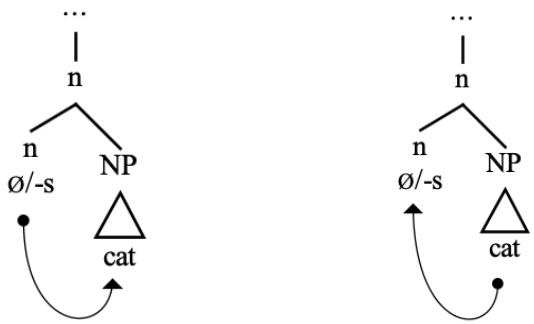
(169)



As *one(s)* act as a host for the number affix if no other host is possible, *one(s)* will therefore be attached to the n^0 carrying [E], as this is closest to the ellipsis site.

Recall the discussion in §5.1 concerning the ways the NP might realise number specification. I suggested that the NP combines with a number affix in n^0, either by affix-hopping down to N (170a) or by N-raising to n (170b):

(170) a. b.



To explain *one(s)*-insertion on the lowest n^0, e.g. for *some cute ~~cats~~ {ones}* in (168), it cannot be that N raises to n to realise number features. If so, the N can always raise to n and *one(s)*-insertion on the lowest n^0 will never occur. I therefore propose that the NP realises number specification by affix-hopping down from n to N, as in (170a).

5.3.2 Number features m-merge with D^0/Q^0

Above, I showed that *one(s)*-insertion is necessary when an adjective is present between D^0/Q^0 and the elided noun. However, in cases where also the adjective directly adjacent to D^0/Q^0 is elided, or no adjective is present at all, *one(s)*-insertion is generally ungrammatical:

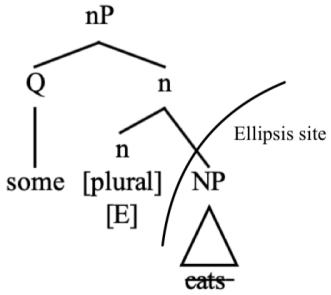
(171) a. *some ~~cats~~ {ones} (cf. some ~~cats~~)

b. *some ~~cute tabby cats~~ {ones} (cf. some ~~cute tabby cats~~)

The analysis sketched out above cannot explain this. In this section I give an account of why *one(s)* is ungrammatical in cases like (171) – or more accurately, why *one(s)* is not inserted in these cases.

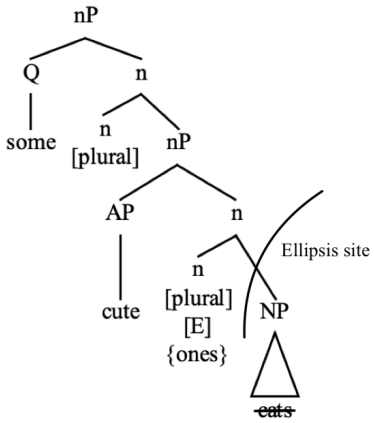
The grammatical phrase in (171a) has the following nP-structure:

(172)



Compare this with the structure of (168), repeated here:

(173)



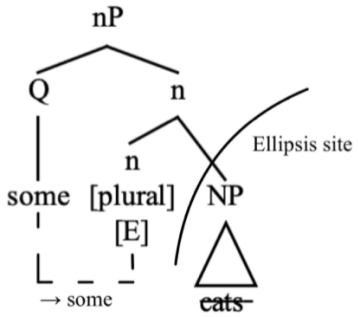
A difference in these structures is the placement of [E]. In (172), [E] is placed on the n^0 head directly following the prenominal Q^0, whereas in (173), [E] is placed on a lower n^0. Put

differently, in (172) Q^0 is in the specifier position of $n^0_{[E]}$, whereas in (173), Q^0 is not in the specifier position of $n^0_{[E]}$. I propose that when prenominal D^0 or Q^0 and the number feature are adjacent, that is, when D/Q is in [spec, $n_{[E]}$P], the number feature is overtly realised at PF by the spellout of D/Q and [number] as a pronominal element. As shown in §5.3.1, when an element breaks up this adjacency, *one(s)* must be inserted. Thus, to explain why *one(s)* is not inserted in the ellipsis in (174),

(174) You have many cats and I have some ~~cats~~ as well.

I propose that since the Q *some* and the number feature of the n^0 on which [E] appears are adjacent through spec-head agreement, they are at PF spelled out as the pronoun *some*, indicated by the stippled line:

(175)

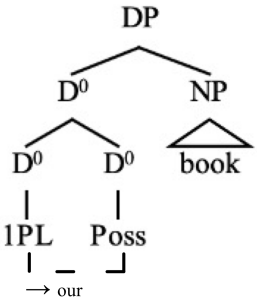


There is a long tradition for connecting D/Q-like elements and pronouns in generative grammar. A precursor to my analysis can for example be found in Jackendoff's (1977) substantivisation rule, which was briefly discussed in §4.3.1. Jackendoff argues that determiners preceding PRO undergo a substantivisation rule. For some of these determiners, which I here extend to also apply to some quantifiers, this rule will convert the Ds or Qs into appropriate phonological forms. Jackendoff argues that this explains why *no* becomes *none* before PRO. As will be made clear below, I argue instead that *no* is spelled out as *none* when it is adjacent to a stranded number affix. In my analysis, this type of phonological change (which is conditioned by a morphological merger and not a substantivisation rule) only applies to certain Ds/Qs preceding an elided noun iff they are adjacent to the number feature of the n^0 which [E] is on through spec-head agreement. My analysis differs from Jackendoff (1977), and later Günther (2013), in that I do not assume that *one(s)* is present in the position of the head noun. As argued for in §5.3.1, *one(s)* is rather inserted to support a number affix which is not able to be spelled out together with D^0/Q^0 at PF. The idea presented here, i.e. that

elements forming a spec-head relationship can be spelled out as a single morphological item (here, a pronoun), is in line with proposals made in Marantz (1984) and Matushansky (2006).

The process I propose is an adaption of the concept of morphological merger from Marantz (1984) and of m-merger from Matushansky (2006). Morphological merger is explained as "the correspondence of two lexical items in one syntactic representation with a single constituent in another representation" (Marantz, 1984: 227). When X and Y merge, the argument structure of the derived item {X+Y} is the argument structure of X applied to (the argument structure of) Y, or vice versa. Matushansky's m-merger is the collapsing of two syntactic heads into one in the morphological component (Matushansky, 2006: 88), where "the input to the m-merger is two heads in a particular (specifier-head) configuration, and [the output of m-merger] is one head" (Matushansky, 2006: 94). Applied to genitives, Matushansky posits m-merger of the possessor and a genitive *'s* to form a possessive pronoun. In the below example, the abstract elements 1PL and Poss is m-merged and spelled out as one m-merged D^0-D^0 head *our*:

(176)



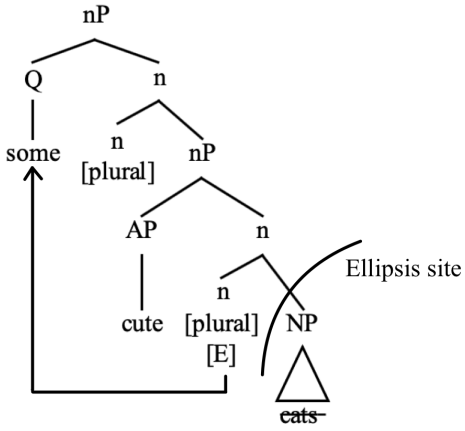
(Adapted from Matushansky, 2006: 87)

In the present proposal, I derive a similar process within an nP-structure. When D^0/Q^0 is in the specifier position of an n^0 with a number feature which also contains [E], these can be spelled out as one pronominal element, providing a host for the number feature when the noun is elided. As will be discussed in §5.3.4, not all elements in D^0/Q^0 have the option to be spelled out as a pronominal element in combination with [number]. In the following, I spell out this proposal in more detail. First, I explain why an alternative to a m(orphological)-merger view may not be better.

Rather than assuming m(orphological)-merger between a specifier and a head, one could imagine that the number feature moves to D or Q such that D/Q becomes the host of the stranded number affix. However, this would overgenerate. Adjectives are phrasal items in

specifiers of n^0s, and since phrases are not landing sites for head movement, heads can move past phrases. We can thus not explain the pronoun-spell out of the number feature by positing movement, as this would overgeneralise to accept the following ungrammatical string:

(177) *Some cute ~~cats~~



I assume instead that number features m-merge with (some) determiners and quantifiers at PF and spell out as a pronominal element. This can be shown for other prenominal D/Q-elements. For *no* and *my*, consider the below sentences:

(178) a. You have many cats but I have no cats.

b. You have many cats but I have none ~~cats~~.

c. *You have many cats but I have no ~~cats~~.

d. *You have many cats but I have none cats.

(179) a. These are your cats and these are my cats.

b. These are your cats and these are mine ~~cats~~.

c. *These are your cats and these are my ~~cats~~.

d. *These are your cats and these are mine cats.

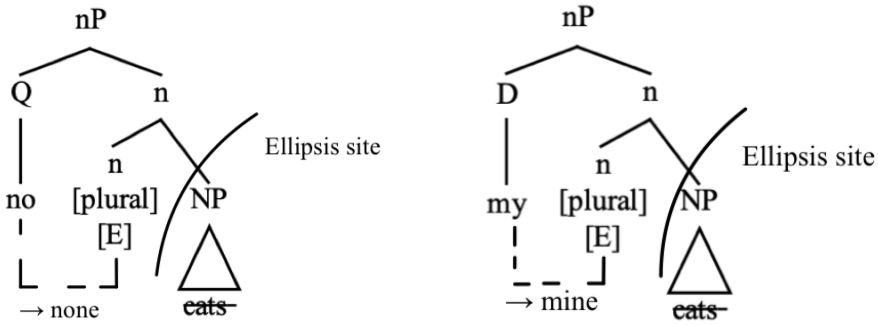
We notice that when the noun after *no* or *my* is elided, these must be spelled out as *none* or *mine*[28]. However, *none* and *mine* cannot combine with an overt noun, as shown in (178d)-

[28] This is the same also for many other possessive pronouns, e.g. *yours, hers, ours, theirs*:

xi. This is her book and this is yours ~~book~~. (Cf. *… this is your ~~book~~)

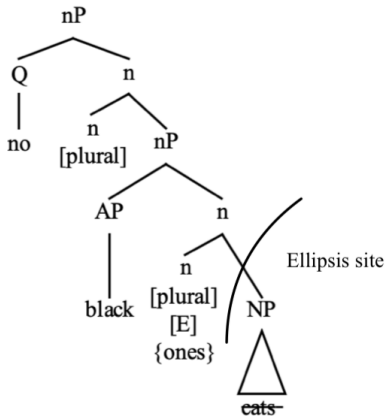
(179d). The reason for this, I argue, is that when the noun is elided, *no/my* and the number specification on $n_{[E]}$ are spelled out as the pronoun *none/mine*:

(180) a. b.

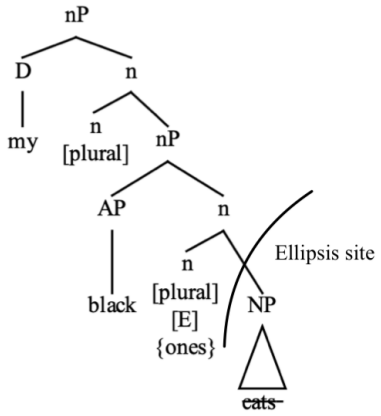


For *no cats*, for example, the plural feature on $n_{[E]}$ m-merges with *no* to form a derived pronoun with the spell out *none*. This option of m(orphological)-merger is, as mentioned, only available when D^0/Q^0 and the number affix on $n_{[E]}$ are sufficiently close, i.e. in a spec-head relation. When an adjective is present, *one(s)* must be inserted as D^0/Q^0 and $n_{[E]}$ are no longer in a spec-head relation:

(181) a. You have many black cats but I have no black ones



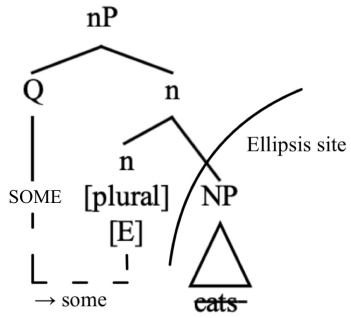
b. These are your white cats and these are my black ones



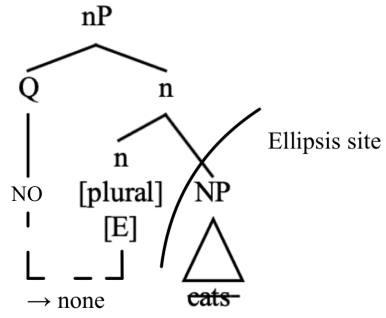
In §5.3.1, I argued that [number] is only realised once and that it must be realised as low as possible in the tree, i.e. on $n_{[E]}$. For the above examples, we can therefore explain why the elliptical nominal phrases do not become *none black/mine black* or *none black ones/mine black ones*, as the number feature is only realised once (i.e. as *none/mine* or as *one(s)*) and because it must be realised on $n_{[E]}$. Günther (2013: 59) does not have an explanation of why prenominal genitive elements license empty nouns and block *one(s)*-insertion in standard English, even if they are not specified for countability. We can explain this if we assume that the prenominal genitive element, *my*, combines with number features to spell out as a pronoun, *mine*. The reason they block *one(s)*-insertion is because the number feature already has a host in the prenominal D.

As shown above, *no* and *my* change phonological form when they combine with a number feature and are spelled out as the pronouns *none* and *mine.* I argue that this pronoun spell out is the case also for prenominal elements which do not change phonological form when they are spelled out as a pronoun. This is the case for e.g. *some*, as shown above, where the prenominal Q element before ellipsis and the pronoun after ellipsis have identical phonological form. To make clear the difference between the prenominal D/Q element and the pronoun, I revise somewhat the structures shown above to explain the m-merger of prenominal D/Q and [number]:

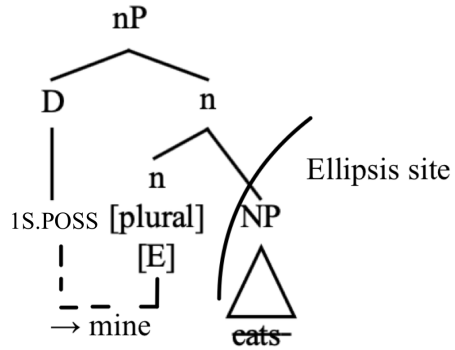
(182) a. You have many cats whereas I only have some ~~cats~~.



b. You have many cats but I have none ~~cats~~.



c. These are your cats and these are mine ~~cats~~.



In the above structures, the element filling D^0/Q^0 is written in small caps to indicate that this is an abstract element. SOME, for example, has the meaning of a existential quantifier; its phonological realisation will be *some*.

When D is an indefinite article, as in the phrases below, I posit a similar process of m(orphological)-merger between an abstract D/Q and a number feature[29]:

(183) a. I have a cat and you have a cat as well.

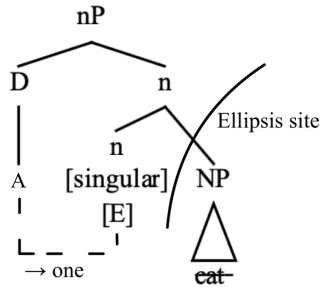
b. I have a cat and you have one ~~cat~~ as well.

c. *I have a cat and you have a ~~cat~~ as well.

d. #I have a cat and you have one cat as well.

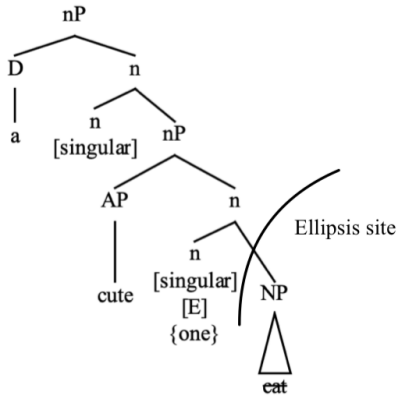
I argue that when the noun following *a* is elided, *a* and the [singular] feature on $n_{[E]}$ is m-merged, and the derived item is spelled out as the pronoun *one*:

(184)



When *a* and the relevant number feature are not adjacent, as in the below sentence, these cannot be spelled out as the pronoun *one*, but anaphoric *one(s)* is inserted instead:

(185) I have a cat and you have a cute ~~cat~~ {one} as well



[29] The string in (183d) may be grammatical under a different reading where the numeral *one* emphassies the cardinality of the cats along the lines of *you do not have two or three cats, but one cat*.

Note that the *one* in (184) is not the same as the *one(s)* which realises [number] as a last resort (i.e. as in *a cute ~~cat~~ {one}* in (185)). I assume two types of *one*. The first is the pronoun *one*, which is the product of m-merging *a* and a number feature, as in (183b). The second is the anaphoric *one(s)* which is inserted at PF to support a number affix which cannot m-merge with the prenominal element to be spelled out as a pronoun, as in (185).

As mentioned in §4.3.2, in order to account for why anaphoric *one* (i.e. *one(s)*) or NPE is not compatible with *a*, Llombart-Huesca (2002) argues that indefinite *a,* numeral *one,* and anaphoric *one* all belong to the same lexical item A|ONE. I instead account for this by arguing that whenever the noun following *a* is elided, the [singular] number feature is m-merged with *a* and pronounced as *one.*The spellout of the indefinite article as *a* or as *one* thus depends on whether or not it is m-merged with the number feature.

I assume also that number features can m-merge with abstract zero elements. Consider bare plurals, as *scarves* below:

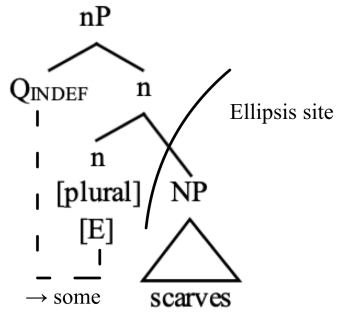
(186) I bought scarves and you bought scarves too.

One(s) cannot be inserted to support a number affix if a bare plural noun is elided:

(187) *I bought scarves and you bought ones too.

I argue that this is because the number feature already has a host. When the bare plural is elided, the [plural] feature on $n_{[E]}$ and the zero element in the specifier of this n is m-merged and pronounced as a pronoun *some*, yielding the anaphoric nominal structure below:

(188) I bought scarves and you bought some too.



The zero element here could be the abstract item Q_{INDEF}. When this is m-merged with a [plural] feature on n, it is spelled out as *some*. In the non-elliptical sentence in (186), Q_{INDEF} is

not m-merged with the number feature (as this is already hosted by the noun *scarves*), the abstract element is spelled out as ø, i.e. it is silent.

5.3.3 Personal pronouns as a result of ellipsis and m-merger

This idea that Ds/Qs have abstract forms in the syntax whose spellout is determined by their syntactic environment (i.e., *no* is spelled out as *none* when it hosts the number feature of the adjacent n^0), can also be extended to personal pronouns. These could be argued to be formed by an abstract element THE and a gender feature, in addition to a number feature, on n. As shown in (178)-(179), *none* and *mine* cannot be combined with an overt noun. The prenominal D/Q elements *no* and *my* can combine with nominal material. For personal pronouns, we observe that they cannot combine with nominal material either, as for *none* and *mine*:

(189) a. *[He boy] was good at maths.

b. *[She Mary] loves coffee.

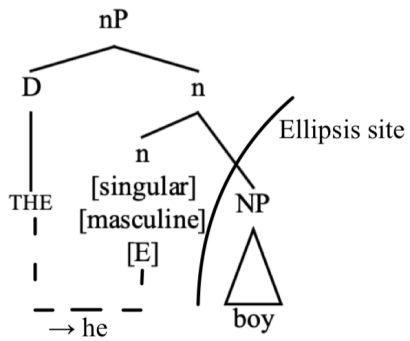
c. *[They parents] were mad at the teacher.

In sentences like,

(190) Once upon a time there was a boy.
a. The boy was good at maths.
b. He was good at maths.

we could assume that underlyingly, *he* in (190b) is the product of an m-merge of D^0 with a number and a gender feature following the ellipsis of a noun, e.g. *boy*, prior to spell out:

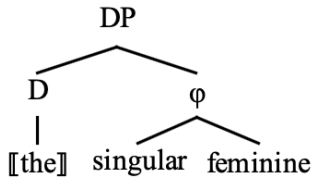
(191)



If we assume that the determiner is the abstract item THE, which carries a meaning similar to how the determiner *the* is used in phrases like *the boy*, we can derive *he* from an m-merger of

THE with a number feature [singular] and a gender feature [masculine] present on an n^0. I thus suggest here that n^0 may also be the locus of other features, for example gender. Johnson (2013b) proposes a similar process to account for the underlying structure of pronouns, which is in turn loosely based on Elbourne (2005):

(192)



[[*singular*]] = λx x has no more than one atom

[[*feminine*]] = λx x the atoms in x are female

[[(192)]] = the unique individual x whose atom is a female

(Adapted from Johnson, 2013b: 165)

Johnson proposes that the syntax and semantics of the pronoun *she* can be represented as in the above structure. His double brackets, [[the]], are used to indicate the meaning of *the*, but not necessarily the pronouncation. I here use small capitals to indicate the same.

I thus suggest that the determiner *the* can m-merge with number features and gender features to spell out as a pronoun when the noun following it is elided. When *the* is spelled out as a pronoun, e.g. *it* or *they* below, it must entail that the entire complement of *the* is elided, including any post-modifiers in the noun. Consider the following sentences:

(193) a. I finished my book yesterday. It ~~book that I read~~ was scary.

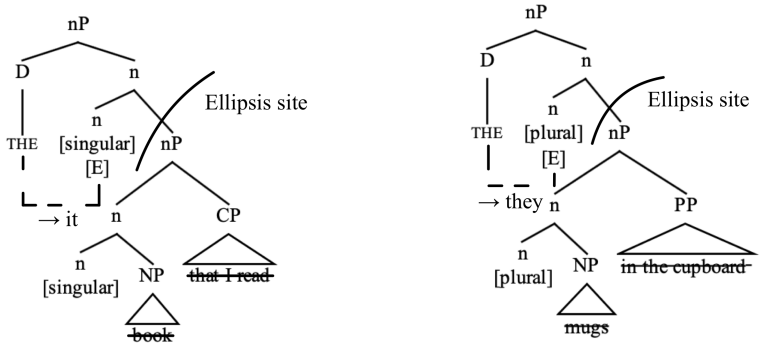
b. They ~~mugs in the cupboard~~ are nice for serving tea.

c. *I finished my book yesterday. It ~~book~~ that I read was scary.

d. *They ~~mugs~~ in the cupoard are nice for serving tea.

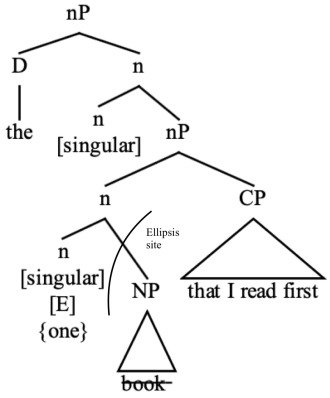
For (193a-b), the pronouns *it* and *they* are formed by morphological merger, where the respective number (and possibly gender) features m-merge with THE to form the derived elements *it* and *they*:

(194) a. b.



For (193c-d), it is evident that in order for THE to spell out as a pronoun, the post-modifier of the noun must also be elided. If the post-modifier is not elided, I argue that the number feature on $n_{[E]}$ is not able to m-merge with THE, as it will disrupt the spec-head relation between the number feature and D[30]. Instead, anaphoric *one(s)* must be inserted to support the number affix:

(195) a. I finished two books yesterday. The ~~book~~ {one} that I read first was scary.



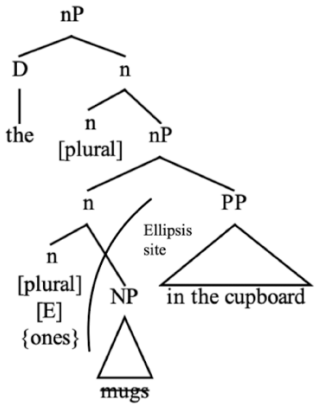
[30] There are instances in English of pronouns taking post-modifiers (this observation is due to Andrew Weir, p.c.):

xii. He who must not be named

xiii. She who must be obeyed

These I tentatively put aside as marked constructions for which something else will have to be said.

b. The ~~mugs~~ {ones} in the cupboard are nice for serving tea.



5.3.4 Some Ds/Qs cannot m-merge with number features

Some Ds/Qs do not allow NPE without requiring *one(s)*-insertion. Lobeck (1995) and Llombart-Huesca (2002) explain this by stating that these Ds/Qs are not specified for strong agreement. I argue instead that some prenominal D^0/Q^0 elements cannot be spelled out as pronouns. That is, some combinations of D/Q and number features are not specified for a spellout as pronouns, and the number feature must therefore have another host. *Every* is one example of this, which can explain why (196a) is ungrammatical:

(196) a. *There were twenty cookies on that table and John ate every ~~cookie~~!

b. There were twenty cookies on that table and John ate every one!

As shown in (196b), *one(s)*-insertion is necessary when the noun after *every* is elided, even if the number affix in $n_{[e]}$ is adjacent to *every* through spec-head agreement. Another example can be found in nonstandard Scots English[31], where the demonstrative *thae*, meaning 'those' cannot be used pronominally. *Yins*, i.e 'one(s)', must be inserted:

(197) a. I bought thae coins

b. *I bought thae

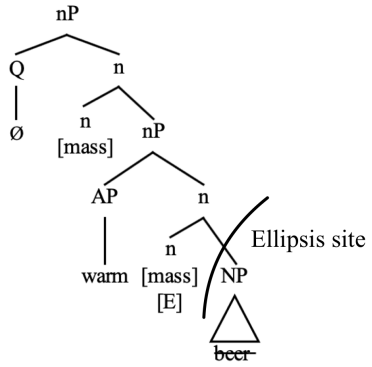
c. I bought thae yins

For mass nominals, *one(s)* as a last resort PF-insertion is not possible, since *one(s)* can only spell out to [singular] and [plural] features. Thus, if the prenominal element cannot be spelled

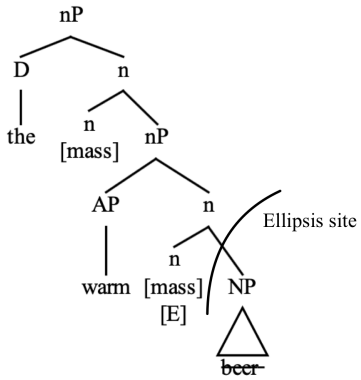
[31] This is due to Andrew Weir, p.c., taken from his Dundee/Fife dialect.
Many Scots speakers *can* use *thae* pronominally (Dictionary of the Scots Lanugage, 2004).

out as a pronoun, the ellipsis becomes ungrammatical. This is the case for the below sentences, where an intervening adjective disrupt the adjacency between, respectively, ø and THE in D^0 and [mass] on $n_{[E]}$:

(198) a. *She drank cold beer but I drank warm ~~beer~~



b. *She got the cold beer but I got the warm ~~beer~~



5.3.5 Apparently optional *one(s)*-insertion

Previously, it has been noted that some elements allow both NPE and *one(s)*-insertion. As discussed in §4.3.2, Llombart-Huesca (2002: 82) argues that for the demonstrative *that* in (199), NumP is not selected and, consequently, *one(s)*-insertion is not possible:

(199) a. (in a bookstore, to a salesperson holding a book):

Give me that one.

b. (to a person holding a book):

Give me that.

(Llombart-Huesca, 2002: 82)

It is not very clear why NumP, or grammatical number, should not be present in the grammatical structure in cases like (199b). The following is for example grammatical, where number is clearly selected:

(200) (To a person holding many books):
Give me those.

It could be that *that* in (199a) and in (199b) above formally are two different abstract elements. *That* in (199b) is specified for the pronunciation *that* (or *this, these, those*) in combination with [number]; *that* in (199a), is not specified for any spellout in combination with [number], leading to an obligatory insertion of *one(s)* resulting in *that one* (or *this one, these ones, those ones*).

Furthermore, as shown in §4.4, it seems that *these/those* may appear with or without *one(s)*:

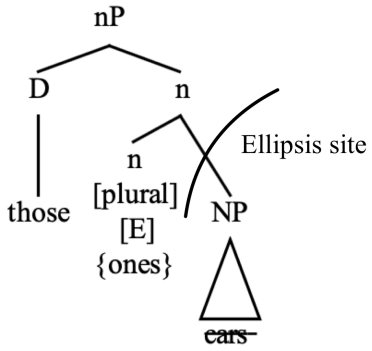
(201) a. I like this car and he likes those ones
b. I like this car and he likes those

According to Llombart-Huesca, *one(s)*-insertion after *those* should not be possible as she argues that NPE and *one(s)* are in complementary distribution. Günther (2013), however, argues that the *one(s)*-insertion above is possible and consequently that NPE and *one(s)* are not in complementary distribution. Llombart-Huesca proposes that there could be a dialectal parametrisation such that some speakers require *one(s)*-insertion after *those*, whereas others do not. However, as discussed in §4.4.2, this would entail that for those who require *one(s)*-insertion for the sentence above, [+plural] is not a strong agreement feature which can license NPE. If there indeed were such a parametrisation, these speakers would also not accept ellipsis after e.g. *many* and *all*, but would require *one(s)*-insertion also here, which is clearly ungrammatical:

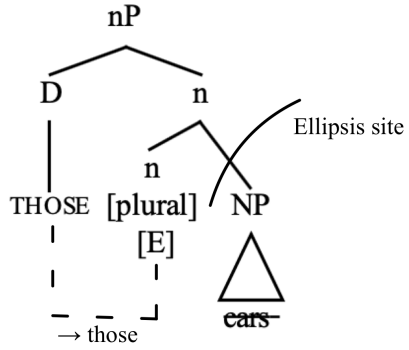
(202) *You have some cars and I have many ones.

I instead suggest that it could also here be the case that *those* in (203a) and *those* in (203b) are formally different elements where *those* in (203b) is spelled out as a pronoun in combination with the [plural] feature on $n_{[E]}$:

(203) a. I like this car and he likes those ~~cars~~ {ones}



b. I like this car and he likes those ~~cars~~



As mentioned for the Scots demonstrative *thae* above, not all prenominal elements can be m-merged with [number] to be spelled out as pronouns. It could be the case for the *that*- and *those*-examples discussed here that these each constitute two different, but homophonous, elements.

5.4 Summary

In this chapter, I have given an account of ellipsis licensing through Merchant's (2001, 2004) [E] feature assuming an nP-structure of the nominal phrase, where any n^0 with a number feature can be specified for [E] and consequently elide its complement. In the analysis given above, it is thus not the prenominal D/Q-elements which act as the ellipsis licensors, but rather the recursive n-heads. I also explained the distribution of NPE and *one(s)* by arguing that when certain prenominal D/Q-elements and the n^0 hosting [E] are sufficiently close through spec-head agreement, the number feature on $n_{[E]}$ and the abstract item filling D/Q m-merge to spell out as a pronominal element. When $n_{[E]}$ and the prenominal D/Q-element are not sufficiently close, or when the prenominal D/Q-element does not have a possible spellout

as a pronoun, the anaphoric element *one(s)* is instead inserted at PF to act as a host to the stranded number affix. This last resort insertion is necessary as I argued that the number feature must have a host, and it must be realised as close to the ellipsis site as possible. *One(s)* is therefore inserted on $n_{[E]}$ and the form of *one(s)* is determined by the number feature on n. Furthermore, I extended my analysis to personal pronouns, tentatively arguing that also these may be a product of a m(orphological)-merger of an abstract prenominal element and a number feature, following the elision of a noun. I also gave an explanation of elements which require *one(s)*-insertion, arguing that they cannot be m-merged with a number feature. For the elements which seem to combine with both NPE and *one(s)*, I argued that these are formally different, but possibly homophonous, lexical items. The nP-structure proposed in Bruening (2009), which I expanded on above, can thus account for NPE licensing and as well as explain the distribution of NPE and *one(s)*.

6 Implications for the structure of the nominal phrase

This thesis set out to investigate whether the DP-hypothesis as proposed in Abney (1987) hold also within the constraints of the minimalist program. I limited my discussion to one of the arguments made against the DP-hypothesis. Specifically, I focused on ellipsis licensing to see what implications this has for the structure of the nominal phrase, and specifically the head of the nominal phrase. I presented and assessed some previous accounts of NPE licensing which assume DP-structure, highlighting some issues in these analyses. To assess if the DP-hypothesis can account for NPE licensing and the distribution of NPE and *one(s)* within MP, I expanded on an alternative nominal structure proposed in Bruening (2009) to investigate whether this non-DP-structure could give a better account of NPE licensing. I argue that this nP-structure in fact does give a better account of NPE licensing given the fact that GB theory is no longer pursued. I also argue that the nP-structure can account for NPE licensing and the distribution of NPE and *one(s)* better than the DP-structure or the cartographic structure as presented in previous chapters. In particular, I argue that the account presented in Chapter 5 can deal with problems raised in §4.4. Consequently, I have given a syntactic approach to ellipsis licensing which does not assume government, which holds in MP, and which also gives a straightforward account of the distribution of NPE and *one(s)*-insertion.

6.1 A syntactic explanation of NPE licensing without government is available

As discussed in §4.4, the strong agreement-approach to ellipsis licensing advocated for in Lobeck (1995) and Llombart-Huesca (2002) does not hold as we no longer assume government. The solution to this presented in the previous chapter is ellipsis licensing through Merchant's (2001, 2004) [E] feature, which can optionally attach to any n^0. I posit that [E] on n licenses ellipsis, and not D or Q, as it is not clear that the ellipsis site needs to be depended on a D or a Q. This was discussed in §5.2.2. Furthermore, to explain the distribution between NPE and *one(s)*, I proposed a mechanism of m-merging between a number feature on $n_{[E]}$ and a prenominal D/Q. Since we do not assume licensing via strong agreement, m-merge can account for some of the cases which previously have been explained via strong agreement or which, in Günther, was explained by a semantic condition. For example, we can explain why elements like *every* cannot license ellipsis. In Lobeck and Llombart-Huesca, this was due to *every* not being specified for strong agreement as it is not [+partitive] (nor [+plural] or

[+possessive]). Günther (2013), arguing that it is not clear how far [+partitivity] is realised in English, invokes instead a semantically driven contrast condition. In our analysis, *every* cannot license NPE as it cannot be m-merged with a number feature. The number feature has no host, and *one(s)* is therefore inserted to support the stranded number affix. We thus have an explanation of why some prenominal elements, like *every,* are not compatible with NPE without appealing to strong agreement or to a semantic explanation. I also showed in §5.3.1 that Günther's semantic condition on possible ellipses does not hold for all possible cases of NPE.

6.2 The explanation of the distribution of NPE and *one(s)* is no longer problematic

We have noticed that the size of the ellipsis site can vary. We have also noticed that when this size varies, *one(s)* must often be inserted in the place of the elided constituent to make a grammatical string. As discussed in §4.2.2, the distribution of NPE and *one(s)* has received various explanations. The explanation given in Llombart-Huesca (2002) regarding this distribution, i.e. that *one(s)*-insertion is a last resort procedure at PF supporting a stranded affix, does not hold when government is no longer pursued. The explanation given in Günther (2013) relies on positing *one(s)* as a proform of the noun, which is optionally or obligatorily deleted in certain contexts. In §4.4 and in Chapter 5, I argued in favour of an analysis of *one(s)* as a last resort insertion, much like Llombart-Huesca. Furthermore, I concluded that Günther's deletion rules governing the distribution of NPE and *one(s)* borders on simply restating the empirical observations. The analysis presented in §5.3 unifies many of the unexplained cases when it comes to the distribution between these uses of anaphora in a straightforward way, without positing ad hoc stipulations. It also holds independent of GB-based mechanisms. Positing $n_{[E]}$ as the ellipsis licensor instead of a prenominal D/Q, for example, straightforwardly accounts for the varying sizes of the ellipsis site without relying on the generalised GTC or any ad hoc mechanism, as in Günther (2013).

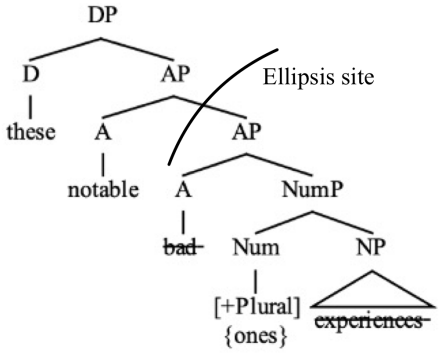
6.3 An alternative to DP-structure can handle these problems

I argue that neither the DP-structure nor the cartographic structure as proposed in Scott (2002) is flexible enough to account for the varying sizes of the ellipsis site. An advantage of the nP-structure is the recursive n-heads. If we argue that the ellipsis licensor can be any of these "intermediate" positions, we can explain how the size of the ellipsis site varies by placing [E]

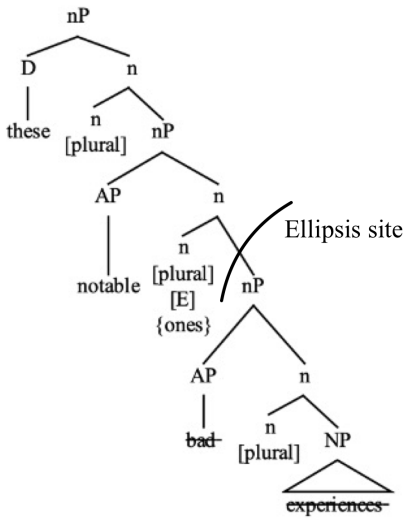
on different n-heads. Such intermediate positions are not available in DP-structure and it is not clear how the DP-structure, given ellipsis licensing either by strong agreement or by an [E] feature, should account for *one(s)*-insertion when only part of the complement of the prenominal D/Q-element is elided. Compare for example the DP-structure in (204a) and the nP-structure in (204b) of the elliptical nominal phrase in (204):

(204) I have many bad experiences with this company but these notable ~~bad experiences~~ {ones} stood out.

a.



b.



The DP-structure in (204a) follows Llombart-Huesca (2002) and Günther (2013), as discussed in Chapter 4, in representing grammatical number. They assume a NumP generated below any APs and above NP. Llombart-Huesca (2002) argues that *one(s)* is inserted in Num^0 to support a stranded number affix when the licensing of an empty Num is blocked by an adjective. In

my nP-structure, *one(s)* is also inserted to support a stranded number affix. However, this is inserted on the n-head on which [E] appears. Furthermore, *one(s)* is in the nP-structure inserted when the number feature on $n_{[E]}$ is not adjacent to the topmost D and consequently cannot m-merge with it to spellout as a pronoun. In (204a), it is not clear how *one(s)*-insertion should be explained, given that the NumP into which *one(s)* is inserted has been elided along with the preceding AP and the following NP. In the nP-structure in (204b), however, the n-head between AP *notable* and AP *bad* is the ellipsis licensor as it is to this n the [E] feature is attached. The complement of this n is thus elided, and *one(s)* can be inserted onto $n_{[E]}$, which has not been elided. Scott's (2002) cartographic structure, presented in §3.2.2, also has difficulties accounting for the varying sizes of the ellipsis site and *one(s)*-insertion, as it is not clear what the licensing head should be in a cartographic structure nor where (i.e. on what element) *one(s)* should be inserted. Positing *one(s)* to be inserted on an $n_{[E]}$ specified for number gives *one(s)* a uniform category to be inserted onto.

Finally, as alluded to in Chapter 1, ellipsis licensors are thought to make up a short list of elements (cf. Johnson (2013a)). In the account of NPE licensing presented in Chapter 5, the [E] feature can attach to any n^0 specified for a number feature. The list of licensors in English NPE given the analysis in Chapter 5 is thus very small; it consists of $n_{[number]}$. Given a DP analysis proposing prenominal D (or Q) as the licensors, this list must be more detailed as not all Ds or Qs can license ellipsis. There are also elements which do not necessarily belong to a D or Q category, or which are difficult to categorise, which also license NPE and which must be specified as an ellipsis licensor.

6.4 Questions for further research

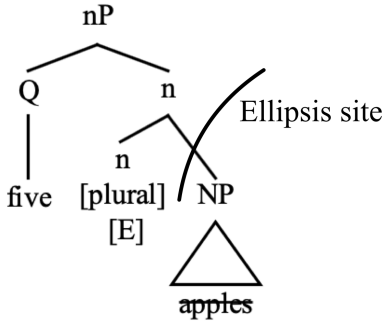
I have showed that the nP-structure developed here can account for the ellipsis licensing aspect of nominal structure within MP better than DP-based analyses.

One remaining problem is however elliptical sentences with a numeral in [spec, nP]:

(205) You bought six apples and I bought five ~~apples~~

Earlier, I placed numerals in Q^0. The structure of the above ellipsis is then the following:

(206)

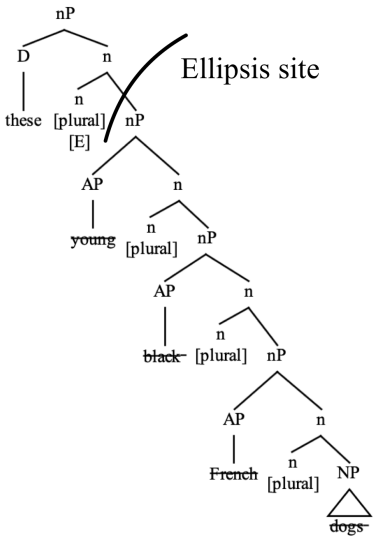


However, we run into a problem. Notice that the following ellipsis is also possible:

(207) You bought those six apples and I bought these five ~~apples~~

In (207), the nominal phrase containing the ellipsis site consists of two prenominal elements – the demonstrative *these* and the numeral *five*. We have seen previously that the demonstrative *these* licenses ellipsis and do not require *one(s)*-insertion. Recall the following example from §5.2.2, restated in (208), where *these* do not require *one(s)*-insertion as long as $n_{[E]}$ is adjacent to D by spec-head agreement. As shown in §5.2.2, if an adjective is present in-between D and the ellipsis site, *one(s)* must be inserted.

(208) You have those young black French dogs, whereas I have these ~~young black French dogs~~.

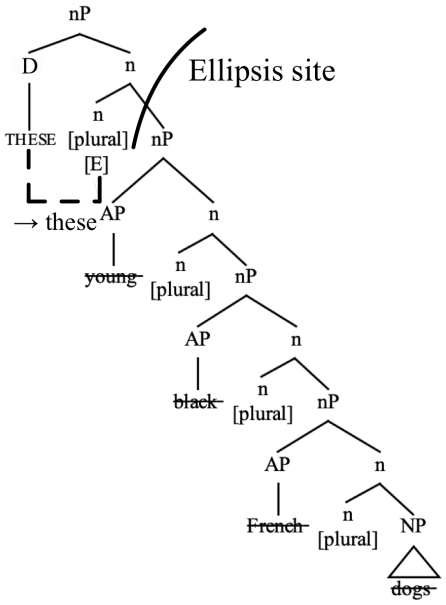


Since *one(s)* cannot be inserted when D and $n^{[E]}$ are adjacent[32],

(209) *You have those young black French dogs, whereas I have these ones

I assume that the number feature on $n_{[E]}$ has m-merged with the abstract item THESE in D:

(210)



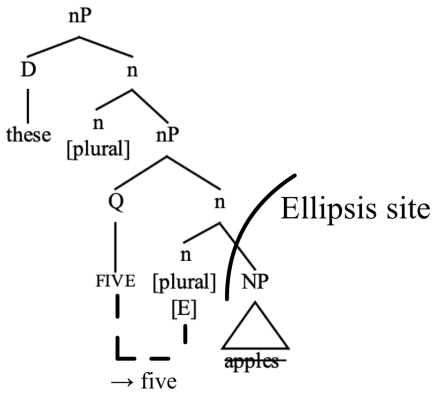
Since [plural] on n has already m-merged with THESE, the number feature has a host and *one(s)*-insertion in not required. *These* can thus license NPE without *one(s)*-insertion. Above, we saw that the numeral *five* can also license NPE. Apparently, the number feature on $n_{[E]}$ m-merges with the numeral, as *one(s)*-insertion is not possible after *five*:

(211) *You bought those six apples and I bought these five ~~apples~~ {ones}

Since we have labelled the numeral Q, the elliptical nominal phrase could have the following structure:

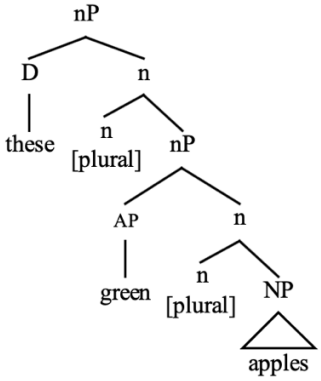
[32] As discussed in Chapter 4, there is some disagreement as to whether *these* can combine with *one(s)*. Llombart-Huesca argues that the plural demonstrative and *one(s)* are in complementary distribution, whereas Günther argues they are not, but that *one(s)* may be inserted (though not necessarily required). In Chapter 5, I suggested that *these* which combines with *one(s)* and *these* does not take *one(s)* are formally different lexical items.

(212)



It could be here that the number feature on $n_{[E]}$ and the numeral in Q m-merges and FIVE is spelled out as the pronoun *five*. The structure here is similar to a structure like *these green apples*,

(213)



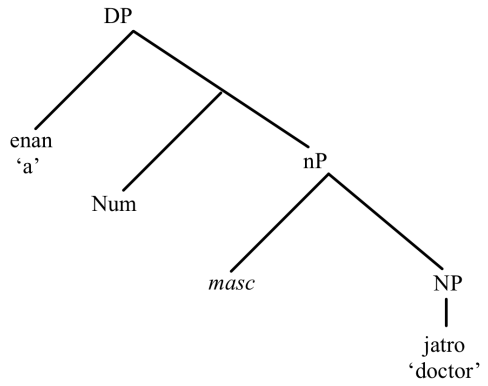
where, for *these green apples*, pronoun spellout is only possible if the AP between D and NP is elided. However, for *these five apples*, pronoun spellout is apparently possible between the intermediate Q and the number feature above NP. It could be that there is some link between the inherent number of the numeral in Q (and that possibly numerals should be placed in some other category) and the number feature on n^0. This requires further explanation, and I leave this as an unsolved problem to be dealt with in future research.

To properly assess whether the nP-structure can account for other aspects and issues concerning nominal structure, and whether it can account for this more straightforwardly than the DP-hypothesis, the nP-structure must be developed further and applied to phenomena other than ellipsis. It would for example be interesting to see whether the nP nominal structure

is able to account for the arguments made against the DP-hypothesis, some of which were presented in §3.3.

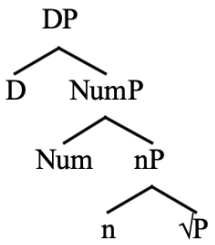
To develop the nP-structure further, it would be interesting to see whether other features than [number] could be present on n^0. A category n has in earlier work been integrated into a DP-structure, where it has been posited to be the locus of e.g. gender. Merchant (2022) has for example done this for Greek nominals (214), Saab (2010) for Spanish nominals (215):

(214)



(Adapted from Merchant, 2022)

(215)



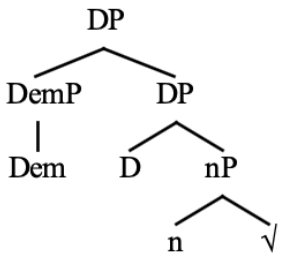
(Saab, 2010: 63)

In §5.3.3, in line with proposals from Johnson (2013b), I tentatively suggested that the pronoun *he* could be a product of an m-merger between an abstract element THE in D and a number feature [singular] as well as a gender feature [masculine] on an $n_{[E]}$.

As seen in (215), the nP in Saab's (2010) structure of the Spanish nominal does not take an NP as its complement. Rather, it takes a root √. This is in line with the framework of Distributed Morphology (Halle & Marantz, 1993; Marantz 1997). In D(istributed) M(orphology), words are created by merging a category-neutral root with a categoriser. For example, according to DM, the noun *destruction* is the result of a root √DESTROY which is

placed in a specific, nominal environment. If this root is placed in a verbal environment, the result is the verb *destroy*. Marantz (1997: 217) argues that there is a little v^0 acting as the verbal categorising head, and a D acting as the nominal categorising head. In Ruda (2016) a little n is a nominal categoriser within the DP in Polish and Hungarian:

(216)



(Adapted from Ruda, 2016: 671)

For ellipsis and NPE licensing, it would be interesting to investigate whether the ellipsis analysis presented in Chapter 5 is also possible if the elided constituent were a root and not an NP. Furthermore, as shown above, the structures containing DM roots pursue a DP-view of nominal structure. In future research, it would also be interesting to see if the recursive nP-analysis given here can be unified with the DM view where n is a nominaliser.

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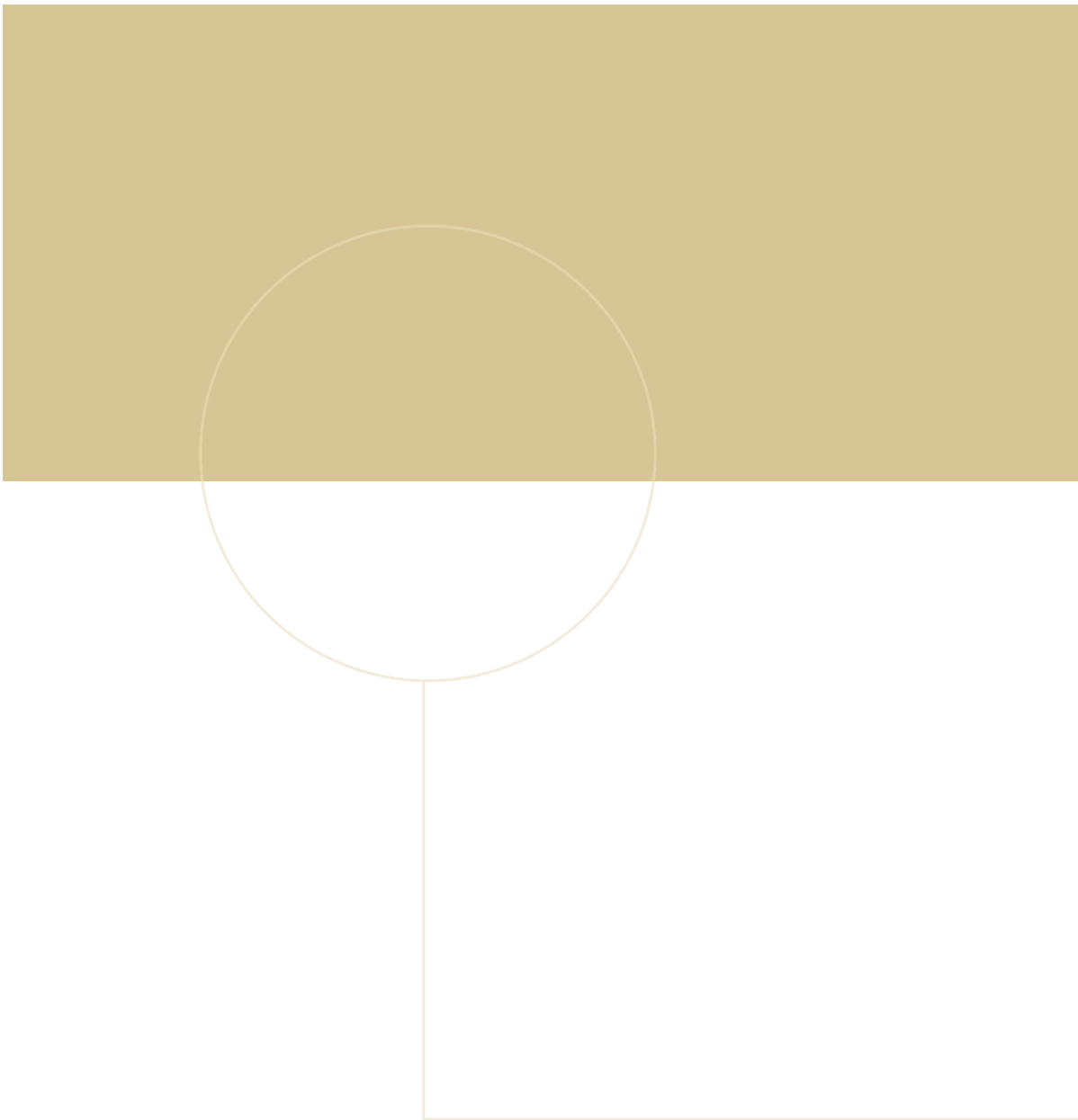

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