# ABSTRACT

Title of dissertation:     ANAPHORS AND THE MISSING LINK

Michaël R. Gagnon, Doctor of Philosophy, 2013

Dissertation directed by:   Professor Alexander Williams
Department of Linguistics

Three types of nominal anaphors are investigated: (i) pronouns, (ii) partitive ellipsis and (iii) the contrastive anaphor 'one'.

I argue that in each case, the representational basis for anaphora is the same, a semantic variable ranging over singular or plural entities, rather than syntactic as previous approaches have suggested.

In the case of pronouns, I argue against syntactic D-type approaches (Elbourne 2005) and semantic D-type approaches (Cooper 1979). Instead, I present arguments in favor of the set variable representation assumed under Nouwen (2003)'s approach. Following this, I consider a number of cases usually taken to involve the elision of a noun phrase, and argue that instead they involve the deletion of a partitive phrase containing an anaphoric plural pronoun. Third, I turn to the contrastive anaphor 'one' and its null counterpart in French. Here again, I argue that the basis for anaphora is a semantic set variable, where this anaphor differs from pronouns in being of category N rather than D, and in having a pragmatic requirement for contrast. This analysis differs from previous ones which hold that this expression

is a syntactic substitute of category N′, or the spell-out of the head of a number phrase followed by ellipsis of a noun phrase.

Finally, I discuss the phenomenon of event anaphora. Given the phenomenon's interaction with the anaphors discussed prior in this dissertation, I argue that it is better seen as a case of deferred reference to an event on the basis of anaphoric reference to a *discourse segment*, following Webber (1991). This contrasts with what I call metaphysical approaches, which hold that the anaphor directly resumes an event introduced to the context by a previous clause (Asher 1993; Moltmann 1997).

# ANAPHORS AND THE MISSING LINK

by

Michaël Roland Gagnon

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2013

Advisory Committee:
Professor Alexander Williams, Chair/Advisor
Professor Valentine Hacquard, Co-Advisor
Professor Norbert Hornstein
Professor Howard Lasnik
Professor John F. Horty

To my mother

Without whose love I wouldn't be here.

To my father

Without whose courage I wouldn't be here.

To my auntie Lise

Without whose outings to the movies I wouldn't speak English

And wouldn't be here!

# Acknowledgments

This dissertation is by far the greatest challenge I have undertaken thus far in my life. Along the way, a great number of people have provided me with support, inspiration and insight, and they deserve all my gratitude.

First and foremost, none of this would have been possible without my main advisor, Alexander Williams. His comments and criticisms, both precise and deep; his curiosity and openness; his infinite patience in face of my stubborn and sometimes eccentric attitude; his moral support in the difficult moments; and so much more are deserving of both extreme appreciation and awe. *Mille fois merci monsieur Williams!*

Valentine Hacquard, my co-advisor, has also been tremendously supportive and helpful over the years. Whereas I didn't nag her as much as Alexander, each and every meeting we had was extremely valuable and would force me to consider approaches and ideas I had not before. To me, she is the perfect embodiment of the proverbial iron fist in a velvet glove, and I feel very lucky to have had the chance to play semantic *bras de fer* with her!

Then, where would I be without Norbert Hornstein's enthusiasm, presence, and advice about linguistic, and life? Norbert, some day I will get back to you for your analyst services, I promise.

I am also extremely grateful to have had Howard Lasnik as a syntax professor, and ping pong coach! His dedication, passion and positive energy have been a constant source of inspiration.

# Table of Contents

# List of Abbreviations

| | |
|---|---|
| ContrA | contrastive anaphor |
| D | determiner |
| DP | determiner phrase |
| DRT | discourse representation theory |
| DRS | discourse representation structure |
| DPL | dynamic predicate logic |
| ELD | ellipsis licensing determiner |
| LF | logical form |
| N | noun |
| NP | noun phrase |
| NPE | noun phrase ellipsis |
| PF | phonological form |
| PartP | partitive phrase |
| PartE | partitive ellipsis |
| PP | prepositional phrase |
| Q | quantifier |
| QP | quantificational phrase |
| RC | relative clause |
| VP | verb phrase |

# CHAPTER 1

## What About Them?

"Often [...] the mere wording [of a sentence]," wrote Frege (1918:64), "does not suffice for the expression of the thought." For Frege, a "thought" is the "sense" of a sentence, and the only sort of thing that is true or false. The cases Frege has in mind include sentences with pronouns, such as (1).

(1)    They sat down.

The pronoun itself says nothing about what things it stands for. Thus the "mere wording" of (1) does not suffice to express something that may be true or false. For Frege this means it does not suffice to express a thought. We need in addition some contribution of context. "[T]he knowledge of certain conditions accompanying the utterance, which are used as means of expressing the thought, is needed for us to grasp the thought correctly" (ibid). The context may include preceding parts of the discourse, or their effects. In conjunction with the context following (2), for example, a sentence like (1) may be used to express the thought that the dogs sat down. Because the dogs are mentioned in prior discourse, the pronoun is called

anaphoric.

(2)    The dogs walked in.

The question since Frege has been, how exactly does the context complete the "expression of the thought"? Is there a satisfactory way of delivering on what we might call *Frege's Promise*, the promise that context will somehow complete the "expression of the thought" when the "mere wording" does not suffice? In this dissertation I consider this question with respect to third-person anaphoric pronouns in particular,[1] and also cases like (3), with the noun *one*, and (4), with apparent noun ellipsis.

(3)    The tall ones sat down.

(4)    Many sat down.

I discuss the choice between two ways of responding to Frege's Promise for anaphoric pronouns, which I will call the reference-anaphoric and sense-anaphoric approaches.[2]

The reference-anaphoric approach to pronouns is the contemporary standard. It says that the context assigns a referent to the pronoun, but does not assign it a sense. In the terms of Neale 1990, it assigns the pronoun a value but not a meaning, something which restricts the values of its uses. Relative to the context following (2), for example, the referent of *they* may be the dogs. But the pronoun itself

_____

[1] I will not discuss first- or second-person pronouns, or any issues pertaining to *de se* uses of pronouns (see for instance Lewis 1979, Anand 2006).

[2] These terms allude to the common distinction between identity-of-reference anaphora and identity-of-sense anaphora (Carlson 2006). But they do no make exactly the same cut.

still has no sense, no semantic property that determines its referent. Formally it is represented as a free variable ranging over individuals in the domain of discourse. As a response to Frege's Promise, this is analogous to Kripke's (1972) response to Frege's view of proper names. Frege assumed that proper names have a sense, something which determines their referent. Kripke argued that names do not have a Fregean sense, but rather have their referent given directly by the context, or the world of evaluation.

The sense-anaphoric approach is these days a competitor to the standard, but one that echoes traditional ideas. It says that the context assigns the pronoun a sense, which in turn determines a referent. Relative to the context following (2), for example, the sense of *they* may be identical to the sense of *the dogs*. As a consequence, the two noun phrases have the same referent, namely the dogs. This resonates with a traditional notion of anaphora, whereby the pronoun inherits the meaning of its antecedent. It also comports with the Fregean view of names, whereby names have individuals as referents, but also have a sense which determines their referents.

In this dissertation I defend the reference-anaphoric approach against a contemporary version of the sense-anaphoric approach, the "d-type" theory of pronouns. This theory says that a pronoun is a definite description whose restriction (or matrix) is determined anaphorically. Thus *they* in (1) means 'the $\phi$'s', where $\phi$ is a noun-sense given by context. There are two important variants of how context gives $\phi$, called the syntactic and semantic d-type theories. The syntactic d-type says a pronoun is a description with a silenced NP restriction, whose silencing is licensed in

3

relation to an antecedent NP. The noun-sense $\phi$ is the sense of this NP. The semantic d-type theory says that a pronoun is a description with no noun in it, but whose meaning includes a free variable $\phi$ over noun meanings. In the coming chapters I will argue that neither variant of the d-type theory is better than the reference-anaphoric approach to pronouns. The context sets the referent of a pronoun, but does not give it a sense, either by supplying a noun-meaning or by supplying a noun.

While the reference-anaphoric approach to pronouns is standard, it is not commonly applied to *one* anaphora or NP ellipsis, as in (3) and (4). It is therefore a novel aspect of my thesis that this approach applies here as well. Following (2), for example, what the context assigns to *ones* in (3) is not the NP *dogs* or its meaning. It simply assigns it a referent, just as it does for *they* in (1), namely the dogs. I make the same claim about the apparent ellipsis site in (4).

## 1.1   Reference-anaphoric vs. Sense-anaphoric

The reference-anaphoric approach initially seems attractive, since in isolation a pronoun clearly has no sense or meaning. Modulo the presuppositions associated with number and gender, the pronoun itself does not express any concept under which all of its referents will fall. But our question is not about pronouns in isolation. It is about how pronouns function in context. And there are contexts which initially seem to favor the sense-anaphoric approach. Two well-known cases are represented by (5).[3]

_____

[3]These specific examples are due to Cooper (1979).

(5)    a.    **Pronouns of laziness:** This year the president is a democrat. Come next election, **he** will be a republican.

      b.    **Paycheck pronouns:** The man who gave his paycheck to his wife was wiser than the one who gave **it** to his mistress.

In (5a), we find a classic example of what is known as *pronouns of laziness*[4]; and in (5b) an example of *paycheck pronouns.* What is interesting about such cases is that some pronouns of laziness, and all paycheck pronouns, do not refer back to an entity introduced in prior discourse or context. Rather, they introduce new entities, entities which meet the same description as their antecedents. In (5a), what the pronoun is intended to refer to is not the current president, who is an asserted democrat, but rather the future president, who will be a republican. In (5b), the check given to one's mistress is not the one given to the other's wife. Given that such anaphoric pronouns introduce new entities, Elbourne (2005) dubs them *neontological pronouns* and offers them as a serious challenge to what I call reference-anaphoric approaches.[5] Sense-anaphoric approaches, D-type theories, he argues, are much better suited to account for such cases.

---

[4]The term pronoun of laziness is due to Geach (1962) who uses it for any pronoun which can be replaced by its antecedent.

[5]Crucially, neontological pronouns do not subsume the class of pronouns of laziness, given that some pronouns of laziness do not introduce new entities. Consider the following from Geach (1962):

   i. *Smith* broke the bank at Monte Carlo, and **he** has recently died a pauper.

The edge of sense-anaphoric approaches can be made clear by using paraphrases of the examples where the relevant descriptions are supplied for the anaphoric pronouns. Consider the following:

(6)    a.    This year the president is a democrat. Come next election, **the president** will be a republican.

        b.    The man who gave his paycheck to his wife was wiser than the one who gave **his paycheck** to his mistress.

Here, the paraphrases of the cases in (5) involving overt descriptions appear equivalent to the original cases involving pronouns. This is readily accounted for under sense-anaphoric approaches, but not so under reference-anaphoric approaches.

Other anaphoric pronouns pose problems for simple versions of both the reference-anaphoric and sense anaphoric approaches. Here, I have in mind the well-known donkey pronouns:

(7)    a.    Every farmer who owns *a donkey* beats **it**.

        b.    If a farmer owns *a donkey*, he beats **it**.

The issue here is to capture the co-variation between the pronouns and their antecedents in such contexts. They have led advocates of either approaches to develop refined notions of local contexts which affect the resolution of anaphoric pronouns.

For the reference-anaphoric approaches, the issue arises from the fact that the covariation cannot readily be captured through typical grammatical means such as binding or co-indexation. Co-indexation would not yield a co-varying reading of

the dependency, but rather reference to a single donkey; a possible reading, but not the problematic one. Syntactic binding is not possible, due to the fact that the antecedent does not c-command the pronoun. Further, the antecedent could not be 'moved' to a syntactic position where it could bind a pronoun, as it appears in environments which are traditionally taken to be 'islands' to movement (Ross 1967).

For the sense anaphoric approaches, which take the pronouns to stand for definite descriptions, a similar issue comes up. It is well known that singular definite descriptions typically presuppose both the existence and the uniqueness of their referent. How is it then that the cases in (24), and their counterparts involving descriptions in (8), do not presuppose a unique donkey in the discourse context?

(8)    a.    Every farmer who owns *a donkey* beats **the donkey**.

      b.    If a farmer owns *a donkey*, he beats **the donkey**.

The difficulties emerging from such cases have motivated different families of theories pertaining to anaphoric pronoun resolution. On the one hand, **dynamic theories** fall under the reference-anaphoric approach. Under such theories, pronouns are treated as variables resuming discourse referents, (9), and the lifespan of such discourse referents is determined by the effect that expressions such as quantifiers and modal operators have on the discourse structure, or the assignment sequences.

(9)    STANDARD/DYNAMIC

      $[\![ \text{ it } ]\!] = X$

The second family of theories, **D-type theories**, fall under the sense-anaphoric approach. Under such theories, the pronoun is treated as a definite description which anaphorically resumes the sense of its antecedent, a noun phrase meaning. The problem of uniqueness is dealt with by having quantificational expressions quantify over fine grained situations, instead of individuals. And so each donkey is taken to be unique *in its relative situation*. I come back to this issue in more detail in chapter 2.

Example (10) illustrates the main different approaches:

(10)

$$\text{Pronominal Anaphora} \rightarrow \left\{ \begin{array}{l} \text{E-type/D-type} \rightarrow \left\{ \begin{array}{l} \text{syntactic d-type} \\ \text{semantic d-type} \end{array} \right\} \\ \text{Dynamic Theories} \rightarrow \left\{ \begin{array}{l} \text{DRT} \\ \text{DPL} \end{array} \right\} \end{array} \right\}$$

Both types of dynamic theories assume the reference-anaphoric approach to anaphoric pronoun representation. The difference mainly comes from what is manipulated by operators, and their effects in context.

D-type theories, sense-anaphoric approaches, branch off in two different types of treatments of pronoun representation, namely semantic and syntactic.

Under semantic approaches, the pronoun has the meaning of a definite description, but the descriptive content, the noun meaning, is missing. The missing sense is obtained from the antecedent of the anaphoric pronoun. The interpretation

of such anaphoric pronouns, in its simplest form, is that found in (11a), and the relation holding between the anaphor and its antecedent is represented in (11b).

(11)  SEMANTIC D-TYPE

a.  $[\![ \text{ it } ]\!] = \iota x.X(x)$

b.
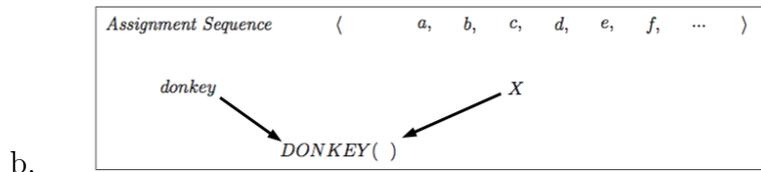


Turning to syntactic sense anaphora, or syntactic D-type, there pronouns are treated as standing for covert definite descriptions. The pronouns have both the syntax and semantics of definite determiners, but the noun phrase has been elided under identity with an overt antecedent NP, to be recovered by the hearer. The more complex syntactic representation assumed is the one in (12a), and the relation between the elided NP and the antecedent is represented in (12b).

(12)  SYNTACTIC D-TYPE

a.  $[_{DP}$ it $[_{NP}$ ~~donkey~~$]$ $]$

b.
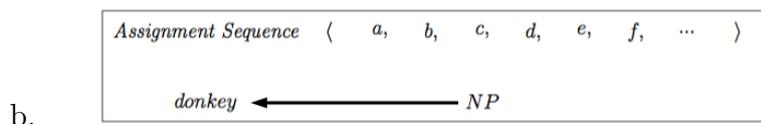


The main motivation for this syntactic approach is what is now known as the problem of the formal link (Kadmon 1987), exemplified by the following pair:

(13)  a.  Every man who has a *wife* is sitting next to **her**.

b.  * Every heterosexual monogamous married man is sitting next to **her**.

9

Assuming co-intensional restrictions for the quantifier *every* in the two sentences, the issue is to explain the failure of anaphora in (13b). The issue is straightforward for the dynamic versions of the reference-anaphoric approach: no relevant discourse referents have been introduced, which could be resumed, in (13b), whereas one was introduced in (13a).

The upshot of the syntactic approach, over the semantic D-type approach, is that ellipsis is typically taken to be licensed under certain conditions, such as the overt presence of an antecedent, as stated in (14).

(14)   **NPE Licensing Condition**[6]

A formally identical linguistic antecedent to the elided NP must be available in the surrounding discourse.

This condition thus allows the syntactic approach to account for the contrast in (13).

Thus while the sense-anaphoric approach has some appeal, it also meets some challenges that receive a better account under the reference-anaphoric approach. Furthermore, turning to cases which usually go under the heading of noun phrase ellipsis (NPE) and noun substitution (NS), which, on the surface, appear as the archetypes of sense-anaphora, it is not clear that such approaches are in fact suitable for even these phenomena. In fact, I argue below that there as well, a reference-anaphoric approach is better.

---

[6]This is a paraphrase of Elbourne 2005: 44.

### 1.1.1  Issues for Sense Anaphora

Here I give a brief summary of the arguments to be presented below in **chapter 2**, and further developed for partitive ellipsis and contrastive anaphora in the subsequent chapters.

First, the syntactic d-type approach both overgenerates and undergenerates, on the account that the condition on NPE assumed is neither necessary nor sufficient for the licensing of anaphoric pronouns.

This can be seen in cases where the formal presence of an antecedent noun is not sufficient to warrant anaphora. Cases such as those in (15), where nouns are modified by privative modifiers, are a good example of this.

(15)   a.   If a child has a fake *diamond* and visits a jeweler, he thinks that {#[ **they** ~~diamonds~~]/[**the diamonds**]} are prettier than [ **his** ~~fake~~ ~~diamond~~].

   b.   Every citizen who meets a former *president* wants #[**him** ~~president~~]/[**the president**] to lower taxes.

This is also exemplified by cases involving non-referential antecedents, some of which are within *anaphoric islands*, in the sense of Postal 1969.

(16)   a.   # Speaking of the *successor*-function, every number is smaller than **it** ~~successor~~.        (Heim 1990: 167)

   b.   # Every *guitar* player brought **it** ~~guitar~~ to the party.

Here again, the formal presence of the noun is not enough.

The syntactic approach also fails in cases of neontological pronouns where no overt antecedent is present. Consider the case of event anaphora in a donkey configuration in (17).

(17)  Whenever Michael visited the other Bluths, **it** was a disaster.

Furthermore, as I will discuss below, modifying the constraint on NPE is not an option, given that NPE is more constrained than pronouns with respect to event anaphora:

(18)  a.  My sister got mugged in College Park last week, and **it** happened to my brother this week.

  b.  My sister got mugged in College Park last week *(, and some/few/several/one ?~~mugging~~? happened to my brother this week).

Finally, I will present a number of arguments against sense-anaphoric approaches altogether, but let me introduce one such argument here. The reach of plural pronouns in contexts involving several discourse referents is simply not that of definite descriptions:

(19)  a.  I arrived in class five minutes before the start.

  There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

  Then, **ten young boys(Z)** walked in whistling.

  b.  [**They**] sat down.

  Can refer to $Z$, or $X \cup Y \cup Z$

  Cannot refer to $X \cup Z$

12

c.    [**The boys**] sat down.

Can refer to $X \cup Z$

Rather, such cases point to a more traditional account, where, without any further qualifications, only the most recently introduced or most salient discourse referent is accessible to the anaphor.

Perhaps more surprisingly, cases which are usually treated as involving NPE or NS, ideal candidates for a sense-anaphoric approach, also behave like anaphoric plural pronouns in such cases. Consider the cases in (20) and (21).

(20)    a.    I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

[**Many __** ] sat down.

b.    Can mean [Many $Z$], or [Many $X \cup Y \cup Z$

Cannot mean [Many $X \cup Z$]

c.    = **Many of them** sat down.

Can mean [Many $Z$], or [Many $X \cup Y \cup Z$

Cannot mean [Many $X \cup Z$]

d.    $\neq$ **Many boys** sat down.

Can only mean [Many $X \cup Z$]

(21)    a.    I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

[**The tall** ONES] sat down.

    b.    Can mean **'the tall $Z$s'**, or **'the tall $X \cup Y \cup Z$s'**

Cannot mean **'the tall $X \cup Z$s'**

    c.    [**The tall boys**] sat down.

Can mean **'the tall $X \cup Z$'**

Cannot mean **'the tall $Z$s'**.

This type of evidence will be in part my motivation for a departure from the sense-anaphoric approaches, even in these unexpected cases, and argue in favor of a reference-anaphoric approach in the cases discussed.

## 1.2   Structure of the Dissertation

In chapter 2, I discuss the representation of pronouns. I will argue against both the syntactic and semantic representation of this type of anaphors as proposed under D-type theories. Instead, I present a number of arguments which favor a reference-anaphoric approach to pronouns. This account will be the foundation for the treatment of the nominal anaphors discussed in the following chapters.

In chapter 3, I discuss a number of cases traditionally analyzed as involving noun phrase ellipsis. There I argue for a different treatment, also involving ellipsis, but of a partitive phrase, where the anaphoric component of the expression is a plural pronoun embedded in the deleted partitive.

In chapter 4, I turn to a third nominal anaphor, ONE. I analyze it as a nominal head, with the same reference-anaphoric representation as anaphoric pronouns of

14

category D. This contrasts with most approaches to this expression, which analyze it as an N′ substitute or the spell-out of the head of a number phrase projection followed by noun phrase ellipsis.

In chapter 5, I discuss a puzzle pertaining to event anaphora. As will be discussed throughout the preceding chapters, event anaphora is interesting in that it is only possible with singular pronouns and demonstratives. Neither plural pronouns, partitive ellipsis nor ONE-anaphora can resume an event implied by a previous sentence. In this chapter, I will discuss two different approaches to this peculiar state of affairs, and settle on an account of event anaphora originally proposed by Webber (1991), which allows us to explain this restriction on singular anaphora. I will further bring new data from French to help adjudicate on this issue.

Finally, in chapter 6 I conclude briefly, summarizing the proposals and arguments presented in this work.

# CHAPTER 2

## Pronouns

In this chapter, I consider the interpretation and the syntactic representation of anaphoric pronouns.

As mentioned in the introduction, I argue in favor of the reference-anaphoric approach, where the pronoun is a variable over discourse referents, entities available in the context or assignment sequence:

(22)     $John_b$ walks in the park. $\mathbf{He}_b$ sings.

This treatment of pronouns can also readily apply to pronouns c-commanded by their antecedent, e.g. *bound pronouns*.

(23)   $John_i/Every\ boy_i$ thinks that $\mathbf{he}_i$ is the best singer.

However, as originally pointed out by Geach (1962), such an analysis runs afoul of a number of cases involving pronouns covarying with quantificational antecedents in configurations where syntactic binding is impossible: the famous cases of donkey anaphora.

(24)    a.    Every farmer who owns *a donkey* beats **it**.

b.    If a farmer owns *a donkey*, he beats **it**.

Two major approaches have been taken in resolving this issue: D-type analyses and dynamic analyses.

The D-type analyses propose a modification of the syntactic or semantic representation of the pronoun, where it is anaphoric to a *description* and interpreted as a definite description (such as *the donkey* in this case). In most modern versions of this approach, the domain in which this type of anaphora is possible is taken to be semantically restricted, for instance through the situation semantic interpretation of quantificational expressions.

Dynamic analyses treat pronouns in such configurations on par with syntactically bound pronouns and anaphoric pronouns across sentences, as variables over discourse referents; the semantic of quantificational expressions is modified to extend the reach of so-called semantic binding. There, the possible anaphoric relations are restricted to the possible semantic binding relations.

In this chapter, I will provide a number of arguments against D-type analyses, and present a number of examples which are compatible with treating anaphoric pronouns as variables which take salient referents as their value.

The chapter is structured as follows, in §2.1 I offer an overview of the distribution of anaphoric pronouns, and the challenges met by unification theories. In §2.2, I discuss two kinds of D-type analyses, syntactic and semantic, and offer arguments against both. The arguments against the syntactic approaches are based on

the phenomena of event anaphora, deep anaphora, and singular pronouns with split antecedents. The arguments against the semantic approaches are based on patterns involving plural pronouns in contexts involving several possible antecedents, and the failure of descriptions to antecede pronouns when they serve as predicates, or as the subject of a specificational sentence. In §2.3, I discuss dynamic theories, which adopt the type of reference-anaphoric representation I favor, and then turn to my proposed treatment in §2.5.

## 2.1   What We Can Do with Them

Offering a unified account of the interpretation of pronouns is a daunting task. This is in great part due to the many distinct uses of pronouns.

First, there are the run-of-the-mill cases of deictic pronouns and bound pronouns:

(25)   a.   [Referring to an individual with sufficient contextual salience:]

  **He**$_i$ is Bob Loblaw. (*deictic pronoun*)

   b.   Every linguist$_i$ thinks **he**$_i$ is intelligent. (*bound pronoun*)

Such cases readily lend themselves to the reference-anaphoric representation of the standard theory. In (25a), The pronoun is a variable resolved in context as the individual demonstrated, namely Bob Loblaw. In (25b), the pronoun stands for a variable bound by the quantificational expression *every linguist*, in the way variables are bound in a predicate calculus.

Next, we have pronouns which are more problematic for the standard theory. These pronouns cannot readily be interpreted as variables taking a constant reading in context, as they either covary with a quantificational expression which does not c-command them, (26a), or because they seemingly take from their 'antecedents' not the referent, but the description of the referent (26b,c). The latter class of pronouns has been called *neontological* by Elbourne 2005.

(26)   a.    Every farmer who owns a donkey beats **it**. (*donkey pronoun*)

        b.    The man who gave his paycheck to his wife was wiser than the one who gave **it** to his mistress. (*paycheck pronoun*)

        c.    This year the president is a democrat. Come next election, **he** will be a republican. (*pronoun of laziness*)

Then, a number of examples involve pronouns covarying with an antecedent expression across a sentence boundary. These, in Craige Roberts's (1987) terms, are cases of *telescoping*, and, under her dynamic analysis, involve either quantificational or modal subordination:

(27)   a.    Most books contain a table of contents. In some, **it** is at the end. (*anaphoric pronoun with 'quantificational subordination'*)

        b.    John thinks that he will catch *a fish*. He hopes I will grill **it** tonight. (*anaphoric pronoun with 'modal subordination'*)

Finally, there are a number of cases which introduce further complications to our theories, as what exactly should be considered the 'antecedent' to the pronoun

in such cases is not immediately clear. Those are the cases of *event anaphora, deep anaphora*, and *singular pronouns with split antecedents*. I will discuss these cases further below upon arguing against D-type analyses.

(28)   a.   John was shot on the street in broad daylight in NYC. **It** would have never happened to Marie in Paris. (*event anaphora*)

     b.   [WAVING A TRAVEL FORM TO A UNIVERSITY EMPLOYEE:] Where do people usually submit **it**? (*deep anaphoric pronoun*)

     c.   Whenever Mary sees a horse or a donkey, she waves at **it**. (*anaphoric pronoun with split antecedents*)

In semantics, there have been many attempts to capture these diverse uses of pronouns under one analysis, one representation, with theories typically falling in either of two camps: that of *Dynamic Approaches* (Kamp 1981; Heim 1982; Groenendijk and Stockhof 1991; Kamp and Reyle 1993; Nouwen 2003; Brasoveanu 2006; Schlenker 2010, 2011, Geurts 2011), or that of *Description Theoretic Approaches* (Evans 1977, 1980; Cooper 1975, 1979; Sommers 1982; Neale 1987, 1990; Heim 1990; Elbourne 2005).[1]

The next section focuses on Description Theoretic Approaches. This family of theories draws from the great likeness in semantical and anaphoric behavior holding between pronouns and definite descriptions. Advocates of such approaches typically take anaphoric pronouns to be anaphoric to *descriptions*, and to have the semantics

---

[1]In this work we will avoid addressing mixed approaches like those of Berman (1987) and Kadmon (1987) altogether, which would take us too far afield. Rather, we will adopt the perspective that a simpler monolithic theory would be preferable.

of either Russellian or Fregean definite descriptions, with some work advocating quantification over fine-grained *situations* or *events*.

For instance, the sentences with full-fledged definite descriptions corresponding to those just mentioned are the following:[2]

(29)   a.   [REFERRING TO AN INDIVIDUAL WITH SUFFICIENT CONTEXTUAL SALIENCE:]

          **The man over there** is Bob Loblaw. (*akin to deictic pronouns*)

   b.   Every farmer who owns a donkey beats **the donkey**. (*akin to donkey pronouns*)

   c.   The man who gave his paycheck to his wife was wiser than the one who gave **the paycheck** to his mistress. (*akin to paycheck pronouns*)

   d.   This year the president is a democrat. Come next election, **the president** will be a republican. (*akin to pronouns of laziness*)

   e.   Most books contain a table of contents. In some, **the table of contents** is at the end. (*akin to anaphoric pronouns with 'quantificational subordination'*)

   f.   John thinks that he will catch *a fish*, and he hopes I will grill **the fish**

---

[2]The example involving a definite description which corresponds to that involving a bound pronouns is somewhat degraded (and usually ruled out under Condition C of the Binding Theory):

   ii.  ?Every linguist$_i$ thinks **the linguist**$_i$ is intelligent.

It seems to me that a fully unified description theoretic account is impossible for such cases. A proper analogue definite description to the event anaphor is also hard to come by. I discuss these cases in more detail below.

tonight. (*akin to anaphoric pronouns with 'modal subordination'*)

(30) a. WAVING A TRAVEL FORM TO A UNIVERSITY EMPLOYEE:

Where do people usually submit **the travel form**? (*akin to deep anaphoric pronouns*)[3]

b. Whenever Mary sees a horse or a donkey, she waves at **the horse or donkey**. (*akin to anaphoric pronouns with split antecedents*)

These examples of course only bolster the initial plausibility of the D-type analyses. I come back to this in more details below.

Another concern that theories of pronominal anaphora must further address is the so-called *problem of the formal link* (Kadmon 1987):

(31) a. Every man who has *a wife* is sitting next to **her**.

b. * Every heterosexual monogamous married man is sitting next to **her**.

Given this minimal pair, where the content of the sentences is taken to be truth-conditionally equivalent, we are led to ask in what way the linguistic or discourse contribution of the phrases *every man who has a wife* and *every heterosexual monogamous married man* differ such that one apparently licenses subsequent anaphoric uses of the pronoun *her* whereas the other one does not.

The problem has gained its name through the usual type of answers given to the question it raises; namely that what differs between the two examples is a

---

[3]Deep anaphors are pragmatically controlled, their antecedents are resolved contextually. This contrasts with surface anaphors which require a formal (overtly expressed) antecedent (Hankamer and Sag 1976).

**necessary** formal link between an anaphoric pronoun and its antecedent (taken to be made possible in (31a) through the presence of the embedded indefinite *a wife*, which is lacking in (31b)).

However, such a resolution to the problem posed by the pair in (31) runs afoul of the cases found in (28) where no antecedent (or no obvious syntactically or semantically defined unique antecedent) is present, which could be linked to the anaphoric pronoun.

In the next section, I introduce the description theoretic approach to the various pronoun uses discussed here. I argue that a syntactic D-type theory of pronouns, as articulated in Elbourne (2005, 2008), is inadequate when addressing the issues raised by cases such as (28) and (31).

Following this, I discuss how a semantic D-type approach could handle the hurdles I present to its syntactic counterpart. Given that such theories are typically taken to struggle with the negative fact in (31b), I will address the tension holding between accounting both for such cases and those found in (28). However, I will argue that, in the end, even the less restricted semantic D-type theories are met with serious problems. As we will see, the pronominal representation offered by D-type theories leads to various cases of overgeneration which cannot clearly be avoided by appealing to semantic mechanisms such as quantification over situations.

## 2.2  Description Theoretic Approaches

This section introduces some of the main justifications for the adoption of a description theoretic account of pronouns. In doing so, I describe the syntactic account of Elbourne (2005), which offers the following syntax and semantics for pronouns:

(32)  **Syntactic D-type Pronouns**

    a.  **Syntax:** [[ it $i$ ] NP ]

    b.  **Semantics:** $\lambda i_{\langle e,t \rangle}.\lambda g_{\langle e,t \rangle}.\ \exists! x(i(x) = 1\ \&\ g(x) = 1).\ \iota x.(i(x) = 1\ \&$

        $g(x) = 1)$

After discussing the specifics of Elbourne's theory, and its application to the pronoun uses mentioned in (25) above, I turn to the cases mentioned in (28), which prove problematic for the account.

## 2.2.1  Syntactic D-Type Account

The meaning of pronominal expressions can covary with that of quantificational expressions:

(33)  a.  Every man beats **his** donkey.

    b.  $[\forall x : \mathrm{Man}(x)].\ [\exists y : \mathrm{Donkey}(y) \wedge \mathrm{Own}(x, y)].\ \mathrm{Beat}(x, y)$

The sentence in (33a) allows for a distributive reading, (33b), where we conceive of a potential plurality of donkeys, each one owned by one of the men considered, and

where each of the men can be said to possess a donkey which he beats.[4]

In the simplest-seeming cases of covariation, the pronoun stands in the structural relation of c-command (Reinhart 1976, and many more)[5] with the expression it co-varies with, and the covariation can be captured by means of binding of the pronoun, construed as a variable, by the quantificational expression. (34a) is the LF assumed by Heim and Kratzer (1998) for the sentence in (33), and (34b) is the function, in lambda notation, taken to be the external argument of the QP *every man*:

(34)    a.    [every man] [$_\alpha \lambda_1$ t$_1$ beats his$_1$ donkey]

        b.    $\lambda x.x$ beats $x$'s donkey

However, as mentioned above, a puzzling case for such a view is that of donkey-sentences, which have covarying readings such as (35b):

(35)    a.    Every man who owns *a donkey* beats **it**.

        b.    $\forall x \forall y((\text{man}(x) \wedge \text{donkey}(y) \wedge \text{owns}(x,y)) \rightarrow \text{beats}(x,y))$

The problem here being that the antecedent *a donkey* to the pronoun *it* does not stand in the c-command relation to the latter, and so cannot syntactically bind it

---

[4]A maximal reading of the expression *his donkey* is typically taken to obtain, where without proper contextual restrictions, we usually take such a sentence to claim that every man beats each and every one of his donkeys. This reading is not captured by (33b). Such readings are a driving force of description theoretic approaches, but can also prove problematic (see for instance Neale 1990; Elbourne 2005).

[5]A phrase $\alpha$ c-commands a phrase $\beta$ if and only if the first branching node dominating $\alpha$ also dominates $\beta$ (and neither $\alpha$ nor $\beta$ dominates the other).

(given a notion of binding as structurally governed).

Allowing the indefinite to scope out of the relative clause (RC) where it is generated will not help either; (i) since Ross (1967), it is assumed that such movement is forbidden, as it constitutes an island violation, (ii) and raising the indefinite above the universal quantifier would not give satisfactory truth conditions, as it would lead to a reading involving a single donkey beaten by all of its owners (a possible reading of the sentence, but not the most salient), to the expense of a reading involving a possible plurality of donkeys (the most salient reading of the sentence).

This problematic case has instigated both lines of attack on the theoretical analysis of pronouns introduced above. The strategy of the dynamic approaches has been to modify the notion of semantic binding taken to be at work in examples like (34a), such that it extends to cases such as (35a). Descriptive approaches, on the other hand, target the representation of the pronoun itself, treating it as involving anaphora to a contextually salient predicate, and as having the semantics of a (Russellian or Fregean) definite description.

Two major subtypes of description theoretic accounts can be identified; *E-type* (Evans 1977, 1980; Sommers 1982) and *D-type* (Cooper 1975, 1979; Neale 1987, 1990; Heim 1990; Elbourne 2005, 2008).

Both approaches contend that, in a number of cases seen above as well as in the donkey cases, pronouns stand proxy for definite descriptions:[6]

---

[6]With the difference that E-type approaches treat pronouns as rigid designators, whereas D-Type approaches allow for pronouns to yield 'object-independent propositions'. We refer the reader to Evans (1977, 1980), Sommers (1982), Soames (1987), and Neale (1990) for more discussion of

(36)  a.   Every farmer who owns a donkey beats **it**.

      b.   Every farmer who owns a donkey beats **the donkey**

Advocates of D-type approaches (Cooper 1975, 1979; Heim 1990; Neale 1990; Heim and Kratzer 1998; Elbourne 2005, 2008) hold that pronouns can involve a meaning component anaphoric to contextually salient predicates. This is how the meaning of *donkey* is introduced to the meaning of the pronoun. Elbourne (2005) identifies two subtypes of D-type theories; theories where pronouns are interpreted as definite descriptions without a full-fledged DP syntax (*semantic* D-Type), and those claiming that their syntax (and, by necessity, their semantic) is parallel to that of their definite description counterpart (*syntactic* D-Type).

Elbourne's theory falls in the syntactic D-type category, where he argues that one of the advantages of this approach is that it accounts readily for the formal link generalization, as it requires a formally syntactic antecedent. We come back to this aspect in much more detail.

Elbourne further proposes that not only pronouns and definite descriptions share a syntax (and most of their semantics); but also that proper names and traces[7]

this issue.

[7]After a modified application of Fox (2002)'s *trace conversion* operation:

iii.  1.   **Variable Insertion:** Det Pred $\Rightarrow$ Det [Pred $\lambda y.y = x$]

      2.   **Determiner Replacement:** Det [Pred $\lambda y.y = x$] $\Rightarrow$ THE [Pred $\lambda y.y = x$]

This of course applies under a system which adopts the COPY THEORY conception of traces, as in the minimalist program (Chomsky 1995). Elbourne offers as a modification that the determiner be replaced by [THE $i$] instead of a covert definite determiner alone.

do as well. The proposal seeks, in essence, to unify as much as possible the syntax and semantics of expressions of type $\langle e \rangle$ (or referring expressions, abstracting away from traces) :

(37)  a.  1. **Syntax**

  i.    **Pronouns:** [[ it $i$ ] NP ]

  ii.   **Definite Descriptions:** [[ the $i$ ] NP ]

  iii.  **Proper Names:** [[ THE $i$ ] Socrates ]

  iv.   **Traces:** [[ THE $i$ ] NP ]

  b.  **Semantics**

  $$\lambda i_{\langle e,t \rangle}.\lambda g_{\langle e,t \rangle}.\exists!x(i(x) = 1 \ \& \ g(x) = 1). \ \iota x.(i(x) = 1 \& g(x) = 1)$$

Here, all of these expressions are taken to involve an overt or a covert definite determiner[8] which requires two arguments of type $\langle e, t \rangle$: namely an *index-function* as internal argument[9], and a typical *nominal-function* as external argument, and then returns an entity of type $\langle e \rangle$.

Focusing on pronouns, Elbourne proposes that in a number of cases they are accompanied by an elided NP, such as the ones generally assumed for cases like (38):

(38)  a.    John's **book** is more interesting than Mary's ~~book~~.

  b.    Bill ate **smarties** all afternoon, and Georges ate some ~~smarties~~ throughout the evening.

---

[8]The pronoun being identified as a type of definite determiner, modulo considerations of its $\phi$-features.

[9]We will come back to Elbourne's notion of index later on in this section.

c.      Suzy made **cookies**, and most ~~cookies~~ were eaten by Jack.

Where the assumption is that in each instance of noun phrase ellipsis (NPE), a noun is present in the syntactic representation, which is left unpronounced. Elbourne adopts the assumption that one of the licensing conditions on NPE is that an NP antecedent be overtly expressed in the discourse context (the bolded nouns in 38).[10]

In the next chapter, I will argue that the type of ellipsis assumed here, noun phrase ellipsis (NPE), does not occur in English, contrary to what is traditionally assumed. However, I will keep with Elbourne in assuming NPE here, for sake of argument. Obviously, the arguments presented in the following chapters should also be taken to weigh against such a proposal.

Elbourne contends that such elided NPs are responsible for the anaphoric descriptive content borne by, for instance, the pronouns in (39), (40) and (41), which Elbourne (2005) dubs *neontological*. The second member of each pair elicits the underlying syntactic content assumed under the syntactic D-type theory:

(39)    a.      The man who gave his paycheck to his wife was wiser than the man who gave **it** to his mistress.

        b.      The man who gave his paycheck to his wife was wiser than the man who gave [[**it** $i$] **paycheck**] to his mistress.

(40)    a.      John gave his paycheck to his mistress. Everybody else put **it** in the

_____

[10]See Lobeck (1995) for a number of suggestions pertaining to the syntactic licensing of NPE; similar syntactic constraints pertaining to verb phrase ellipsis are discussed in Fiengo and May (1994), Lasnik (1995), Merchant (2001).

bank. (Cooper, 1979)

b.      John gave his paycheck to his mistress. Everybody else put [[**it** $i$]

     **paycheck**] in the bank.

(41)   a.      This year the president is a Republican. Next year **he** will be a

     Democrat.

     b.      This year the president is a Republican. Next year [[**he** $i$] **president**]

     will be a Democrat.

Thus, according to this theory, the anaphoric component (at least as far as the

description goes) of pronouns is identified with that of NPE. This assumption about

the presence of an elided NP is also what allows Elbourne to identify pronouns with

definite determiners both with respect to their syntax and semantics.

It is also this feature of Elbourne's approach, along with the assumption that

NPE is a *surface anaphor* (Hankamer and Sag 1976), which is meant to account for

the problem of the formal link, by requiring the presence of a proper syntactically

expressed antecedent to the anaphoric NP.[11]

(42)   a.      Every man who has *a wife* is sitting next to **her**.

     b.   ?? Every heterosexual monogamous married man is sitting next to **her**.

Assuming co-intensional restrictions for the quantifier *every* in the two sentences, the

issue is to explain the failure of anaphora in (42b). Evidently the truth-conditional

properties of the expression *alone* are not sufficient to describe the licensing pattern

---

[11]This is taken to be a necessary condition for NPE licensing in the relevant cases.

of anaphora. Instead, Elbourne offers a syntactic explanation: anaphora is licensed in (42a) due to the presence of the overt NP antecedent *wife*, which leads to the satisfaction of the condition on NPE licensing, (43). No such NP antecedent is present in (42b), which leads to a violation of the NPE condition.

(43)  **NPE Licensing Condition**[12]

A formally identical linguistic antecedent to the elided NP must be available in the surrounding discourse.

Below, I will demonstrate that the condition on NPE licensing in (43) is neither necessary nor sufficient for the licensing of these anaphoric pronouns.

Sticking with the D-type accounts for the moment, we can verify that, in a number of cases, substituting definite descriptions for the pronouns gives us *roughly* the same reading, in accord with the semantic part of the analysis:[13]

(44)  a.  The man who gave his paycheck to his wife was wiser than the man who gave **the paycheck** to his mistress.

b.  John gave his paycheck to his mistress. Everybody else put **the paycheck** in the bank.

c.  This year the president is a Republican. Next year **the president** will be a Democrat.

The idea that pronouns can be treated as determiners followed by a nominal constituent goes back to Postal (1966), and is discussed in the work of Panagiotidis

---

[12]This is a paraphrase of Elbourne 2005: 44.

[13]The first two cases involving possessive might be slightly degraded.

(2002, 2003). Postal took the following examples to support such an idea:

(45) a. [we Americans]

b. [us linguists]

c. [you Communists]

d. (*dialectally*) [them guys], (*Scots*) [they Sassenachs]

(46) [You troops] will embark but the other troops will remain.

(47) [We Americans] distrust [you Europeans]

Elbourne follows Postal in assuming that, in these cases, the noun realized is the head of the nominal constituent which would have otherwise been elided.

Again, following Postal, he takes it that those can't be appositive constructions, as they do not involve a 'comma intonation':

(48) You, troops, will embark.

Given what I have introduced so far, we can see how the analysis of some donkey pronouns would go:

(49) Every man who owns a donkey beats it.

Here, the covariation could be obtained by having a variable part of the semantic of the pronoun bound by the QP *'every man who owns a donkey'*, and the descriptive content 'donkey' supplied by NPE.[14]

---

[14]This is basically what Heim & Kratzer (1998) offer (excluding the assumption about NPE):

iii. 1. [the [$R_{\langle 7, \langle e, et \rangle \rangle}$ pro$_{\langle 1, e \rangle}$ ]]

However, given this analysis, a problem arises for donkey pronouns in conditional sentences:

(50)    a.     If a man owns a donkey, he always beats it.

         b.     $\forall x \forall y ((\text{man}(x) \wedge \text{donkey}(y) \wedge \text{owns}(x, y)) \rightarrow \text{beats}(x, y))$

(51)    a.     If a man is from Athens, he always likes ouzo.

         b.     $\forall x (\text{man-from-Athens}(x) \rightarrow \text{likes-ouzo}(x))$

Here, we will not be able to obtain co-variation by having the pronouns in the consequent bound by one of the QPs in the antecedent of the conditional, as no c-command relation holds between any such pair.

This issue is, in some sense, related to another apparent problem first raised by Heim (1982). Recall that D-type theories treat pronouns as definite descriptions. Since the work of Frege (1879, 1893) and Russell (1905) it has been noted that (singular) definite descriptions appear to require of their referent that it be presupposed or proffered to both *exist* and be *unique* in the relevant context.[15]

Considering our donkey sentences, it is obvious that we are at risk of deriving the following:

(52)    If a man is from Athens, the unique man from Athens always likes ouzo.

---

2.   every man who owns a donkey [$\lambda_1$ [t$_1$ beats [the [$R_{\langle 7, \langle e, et \rangle \rangle}$ pro$_{\langle 1, e \rangle}$ ]]]]

Clearly, this exact analysis could not be reprised by Elbourne given what we have seen so far, since we only have one index for the whole DP. His take on covariation will be explicated immediately below.

[15] On this issue I follow Elbourne (2005) in assuming a Fregean treatment of presuppositions. I will come back to this later, upon discussing the problem of the formal link.

However, the sentence in (51) does not have this reading.

Here, in order to circumvent this issue, Elbourne follows Heim (1990) in adopting a situation semantics (Barwise and Perry 1983; Kratzer 1989). The idea is to assume quantification over *minimal situations*, where covariation emerges from *(i)* the possibility of anaphorically picking out situations[16] and *(ii)* the linking of the situations in the two clauses through the meaning of operators such as quantifiers (*e.g. every*), and adverbs of quantification (*e.g. always*). Where the situation found in the consequent clause of a conditional is an *extension* of that found in the antecedent clause:[17]

(53)   CONDITIONAL DENOTATION (EASY VERSION)

For every minimal situation $s$ such that there is a man from Athens in $s$, there is an extension $s'$ such that the unique man from Athens in $s$ likes ouzo in $s'$.

We can also see how this appeal to situations resolves the worry about the presuppositions tied to definite descriptions. In uttering a donkey sentence, the presupposition is to be evaluated only relative to each minimal situation quantified over by the antecedent, and not the broader context in which the whole sentence is understood.

One last aspect of Elbourne's approach I wish to address, before moving onto issues with the account, is the notion of ambiguity with respect to his treatment of indices. Whereas Elbourne explicitly seeks to offer a univocal account of pronouns,

---

[16]Situations are part of the metalanguage under Elbourne's conception, but have been argued to be part of the object language elsewhere, *e.g. Percus 2000.*

[17]Where we use $\leq$ for 'is extended by', as in $s_1 \leq s_2$.

his is still an ambiguity thesis. The real difference only pertains to where exactly the ambiguity is located. Focusing only on pronouns, we have seen above that the syntax and semantics offered for them involved an index-function, present in the syntax, although covert:

(54)   **Syntactic D-type Pronouns**

   a.  **Syntax:** [[ it $i$ ] NP ]

   b.  **Semantics:** $\lambda f_{\langle e,t \rangle}.\lambda g : g \in D_{\langle e,t \rangle}$ & $\exists!x(f(x) = 1$ & $g(x) = 1).\ \iota x.(f(x) = 1$ & $g(x) = 1)$

As noted by Elbourne (2005: p.154), under this theory, anaphoric pronouns in donkey sentences cannot involve an index function co-indexed with the antecedent. Again, given that the pronoun and intended antecedent do not stand in a c-command relation, sharing of the index would lead the pronoun to denote a unique individual in all cases.

(55)   ?? Every man who owns [a donkey]$_i$ beats [[ it $i$] ~~donkey~~]

   $\Longleftrightarrow$

   $\exists x.\ \text{Donkey}(x)\ \forall y.\ \text{Man}(y)$ & $\text{Own}(y, x) \rightarrow \text{Beat}(y, x)$

In any instance where quantification involves situations with different donkeys, this would yield a contradiction.[18] Clearly this is undesirable.

---

[18]That is, if the pronoun is referential to a specific entity in the context, bearing index 1, which descriptively corresponds to the entity introduced in the antecedent clause (it is a donkey), which crucially bears an index different from 1, then we would make a statement about a unique donkey in a situation which necessarily includes two.

In order to handle such issues, he introduces a dummy index '0', to figure in these cases. The index is suggested to have the following, vacuous, denotation:

(56)  $[\![\, 0 \,]\!] = \lambda x : x \in D_e . x \in D_e$

The denoting function imposes the requirement that its argument be a member of the domain of entities, which will be satisfied vacuously by any possible entity denoted by a pronoun.

Under Elbourne's account then, the difference between deictic pronouns, bound pronouns and donkey pronouns lies in the fact that the latter bear this vacuous index.

I find such a take on indices rather unexplanatory, especially for an approach which contends to do away with the ambiguity treatment often assumed by theorists seeking to give a proper account of the interpretation of pronouns. As we will see below, a further stipulation, of a very similar flavor, ends up also being required for the descriptive part of pronouns, in order to yield the correct readings in other contexts. I will come back to this issue, but let me only point out that where I agree with the spirit of Elbourne's attempt to devise an account which generalizes over all uses of pronouns, I am not convinced by this specific implementation.

## 2.2.2  Notes on the Syntax of Pronouns

Before moving on to semantic and pragmatic issues pertaining to D-type theories, I wish to make a few remarks about the syntax of pronouns in relation to the syntax of putative NPE. First, I will address some remarks by Elbourne (2005) on the

topic of some pronouns which combine with relative clauses (RC). Following this, I will briefly discuss the differential possibility of adjunct stranding for pronouns and putative NPE.

## 2.2.2.1 Pronouns and Relative Clauses

As noted by Elbourne (2005) and subsequent related work, it appears that some RCs may restrict some pronouns:

(57)  VOLDEMORT PRONOUNS

    a.    **He** [$_{RC}$ **who should not be named**] was not invited to the party.

    b.    **She** [$_{RC}$ **who must be obeyed**] has made her entrance.

As seen above, Elbourne (2005) proposes that pronouns have the syntax and semantics of (definite) determiners followed by an elided NP. RCs as in (57) are taken to be stranded after the elision of the noun, (58), and as such this analysis of the phenomenon bolsters the claim that anaphoric pronouns involve elided NPs.

(58)  [$_{DP}$ he $i$ [$_{NP}$ ~~sorcerer~~ [$_{RC}$ who should not be named] ] ]

Elbourne (2005) further points out that such voldermort pronouns can also appear in donkey configurations:

(59)  [Every man who met a woman who had to be obeyed] said that [**she who had to be obeyed**] told him to make himself scarce.

However, whereas the syntactic D-type analysis can provide a straightforward analysis of such cases, I believe that this evidence should be taken mildly.

First, as already pointed out by Elbourne (2005), the third singular neuter pronoun of English, 'it', cannot combine with RCs:

(60)    *  **It which should not be eaten** was never served at the party.

He does not provide an analysis of this idiosyncrasy, and neither will I, but he suggests that it might be related to the impossibility to use this word in certain contexts where demonstratives are expected:

(61)   a.    Look at that!

    b.    Look at her!

    c.    Look at him!

    d.   * Look at it!

Be that as it may, I find other idiosyncrasies which cast doubt on the strength of this evidence.

For one, notice that whereas *wh*-RCs can attach to pronouns, *Comp*-RCs cannot. Compare the unacceptable string in (62) to its acceptable counterpart in (57a).

(62)    *  **He** [$_{RC}$ **that should not be named**] was not invited to the party.

Further, note that such RCs are possible to combine with both overt definite descriptions and putative cases of NPE:

(63)   a.    **The stud that my sister kissed** was not invited to the party.

    b.    My mother invited a lot of boys, but **many that my sister kissed**

        were not invited.

Further, note that non-restrictive RCs cannot combine with pronouns, even though they can both combine with definite descriptions and cases of ellipsis:

(64)  a.  * **He which should not be named** was not invited at Harry's birthday party.

b.  **The boy which should not be named** was not invited to Harry's birthday party.

c.  **Many which should not be named** were not invited to Harry's birthday party.

It thus appears to me that the distributional evidence coming from the possible combination with **some** relative clauses constitutes more of a puzzle than of evidence in favor of the syntactic approach.

### 2.2.2.2  Adjunct Stranding

Typically, cases of Noun Phrase Ellipsis (NPE) in English can strand adjuncts, as in (65a). However, pronouns cannot strand adjuncts in this way, as shown in (65b). (65c) involves a full definite description, which, as we have seen, is assumed to be equivalent in meaning and structure to the anaphoric pronoun.

(65)  a.  A girl from Swabia is meaner than **one from Bavaria**.

b.  * The girl from Swabia is meaner than **her from Bavaria**.

c.  The girl from Swabia is meaner than **the girl from Bavaria**.

The underlying structures of both (65a) and (65b) are roughly the same according to the Elbournian account, where in both cases the elision of the NP *girl* is licensed by the overt local antecedent NP from the matrix clause.

(66)　　a.　　$[_{DP}$ one $[_{NP}$ ~~girl~~$]$ $[_{PP}$ from Bavaria$]$ $]$

　　　　b.　　* $[_{DP}[$ she/her $i]$ $[_{NP}$ ~~girl~~$]$ $[_{PP}$ from Bavaria$]$ $]$

All else being equal, we would expect PP adjunction to the elided NP to be acceptable in both cases, and the subsequent stranding to obtain in both cases as well. However, if we assume that pronouns do not actually involve any elided NP at all, but are of category D as I assume, nothing special needs to be said here.

　　　Turning to French, the same point can be made, where NPE allows for the stranding of prenominal modifiers:[19]

(67)　　J'ai　vu　les garçons dans la　cour.　　　Les grands [e] jouaient
　　　　I'have seen the boys　in　the courtyard. The tall　　[e] played
　　　　avec les　petits [e].
　　　　with the little　[e]
　　　　'I've seen the boys in the courtyard. The big ones were playing with the

　　　　little ones.'

(68)　　Il　　y avait de　grands garçons et　de　petits [e] aussi.
　　　　There　were some tall　boys　and some small [e] too.
　　　　'There were big boys and little ones too.'

　　　But here again, pronouns cannot appear followed by prenominal modifiers:

---

[19]These data originate from the work of Herschensohn (1978) who argues that those sentences involve ellipsis. I come back to my analysis of such French cases in chapter 4.

(69)  J'ai    vu   les garçons dans la   cour.       *Ils  grands [e] jouaient
      I'have seen the boys   in    the courtyard. They tall     [e] played
      avec ils    petits [e].
      with they  little  [e]

      'I've seen the boys in the courtyard. The big ones were playing with the

      little ones.'

(70)  J'ai    vu   les garçons dans la   cour.       *Il grand [e] jouaient avec
      I'have seen the boys   in    the courtyard. He tall    [e] played   with
      il   petit [e].
      he  little [e]

      'I've seen the boys in the courtyard. The big one was playing with the

      little one.'

I take these differences to point to the conclusion that elided NPs are not

present in the pronouns' inner syntax.

## 2.2.3  Reaching Out

The discourse contexts in which anaphoric pronouns and NPE find an accessible

antecedent greatly overlap. Consider, for instance, the environment in which we

find paycheck-pronouns and cases of cross-sentential anaphora with subordination

(what Geurts 2011 calls *piggyback anaphora*):

(71)  a.   The man who gave some wine to his wife was wiser than the man who

           gave some ~~wine~~ to his mistress.

      b.   The man who gave some wine to his wife was wiser than the man who

           gave **it** to his mistress.

      c.   Most birds left early this year. I hope some ~~birds~~ will come back next

41

summer.

d.   Most birds left early this year. I hope **they** will come back next
summer.

Under a syntactic d-type account, we expect the distribution of anaphoric
pronouns to be subsumed by that of NPE, excluding cases where the unacceptable
use of the pronoun or of Det+NPE can be blamed on some characteristics of the
determiner heading the nominal constituent, or other elements figuring (or assumed
to figure) in the nominal constituent.[20] This prediction is a necessary consequence
of the identification of the anaphoric content with the content of the elided NP
constituent.

However, one needs to be careful in assessing the source of unacceptability.
For instance, consider NPE in the environment typical of donkey pronouns:

(72)   a.   Every farmer who owns a donkey beats **it**.

b.   Every farmer who owns a donkey beats some ~~donkeys~~ ?*(at his neigh-
bor's farm)

Here, without the added PP modifier *at his neighbor's farm* the quantifier *some*+
NPE seems slightly degraded. However, this degradation is easily attributable to
pragmatic factors, and is not due to the ellipsis. For one, the fully spelled out DP
*some donkeys* would contribute the same type of weirdness. Rather, *some* is an
indefinite, and as such tends to be understood as introducing a new entity to the

---

[20]With the pronoun itself incorporating aspects of the semantics of definite descriptions, following
the D-type tradition, and thus subject to similar, if not the same pragmatic restrictions.

discourse; it is marked as the head of an anaphoric constituent which maximally resumes an antecedent. The added prepositional phrase modifies the discourse context, and somewhat eases the required accommodation.

In what follows, I turn to a number of cases where no such explanation can be coined without adding to our already existing syntactic, semantic, or pragmatic machinery. I will claim that in those cases, the lack of parallelism in the distribution of the anaphors is simply due to the fact that pronouns do not involve NPE. Instead, I will claim that the pronoun takes a salient discourse referent(s) as antecedent(s). Furthermore, in the next chapter, I will argue that cases of ellipsis do not in fact involve the deletion of a noun phrase, but rather the deletion of a partitive phrase involving a plural anaphoric pronoun. This is what will account for the similarity in distribution between pronouns and cases of ellipsis.

## 2.2.4   Absenteeist Antecedents

This section argues that an overt NP antecedent is not necessary for the licensing of anaphoric pronouns. In order to reach this conclusion, the cases examined are those of event anaphora and deep anaphora which lack such an antecedent.

## 2.2.4.1   Event Anaphora

Since Davidson (1967), it has become common to treat sentences as expressing existential quantification over events. In the discussion to follow, I will use Neo-Davidsonian logical forms, like (73b) for (73a), which treat thematic relations as

separate conjuncts.[21]

(73)    a.     Jean hugged Marie

        b.     $\exists e.\text{Hugged}(e)$ & $\text{Agent}(e, \text{Jean})$ & $\text{Patient}(e, \text{Marie})$

Much work has also investigated anaphoric reference to events.[22] It is typically taken that pronouns can find their reference in events introduced by previous sentences, as in (74). There, the intended referent of the pronoun is the event of 'Gob making his father disappear on a boat'; that is, the event verifying the existential statement of the first sentence.

(74)    Gob made his father disappear on a boat. **It** wasn't very impressive though.

Event-pronouns can also behave as *donkey-pronouns*, (75a), and *partial descriptions*, (75b). In (75a), the targeted antecedent predicate can be obtained through conjunction reduction of the conditional's protasis, as in (76a). In (75b), the required predicate can be obtained through conjunction reduction of the previous sentence's description, as in (76b).

(75)    a.     Whenever Lucille hears that Michael will visit the other Bluths, She knows **it** will be a disaster.

        b.     John was killed in broad daylight in NYC. **It** would have never happened to Marie in Paris.

---

[21] Among others, Higginbotham (1983, 1985, 1986); Parsons 1990; Schein 1993; Landman 2000; see also the articles in Higginbotham, Pianesi and Varzi 2000.

[22] Among others, Asher 1993; Peterson 1982; Kehler and Ward 2004.

(76)    a.    $\lambda e.$ Agent$(e,$ Michael$)$ & Visit$(e)$ & Theme$(e,$ the other Bluths$)$

        b.    $\lambda e.$ Kill$(e)$ & In-Broad-Daylight$(e)$

Such cases are problematic for the syntactic D-type approach, given that no overt NPs standing for descriptions such as those in (76) are available in the preceding discourse. This should lead to a violation of the NPE licensing condition. But it does not, instead, the anaphora is licensed.[23]

    Furthermore, cases of event anaphora do not appear to be constrained to syntactic constituents as their antecedents, but rather to something like conjunctions of Neo-Davidsonian arguments. For instance, it is possible to find examples where

---

[23]A possible resolution to this problem, suggested to me by Kyle Rawlins (p.c.), could be that the VP constituents serve as formal antecedents in such cases, thus licensing ellipsis. Such an approach would be in line with analyses of gerunds which hold that a VP is present in the NP constituent (Abney 1987, Pullum 1991), and the fact that such nominalized expressions can undergo NPE:

  iv. [John's [$_{VP}$ discovering a new planet] ] surprised me, but [Mary's[$_{VP}$ ~~discorvering a new planet~~]] didn't.

The underlying LF of the pronoun in an example like (75a) above would be like the following (I abstract away from considerations of tense here):

  v. [it [$_{VP}$ ~~Michael visit the other Bluths~~]]

However, such a view on ellipsis would require that a VP can antecede typical cases of NPE, which is not the case:

  vi. *Alfonso was singing to Isabella, and this didn't surprise me, but [Bill's [$_{VP}$ ~~singing to Isabella~~]] did, since I didn't know he sang, or even liked Isabella.

the sought antecedent is a non-constituent, as in (77).

(77) a. A mobster shot Bill. **It** would have never happened to Clint because he instills such fear in mobsters.

b. $\lambda e$. Agent($e$, A mobster) & Shot($e$)

Here, the antecedent involves the content supplied by the subject *a mobster* as well as the content supplied by the verb *shot*, to the exclusion of the content supplied by the object *Bill*. But this content is not provided by any phrasal constituent of the anteceding sentence.

It is also important to stress that modifying the NPE condition will not do either. NPE is more constrained than pronouns, in that it cannot have an event antecedent supplied by a sentence. This is illustrated by the following pair of examples:

(78) a. My sister got mugged in Springfield last week, and **it** happened to my brother this week.

b. My sister got mugged in Springfield last week #(, and [**some/few/ several/one** [$_{NP}$ ~~**mugging**~~]]) happened to my brother this week).

c. My sister's *mugging* was horrible, but my [**brother's** [$_{NP}$ ~~**mugging**~~]] was even worse.

In (78a), the pronoun *it* is anaphoric to the event description *getting mugged in Springfield*, and the discourse segment is fully coherent and acceptable. However, considering the different determiners which allow for NPE in (78b), it is obvious

46

that NPE targeting an event description in the same context is infelicitous. That is, without an overt antecedent, as in (78c), NPE is not licensed, whereas the pronominal anaphora is. It thus appears that the NPE condition, as stated above, might be adequate for cases of ellipsis, but not for anaphoric pronouns.[24]

Cases of deep event anaphora are also possible with pronouns, as in (79).[25] Yet here again, NPE cannot access the desired event descriptions in the same context, (80).

(79)  a.  `[While looking at an arguing couple]`:

**It** always happens right after Valentine's Day.

b.  `[A student is freaking out]`:

**It** always happens during the dissertation process.

(80)  a.  `[While looking at an arguing couple]`:

??Some/Most/All ~~argument(s)~~ always happen(s) right after Valentine's Day.

b.  `[A student is freaking out]`:

??Some/Most/All ~~freak-out(s)~~ always happen(s) during the dissertation process.

I conclude from such cases that satisfaction of the NPE licensing Condition is not necessary for the licensing of anaphoric pronouns. Rather, the semantic D-type approach seems superior here. The contextual function can readily range over

---

[24]I offer an alternative explanation to the ellipsis case in the next chapter.

[25]I thank Alexis Wellwood and Alexander Williams for pointing out these examples.

event-predicates introduced by previous discourse or other contextual factors. The syntactic D-type approach is too restricted to account for such cases.

## 2.2.4.2 Deep Anaphora

Whereas Elbourne (2005) does not discuss cases of event anaphora, he does address other types of deep anaphora, such as the following case:

(81) [We are walking through Boston, and come across someone with the
     following characteristics:  early twenties, male, skateboarding,
     wearing a Red Sox cap, smiling broadly.  Paul gestures towards him
     and says]:

     a.    [He [$_{NP}$ ?????]] looks happy!

     b.  # [Most [$_{NP}$ ?????]] look more depressed than that.

Here, the issue is clear. If *he* is a definite description with an elided NP in (81a), what is the NP that could be elided, and how is it licensed? This question is even more pressing, given the unacceptability of the parallel NPE example in (81b).

To tackle such examples, Elbourne proposes the following LF:

(82)  a.    He looks happy!

      b.    [ [he 2] ONE ]

In (82), the pronoun *he* is taken to be a function of type $\langle\, \langle e, t\rangle, \langle\, \langle e, t\rangle, \langle e\rangle\, \rangle\, \rangle$. The first argument of type $\langle e, t\rangle$ is an index-function ('2' in this case), and the second is an NP supplying the description. The NP *ONE* occurring in (82) is a dummy

phonologically null noun, which Elbourne stipulates is always available and does not require a linguistic antecedent to be licensed. It is contextually restricted and has the vacuous semantic contribution in (83).[26]

(83)   $[\![\text{ONE}]\!] = \lambda x : x \in D_e.x \in D_e$

In such instances of deixis, the NP predicate is neutralized, and the index of the pronoun is taken to be responsible for reference resolution, as in the traditional account.

However, there are cases of deep anaphora where the pronoun must pick out a predicate, in order to ensure covariation:

(84)   `[A new faculty member picks up her first paycheck from her mailbox.`

   `Waving it in the air, she says to a colleague]:`

   Do most faculty members deposit **it** in the Credit Union? (Jacobson 2000)

Here, a fixed referent will not work. The checks denoted by the pronoun covary with the individuals of the restrictor of the QP *most faculty members*. Rather, the predicate 'check' appears to be what is retrieved.

To resolve this conundrum, Elbourne suggests that a description provided by the non-linguistic context *does not require an overt antecedent* (Elbourne 2005: 44). This has the effect of making the licensing of anaphoric D-type pronouns a hybrid

---

[26]Note that under this theory, the same vacuous meaning is postulated for the dummy index 0, which is required every time a contentful NP predicate is present, as in the case of donkey pronouns. That is, uses of a meaningful index and uses of a meaningful NP are in complementary distribution, which makes it suspicious that their syntactic and semantic extent should be distinct.

mechanism, partly syntactic and partly pragmatic. In other words, this version of the syntactic D-type approach holds that the condition on NPE is only necessary in a subset of cases, and does not apply in instances where the antecedent is supplied by the broader context.

Hence, the syntactic approach avails itself both of the rather free anaphoric range of the contextually supplied predicate assumed under the semantic D-type approach, and of the restricted distribution imposed by the NPE licensing condition (where it applies). Such an approach must assume some form of pragmatic restrictions to apply and guide interpretation for cases such as (84); presumably restrictions of a very similar nature, if not the same, are required under the semantic approach. At this point, the only reason for the D-type theorist to hold on to the NPE licensing condition is in order to account for the formal link generalization. However, as I will argue in §2.2.5, the pragmatic conditions required even under the syntactic D-type account may be sufficient to account for this generalization.

Given such considerations, the semantic D-type approach, supplied with appropriate pragmatic principles, would be simpler and preferable.

## 2.2.5   The Problem of the Formal Link

The condition on NPE licensing alone is not sufficient to account for the distribution of anaphoric pronouns. In fact, numerous cases can be found where pronominal anaphora fails despite the overt presence of a suitable nominal antecedent in the discourse context. In order to account for such cases, other conditions are required.

Consider first the following cases:

(85) a. Every man who owns a *donkey* beats **it** ~~donkey~~.

b. # Speaking of the *successor*-function, every number is smaller than **it** ~~successor~~. (Heim 1990: 167)

c. # Every *guitar* player brought **it** ~~guitar~~ to the party.

d. # Every *physics* student thinks **it** ~~physics~~ is superior to chemistry.

e. # I first introduced my *wife* and then realized that every married man was sitting next to **her** ~~wife~~.[27]

If all that mattered was the NPE licensing condition, anaphora should be licensed in cases where a nominal premodifier is present as in (85b,c,d). Yet such examples strongly contrast in acceptability with, for instance, cases of donkey anaphora as in (85a). Other cases, such as (85e), can also be found where a formally suitable antecedent NP is present, however not embedded within the restrictor of the quantifier responsible for covariation. Under the syntactic account, given that no principle requires the linking of the restriction of the quantifier with the putative NP antecedent, the unacceptability of such examples is still not accounted for.[28]

---

[27]Here, the reading sought is one where the anaphoric pronoun *her* covaries with the married men, each man sitting next to his own wife.

[28]Note that under dynamic approaches, such examples, just like typical formal link cases, are unproblematic. This is because under such theories, pronouns, just as anaphoric definite descriptions, are typically taken to resume a *discourse referent* (Karttunen 1969) introduced to the context by another expression. In none of these cases was there an appropriate discourse referent introduced, given that they are typically taken to be introduced by means of an indefinite NP, and not by

Observe also that NPs embedded under privative modifiers cannot serve as antecedents for pronouns, (86a,b). This is surprising given the felicity of the equivalent overt definite descriptions in the same context. It is further puzzling, given that NPs embedded under privative modifiers may antecede NPE, as exemplified in (86c).

(86)    a.    If a child has a fake *diamond* and visits a jeweler, he thinks that {#[ **they** ~~diamonds~~]/[**the diamonds**]} are prettier than [ **his** ~~fake diamond~~].

       b.    Every citizen who meets a former *president* wants #[**him** ~~president~~]/[**the president**] to lower taxes.

       c.    Every woman who has fake *diamonds* wishes she had [**some**[$_{NP}$ ~~diamonds~~]] that were real.

Under the syntactic account, the examples in (86a,b) could perhaps be accounted for by modifying the condition on NPE licensing. For instance, it could be required that the antecedent be a maximal phrase, thus including all modifiers. However, such a remedy does not appear adequate given that NPE does not generally target maximal phrases exclusively:

(87)    John ate green *smarties* all afternoon. Mary only ate [some[$_{NP}$ ~~smarties~~/ *~~green smarties~~]] in the evening, and they were all red.

Here the elided constituent must only be the NP *smarties* and not the maximal phrase *green smarties*.

---

modifiers or expressions of the like. I come back to such approaches below.

Hence, semantic or pragmatic conditions appear to be required to account for the cases seen so far. I turn to such considerations upon discussing semantic D-type approaches.

## 2.2.6 Split Antecedents

Further problems arise for the syntactic account when considering cases where pronouns have split antecedents, as in (88).[29]  Here again, there are no proper overt **single** NP antecedent to satisfy the NPE condition. Rather, the antecedents occur as independent NPs which are not necessarily conjoined, as seen in (88e).

(88)   a.   If Mary hasn't seen John lately, or Ann misses Bill, **she** calls **him**.
(Stone, 1992)

   b.   If Mary sees a donkey or a horse, she waves to **it**.

   c.   If Mary sees John or Bill, she waves to **him**.

   d.   If Mary sees a donkey and a horse, she waves to **them**.

   e.   If a man has a wife who owns a donkey, he always loves **them** both equally.[30]

Elbourne recognizes such cases as problematic, but discusses the two-step mechanism proposed by Fiengo and May (1994: 200) for the parallel phenomenon of VP ellipsis:

---

[29]See for instance Groenendijk and Stokhof 1991; Stone 1992; Chierchia 1995; Schlenker 2010, 2011, amongst others.

[30]This example is due to Alexander Williams, cited by Elbourne (2005:118).

(89)   a.   Step 1: Select the required lexical items in the syntactic environment.

     b.   Step 2: Build the desired antecedent NP out of these items.

As just pointed out, (88e) lacks a conjunction in the discourse context, and so one wonders where this piece comes from.

VP ellipsis is subject to the same complications:[31]

(90)   a.   Max is always using the fax. Oscar is always using the Xerox. I can't, of course, when they are.

     b.   Mary swam the English Channel. Mary climbed Kilimanjaro. I did, too.

Again, Elbourne states that this is a problem for the syntactic D-type approach just as much as it is a problem for current analyses of ellipsis in general.

Here, I wish to raise a further issue which arises for the syntactic approach, pertaining to the grammar of *determiner sharing*. The result of the mechanism suggested would allow for the structure in (91b), involving the conjunction of two NPs. The construction is equivalent to the underlying form of the full definite description in (92b). This seems correct given that the meaning of (91a) appears equivalent to the meaning of (92a).

(91)   a.   If a man has a wife who owns a donkey, he always loves **them**.

     b.   $[_{DP}$ [them $i$] $[_{NP}$ ~~wife~~ and ~~donkey~~]$]$

---

[31] These examples are taken from Fiengo and May (1994).

(92)  a.  If a man has a wife who owns a donkey, he always loves the wife and

donkey.

b.  $[_{DP}$ [the $i$] $[_{NP}$ $[_{NP}$ wife] and $[_{NP}$ donkey]] ]

However, the mechanism assumed under the modified D-type approach is problematic for languages such as French (93b,b′), Italian, and Modern Greek, which forbid so-called *determiner-sharing*:[32]

(93)  a.  The secretary of John and collaborator of Paul is/are at the station.

b.  The secretary of John and the collaborator of Paul *is/are at the

station.

(94)  a.  La  secrétaire de Jean et   collaboratrice de Paul est/*sont à  la
the secretary of  John and collaborator   of  Paul is/are     at the
gare.
station

'The secretary of John and collaborator of Paul is at the station.'

b.  La  secrétaire de Jean et   la   collaboratrice de Paul *est/sont à
the secretary of  John and the collaborator   of  Paul is/are     at
la   gare.
the station

'The secretary of John and the collaborator of Paul are at the station.'

c.  Les    secrétaires de Jean et   collaboratrices de Paul *est/sont à
thePL secretaries of  John and collaborators   of  Paul *is/are    at
la   gare.
the station

'The secretaries of John and the collaborators of Paul are at the sta-

tion.'

---

[32]The data is taken from the work of Alexiadou, Haegeman, and Stavrou (2007: 66-68).

We see in (93a) that in a language like English, two NPs conjoined under a single determiner can denote a plurality of referents and trigger plural agreement on the verb; alternatively the same phrase can be taken to denote a single individual to which both properties expressed apply (here that of being John's secretary and Paul's collaborator). As seen in (93b), the conjunction of two DPs necessarily denotes a plurality of referents and cannot trigger singular agreement on the verb.

Turning to the French case in (94b), we see that there, just as in English, the conjunction of two DPs yields an unambiguously plural referent. However, the conjunction of NPs under a single determiner, (94a), cannot yield a plurality of distinct individuals as in English. Rather, the resulting phrase denotes a single individual satisfying both properties denoted by the conjoined NPs. Crucial here as well is the interpretation of a sentence such as (94c), where conjoining two plural NPs under a plural determiner leads to a plurality of individuals, each of which must satisfy **both properties** denoted by the NPs. The plurality cannot be heterogeneous, and so the issue in (94a) is not just one of $\phi$-feature marking on the determiner.

Here I cannot give a full analysis of determiner sharing. But I do assume that (95) holds in languages like French, Italian and Greek.

(95)   No Determiner Sharing: Each referent in a nominal conjunction requires its own determiner.

This bans the possibility of satisfying the NPE condition for cases of split antecedents. Consider for instance the anaphoric pronoun in the sentence in (96). Given the mechanism introduced above, we would have the LF in (97) for the

French pronoun *les*, parallel to the English one in (91b) above.

(96)  Si un homme a   une femme qui  possède un âne,    il  tend  à  **les**
      If  a   man   has a  wife    who owns  a   donkey, he tends to them
      aimer.
      love

      'If a man has a wife who owns a donkey, he tends to love them.'

(97)  [$_{DP}$[les *i*] [$_{NP}$ ~~femmes et ânes~~]]

However, given the lack of determiner-sharing in this language, such an LF
cannot yield the correct reading; rather, such a construction would require that every
entity referred to must be BOTH a woman and a donkey (*e.g.* ⟦(97)⟧ ≠ ⟦(91b)⟧).
Clearly this is not the desired result.

The semantic approach can readily account for such cases, assuming that
salient predicates can be combined to form new predicates for the purpose of anaphora.

## 2.2.7   Semantic D-Type

As we have seen above, the mere presence in the syntax of a potential antecedent
for the contentful part of a pronoun is not sufficient to license anaphora. Other
considerations are relevant. This observation raises the question of whether the
syntactic form of the antecedent ever plays a crucial role in the licensing of the
dependency.

Another view would be that what matters to anaphora is not the formal pres-
ence of the phrase, but rather the semantic and pragmatic *effects* of tokening it.
What matters are its contributions to the discourse context. This is the possibility
I wish to explore here. I do not contend to offer a complete picture of all of the

pragmatic considerations going into licensing anaphoric pronouns. Rather, I will review the difficult cases just discussed, and make suggestions as to how they could be accounted for under a pragmatic treatment. The conditions I will call upon here are not new to the current work. They are a subset of the conditions argued for by Nouwen (2003: 76-77), following much preceding work; namely, (i) inferrability, (ii) uniqueness, (iii) use of semantically available information only and (iv) support of discourse coherence by the anaphoric link.[33]

I mean only to suggest that what appears to be pragmatically required in such cases is sufficient to account for the problem of the formal link. This last problem thus being dealt with, the semantic d-type approach can be considered again.

Focus first on the cases with antecedents occurring as NP modifiers of another NP (85b,c,d), and antecedents occurring outside the restrictor of a quantificational expression, such as (85e) repeated here:

(98)     * I first introduced my *wife* and then realized that every married man was sitting next to **her** ~~wife~~.

For such cases I would like to suggest that a slight modification of Craige Roberts WEAK FAMILIARITY presupposition accurately rules out such unacceptable cases of anaphoric linking:

(99)     ROBERTS' WEAK FAMILIARITY REDUX:

A presupposition of weak familiarity requires that the existence of the intended entity, [and presence or relevance in the context/situation un-

---

[33]See also Asher and Lascarides (2003), as well as Kehler (2005) on the notion of coherence.

der discussion-MG]$^{34}$, be entailed by the local context of utterance, as reflected on the Scoreboard in [the Discourse Representation]. (Roberts 2010: 15)

In (98), nothing entails the presence or relevance of every married man's wife in the situation or context characterized by the sentence. This leads to a failure of the presupposition. The presupposition also correctly rules out the cases involving NP modifiers, such as (85b,c,d), where no potential referent satisfying the relevant predicates have been introduced to the discourse context.

Considering cases involving privative modifiers, as in (86b), repeated in (100). Here, a condition on salience, like that in that what rules out such cases is the condition on salience in (101).

(100)   Every citizen who meets a former *president* wants *[ **him ~~president~~** ]/[**the president**] to lower taxes.

(101)   PREDICATE-SALIENCE

The predicate satisfying the contextual variable must be *salient*.

I will not attempt to define salience. But the idea that anaphoric constructions respond to salience is familiar from Prince 1986$^{35}$, as well as Grosz and Sidner 1986, and others. I assume that a predicate P can be made salient in various ways. One

---

$^{34}$Note that this addition is an integral part of dynamic accounts, where discourse referents are resumed by the anaphor. This is the type of treatment I will ultimately adopt below.

$^{35}$Prince argues that various constructions are felicitous only given the salience of a certain "open proposition". An "open propositions" is in effect a predicate.

way is the use of an expression E that denotes P. But I offer one restriction on when E will make P salient, (102).

(102)    CONDITIONS ON PREDICATE-SALIENCE

A predicate P occurring in a quantificational construction $\Phi$ is made salient if $\Phi$ ranges over Ps.

According to the licensing condition, In order for the predicate 'president' to be made salient in (100), the expression *a former president* would have to range over individuals who satisfy the description 'president': However, it does not, and, as a result, pronominal anaphora to the predicate 'president' fails.

Two distinct types of conditions appear to be required in order to account both for the similarities and the differences between anaphoric pronouns and anaphoric uses of definite descriptions. As we have already seen above in (86), overt definite descriptions and anaphoric pronouns behave differently in the environment of NPs modified by privatives. Furthermore, covarying definite descriptions are not necessarily licensed in formal link configurations:

(103)   a.    Every man who has a wife is sitting next to **her/ the wife/the bride**.

b.    Every heterosexual married man is sitting next to **#her/#the wife/ #the bride**.

In (103b), the example involving a full definite description is unacceptable despite the fact that the DP in question supplies a description overtly (*viz.* 'wife/bride'). This unacceptability cannot, then, be blamed on a condition on predicate salience, and even less on a condition on NPE. Rather, a condition like WEAK FAMILIARITY

60

seems appropriate here. The existence of a married man, whereas it entails the existence of a partner, does not entail the presence of a partner *in the relevant context or situation.* More contextual support is needed to draw such an inference, and so anaphora is not licensed.

However, cases which minimally differ from the typical *formal link* sentences can easily be constructed, where covariation with a full definite description is possible:[36]

(104)   Every heterosexual man who gets married kisses **the wife/the bride**.

Here, the modifier 'married' is enough to license the subsequent anaphoric reference to the wife. It is not necessary to refer to the wife explicitly. Covariation with the definite description 'the wife' is licensed (and this without the introduction of an overt NP). If the man is *getting married*, then it must be the case that the partner is present in the situation, and so WEAK FAMILIARITY is satisfied.

However, in the same context, pronominal anaphora fails, (105). I take this to show that, while the construction implies wives, it does not makes salient the predicate 'wife', which leads to a violation of PREDICATE-SALIENCE.

(105)   # Every heterosexual man who gets married kisses **her**.

It is now unsurprising that the unacceptable cases of the formal link paradigm should be ruled out. These cases, such as (106), violate both of the conditions

---

[36]I assume that these involve inference on the part of the addressee and fall in the *bridging* family (Haviland and Clark 1974).

considered. The predicate sought has not been made salient[37], leading to a violation of PREDICATE SALIENCE, and the relevant individuals are not weakly familiar in the context, leading to a violation of WEAK FAMILIARITY.

(106)   # Every heterosexual monogamous married man is sitting next to **her**.

The semantic D-type approach, supplemented with relevant and otherwise required pragmatic conditions, can account for the problem of the formal link. This gives an edge to this latter approach against the syntactic D-type approach. The semantic approach can readily account for cases of event anaphora and deep anaphora, and for the formal link generalizations; whereas it is not clear how the syntactic account can tackle event anaphora, and is led to a hybrid approach, harnessing the power of the semantic approach, for cases of deep anaphora. The syntactic approach can straightforwardly account for the problem of the formal link, but this at the cost of too restricted a theory.

## 2.3   Pronouns in Dynamic Approaches

There are two main families of theories which fit the label of dynamic approaches: Discourse Representation Theory (DRT, Kamp 1981; Heim 1982; Kamp and Reyle 1993 amonst others) and Dynamic Predicate Logic (DPL, Groenendijk and Stokhoff 1990, 1991; Krifka 1995; van den Berg 1996, among others). Both families of theories generally treat the semantic representation of pronouns alike, but differ in the

---

[37]Here I am assuming that the expression *married* cannot satisfy the contextual predicate given the $\phi$-feature mismatch; *e.g.* married males have been made salient, but not married females.

semantic architecture, and the specific way in which the value for anaphoric pronouns is retrieved. Where there are dynamic elements to DRT, the interpretation process itself is rather static. On the other hand, DPL-type theories offer a truly dynamic interpretation process. Here, given that the representation of anaphoric pronouns is what I am interested in, I will limit myself to a description of DRT, which is simpler and more intuitive than DPL. I refer the reader to Nouwen (2003) for a thorough discussion and comparison of these various theories.

In DRT, expressions supplied by the syntax, or LF, are translated in Discourse Representation Structures (DRSs) through the recursive application of construction rules. DRSs involve two components; (i) a set of variables or discourse referents called the *universe*, and (ii) a set of conditions which apply to these discourse referents. These DRSs are interpreted in a static fashion. Assuming a model $M = \langle D_e, I \rangle$ and a set of variables $VAR$, a DRS is a pair $\langle V, C \rangle$, where $V \subseteq VAR$ and $C$ is a set of conditions. In other words, the DRS in (107a) is equivalent to the predicate logic formula $P(x)$.

(107)　a.
$$\begin{array}{|c|}
\hline
x \\
\hline
P(x) \\
\hline
\end{array}$$

　　　b.　$\exists f : \{x\} \to D_e$ such that $f(x) \in I(P)$

The DRS in (107) is true if and only if there exists a function such that the value of the variable satisfies the condition in the model, (107b). In this system, indefinite NPs are variables, discourse referents, introduced with a condition, which allows them to take the quantificational force of the environment in which they occur.

Such NPs basically introduce new discourse referents. On the other hand, pronouns do not introduce new discourse referents, but resume old ones, introduced prior in the discourse. The construction rule for pronouns states that they should be replaced by *accessible* discourse referents.

Conditional sentences are represented as in (108a), and interpreted as in (108b).

(108)  a.
$$
\boxed{\begin{array}{c} \Upsilon \\ \hline \Gamma \end{array}} \quad \Rightarrow \quad \boxed{\begin{array}{c} \Upsilon' \\ \hline \Gamma' \end{array}}
$$

   b.  All functions $f$ that verify $\langle \Upsilon, \Gamma \rangle$ in $M$ can be extended to a function which verifies $\langle \Upsilon', \Gamma' \rangle$ in $M$.

Basically, the consequent part of the DRS is dependent on the antecedent part of the DRS for its interpretation. This is what accounts for the interpretation of pronouns in donkey sentences. Consider the DRS, (109b), of the conditional donkey sentence in (109a).

(109)  a.  If a farmer owns a donkey, he beats it.

   b.
$$
\boxed{\begin{array}{l} x, y \\ \hline farmer(x) \\ donkey(y) \\ own(x,y) \end{array}} \quad \Rightarrow \quad \boxed{\begin{array}{l} x, y \\ \hline beat(x,y) \end{array}}
$$

   c.  All functions $f : \{x, y\} \to D_e$ such that $f(x)$ is a man and $f(y)$ is a donkey owned by $f(x)$ in model $M$ extend to a function $f' : \{x, y\} \to D_e$ such that $f'(x)$ beats $f'(y)$.

64

This dependence between the two sub-DRSs of the conditional sentence is what makes the farmer and donkey antecedents accessible to the pronouns. This is what is sometimes referred to as semantic binding, as opposed to syntactic binding.

In other cases, such as (110a), pronouns fail to resume a discourse referent, since they lie outside the scope of operators which allow to extend the binding relation.

(110)   a.    If a man owns a donkey, he beats it. ??It runs away.

b.
$$
\boxed{
\begin{array}{c}
x, y \\
\hline
farmer(x) \\
donkey(y) \\
own(x,y)
\end{array}
} \Rightarrow
\boxed{
\begin{array}{c}
w \\
\hline
beat(x,w) \\
w = y
\end{array}
}\; \text{run-away(y)}
$$
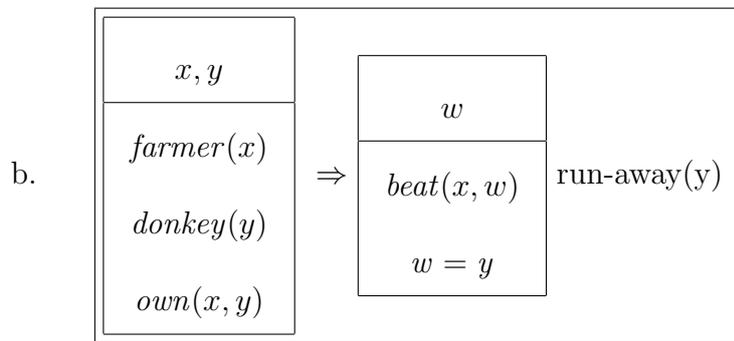
This notion of accessibility is also what is taken to account for the problem of the formal link discussed above.

(111)   a.    Every man who has a wife is sitting next to **her**.

b.  # Every heterosexual monogamous married man is sitting next to **her**.

In (111a), the indefinite *a wife* introduces a discourse referent which is accessible to the pronoun. However, in (111b) no such discourse referent has been introduced. The cases involving privative modifiers, and nominal modifiers, discussed above can also be accounted for in the same way.

This concludes our brief discussion of the variable representation of pronouns in dynamic approaches. In the next section, I will introduce further cases which

weigh in favor of this type of representation for pronouns, as opposed to D-type representations.

## 2.4   Against D-type Approaches

In this section, I wish to introduce serious challenges for D-type theories generally; these challenges favor a reference-anaphoric treatment of pronouns as variables over discourse referents, as under the dynamic theories. First, I will present a challenge to the modified semantic D-type approach presented above. Then, I will present a challenge which pertains to the anaphoric reach of plural pronouns in contexts involving several possible antecedents. Finally, I present an unexpected contrast between cases of pronouns of laziness, and minimal variations on these examples involving copular sentences. I will then suggest that rather than complicating the D-type approach, we should stick to the standard account, and amend it with the possibility of deferred reference in order to account for cases of neontological pronouns.

### 2.4.1   Salient Open Propositions

I suggested above that a semantic D-type account supplemented with a condition on predicate salience could help us account for some cases of overgeneration, such as those involving privative modifiers. Preliminary support for the plausibility of this approach was drawn from the fact that predicate salience has already been suggested in the literature to play a role in the licensing of a number of constructions, such

as *wh-clefts* and *it-clefts* (Prince 1978, 1986). However, it turns out that salient predicates (or predicates salient enough to license the mentioned constructions) are not sufficient to license the use of pronouns.

First, consider the following cases:[38]

(112)    The walls are such an ugly color. I was thinking of painting them beige.

     a.    The pipes are rusty.

     b.  # What's rusty is the pipes.

     c.  # It's the pipes that are rusty.

Here, only the sentence in (112a) is licit in such a discourse context; the cleft constructions in (112b,c) are not felicitous. Rather, such cleft constructions are only licensed in a context where the relevant predicate ('$\lambda x.\ x\ is\ rusty$' here) is salient. Accordingly, the following examples could precede these cleft constructions, and render them felicitous.

(113)    Didn't somebody say something was rusty, and needed sprucing up?

(114)    I swear, the sink has to be the rustiest thing in the house.

Going back to pronouns, it is obvious that in the same context, in the context where the predicate '$\lambda x.\ x\ is\ rusty$' is salient, such predicate cannot be taken as the value of a pronoun.

(115)    Didn't somebody say something was rusty, and needed sprucing up?

     a.  # Yeah, Mary doesn't like **it**.

---

[38]These examples are inspired from Vallduví and Engdahl (1996).

b.  # Come next summer, **it** will be the sink.

Despite the fact that the relevant predicate is made salient by the first sentence, neither pronouns in (115a) nor (115b) can be understood as standing for 'the rusty thing'.

This is very surprising under a semantic D-type account; why could a salient predicate not be the value of the pronoun? Perhaps the answer would lie in different *levels* of salience, but as we will see in what follows, it is more likely that D-type accounts, despite their appeal, should be abandoned altogether.

## 2.4.2   What Can 'They' Reach for?

Upon considering contexts which involve a plurality of possible antecedents, an unconstrained D-type theory overgenerates. To see this, consider the following example:

(116)   a.   I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

b.   [**They**] sat down.

Can refer to '$Z$', or '$X \cup Y \cup Z$'

Cannot refer to '$X \cup Z$'

c.   [**The boys**] sat down.

Can refer to '**The** $X \cup Z$'

Considering the context provided in (116a), we see that a plural pronoun, as in (116b), can resume the most salient plural antecedent, namely the ten young boys who just walked in, and the set containing all of the referents introduced in the context. Crucially, the plural pronoun cannot refer back only to the union of the set of boyscouts (X) and the set of boys who just entered (Z). This exact reading is what would be predicted if a D-type pronoun were possible here. That is, if the pronoun could reach for the most recent, presumably most salient, noun phrase or predicate introduced, *boys* or *young boys* here, we would expect the pronoun to have a reading just like that of the definite description *the boys*, as in (116c). But this reading is impossible for the pronoun.

Of course, it is still possible for a plural pronoun to have split antecedents, as in (117).

(117)  a.  **John(X)** invited **Mary(Y)** to the party.

**Bill(Z)** came uninvited.

b.  Things were going to get heated, as **they** both had been in love with **her** for a long time.

'**they**' can refer to '$X \cup Z$'

However, such antecedents are accessed by semantically combining discourse referents, through the union of the singleton sets or combination of the indices, and not by accessing the descriptive content of these referents.

This last point can be made obvious by considering a context like that in (118).

(118)  a.  I arrived in class five minutes before the start.

69

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **a young boy(Z)** walked in whistling.

b.    [**They**] sat down.

Can refer to '$X \cup Y \cup Z$'

Cannot refer to '$X \cup Z$'

Given the context, and the minimal information provided by the sentence in (118b), the plural pronoun can only refer back to the entirety of the discourse referents introduced. Here again, under theories which take pronouns to be sensitive to antecedent noun phrases, or predicates, we would expect the possibility to refer to all the boys in the context. From (118) we can also deduce that $\Phi$-features, such as plural marking, restrict not the anaphoric mechanism, but the referent of the pronoun, in the way a predicate would. That is, if the plural marking on the pronoun was contributing information such as 'reach for the most recent/salient plural referent', then we would expect the girlscouts to be easily resumed by the pronoun. However this is not the case; it seems that only the most recently introduced discourse referent has the relevant level of salience. In this case, given that it is singular, and that the pronoun is plural, it is not possible to resume it, and the anaphor must be resolved otherwise.

Still, given (117), one would expect that it would be possible to combine the indices of the most recently introduced discourse referent with that of another set of referents priorly introduced to the context, such as the boyscouts (X) in (118). Changing slightly the sentence in which the pronoun occurs, so as to highlight this

intended reading seems to make this possible, although the result is not perfect. Consider the variation in (119).

(119)  a.  I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **a young boy(Z)** walked in whistling.

b.  ? [**They**] (all) started to whistle at the girls.

Cannot refer to '$X \cup Y \cup Z$'

But with some accommodation, '$X \cup Z$'

Here, the plural pronoun can refer back to the union of the set of boyscouts and the singleton containing the young boy who just walked in. It also seems that the anaphor is somehow more easily resolved when *all* is used, most likely due to its strengthening effect (Brisson 1998).

## 2.4.3   Pronouns of Laziness and Copular Antecedent Clauses

As we have just seen, the pattern of resolution for plural anaphors in contexts involving several antecedents favors the traditional view, the reference-anaphoric approach, over the D-type representation. Neontological pronouns, on the other hand, appear to favor the D-type approach. Consider here the cases of pronouns of laziness, (120a), and paycheck pronouns, (120b), introduced above.

(120)  a.  This year, *the president* is a Democrat. Come next election, **he** will be a Republican.

b.	The man who gave his *paycheck* to his wife was wiser than the one who gave **it** to his mistress.

However, a slight variation on the example involving a pronoun of laziness, where the antecedent sentence is a copular sentence, suggests a different account. Compare (121) to (120a).

(121)	He is the president of the U.S. # Come next election, **he** will be a Republican.

In (121), the pronoun in the second sentence is only able to resume the individual, who happens to be the president, which was introduced in the first sentence. It cannot resume the 'president' description alone. This is unexpected under a D-type theory. Surely the predicate is made salient in a copular sentence, given that it basically consists of the core informational content of such sentences. Further, the context of the second sentence is the same in (121) as in (120), and so an account which settles the reference of D-type pronouns on the basis of the situations considered would make the same prediction here.

Turning to specificational sentences, we find the same issue. Consider the case in (122), where the formal presence of the definite description *the manager* in subject position does not lead to an acceptable neontological reading in the follow up sentence. And this despite a context which clearly biases towards the description reading; surely the speaker is not contradicting himself. Alas, the description reading does not appear to be possible.

(122)	This afternoon *the manager* is John, who is always super nice.

But last night I got into a fight with #**him** [=the manager], since he was

being completely unreasonable.

Rather, it seems that following a specificational sentence, and a copular sentence with a description used predicationally, the traditional account makes the right prediction. Here again, I would suggest that what the pronoun is anaphoric to is a constant, a discourse referent. Information about this discourse referent, say its description, can also be **inferred** in certain contexts, such as in (120), but not all the time. This type of inference might only be possible in contexts where resuming the individual alone does not lead to the most coherent interpretation.

What then is the nature of this inference process? Here, I wish to suggest that cases of pronouns of laziness and paycheck pronouns involve what Nunberg (1979, 1995) has called *deferred reference*. Basically, the solution here lies in distinguishing between what is *pointed to* (the *demonstratum*) and what is *referred to* through this act of pointing (the *referent*). In discussing examples like (123), Nunberg (1979) suggests that what links the two are *referring functions*.

(123)  [A waiter points at a ham sandwich out on the counter:]

    a.    **The ham sandwich** is sitting at table 20.

    b.    **He** is sitting at table 20.

The *referring function*, (315), maps *demonstrata* into *intended referents*.

(124)  **f: D → R**

In (124), **f** is the referring function, **D** is the domain of the demonstrata and **R**, the range of intended referents.

We also find deferred demonstratives interpreted as unique (definite):

(125)    a.    `[Pointing at the chimney cap of my friend's house:]`

             It cost me $1,000.00 to fix that when we moved in.

           b.    `[Pointing at the heron chosen to be this year's totem animal`

              `in the town 4th of July parade:]`

             Next year that'll be a beaver from Lake Artemesia.

As well as deferred demonstratives interpreted as indefinite:

(126)    a.    `[Pointing at a MacBook Air:]`

             I want that.

           b.    `[Pointing at a Mazda5:]`

             That's what I drive.

           c.    `[Gesturing at the groom feeding cake to the bride:]`

             That is definitely not gonna happen at my wedding!

Going back to the contrast between the traditional example of pronouns of laziness, (120a), and its counterpart involving a specificational sentence, (121), I would suggest that cases of pronouns of laziness, and neontological pronouns in general, involve such deferred reference.

For instance, in (120a), the pronoun picks out the discourse referent introduced by the DP *the president* in the previous sentence; the referring function can in turn use the descriptive material with which the referent was introduced in settling the intended referent. In (121), the discourse referent resumed by the pronoun was itself

74

introduced by a pronoun, devoid of descriptive content, and so the referring function does not have access to any extra descriptive material to yield a different intended referent. Basically, the anaphoric relation is not directly to the description, as in D-type approaches; rather, the inference obtains by means of the referring function, that is, the accessing of the description is mediated by the access to the discourse referent in such cases. Another way to put it would be that rather than going from *types* to *tokens*, as suggested by the D-type approach, we go from *tokens* to *types*.

## 2.5 Summing Up

In this chapter, I have argued that the sense-anaphoric approaches, D-type approaches, to the representation of anaphoric pronouns both overgenerate and undergenerate. Syntactic D-type approaches have trouble coping with the cases of event anaphora, deep anaphora, and split antecedents. They undergenerate. Both the less restricted semantic D-type approach, and the syntactic D-type approach have issues with examples involving several discourse antecedents, and simple variation on the traditional *pronoun of laziness* examples involving specificational sentences. They overgenerate.

Rather, the representation adopted under the reference-anaphoric view, dynamic approaches, where pronouns stand for discourse referents (Kartunnen 1969), or set variables (Nouwen 2003), is better suited. For this reason, I will adopt the following syntax and semantics for pronouns:

(127) **<u>Set Variable Pronouns</u>**

a. **Syntax:** $[_D$ they $]$

b. **Semantics:** $[\![$ they$_i]\!]^g = g(i)$, where $i$ is a (potentially singleton) set.

Furthermore, this is the anaphoric representation I will assume for the cases of partitive ellipsis and contrastive anaphora discussed in the next chapters.

# CHAPTER 3

---

## Partitive Ellipsis

---

As discussed in chapter 2, anaphoric uses of so-called noun phrase ellipsis differs interestingly from anaphoric pronouns. In this chapter, I will again use these distinctions as a guide through the possible space of analysis.

One striking distinction is the fact that cases of ellipsis allow for stranding of various syntactic phrases which simply cannot co-occur with pronouns. In this chapter, I will follow Merchant (2001), amongst many others, in assuming a deletion approach to ellipsis. The stranded material is thought to survive either because of a movement operation (internal merge) applied prior to deletion, a PF interface operation; or simply because it is attached higher in the DP than the deleted phrase it modifies or combines with. However, English contrasts with languages like French where in some instances adjectival modifiers can be stranded. Both this language internal, and cross-linguistic distinctions will be addressed here and in the next chapter.

Other interesting distinctions pertain to the meanings the elided constituents

may have. As we will see, in discourse segments involving a plurality of possible antecedents for the ellipsis site, the elided constituent has the antecedent distribution of a plural pronoun rather than what we would expect of an elided NP constituent. Further, I will address the impossibility of anaphoric ellipsis to have events as antecedents. This fact was found particularly puzzling given that, contra Hankamer and Sag (1976), ellipsis in the nominal domain can routinely behave like deep anaphora.

In this chapter, I will propose that a proper account of these various facts requires that we rethink what we traditionally think of as NPE as a collection of distinct types of deletion and anaphoric expressions. Specifically, I will argue that two major types of deletion/anaphor are at work, namely the deletion of a partitive including a plural pronoun, *partitive ellipsis* (PartE); and an anaphor of category N, with contrastive requirement, overt in English (ONE-anaphora), but with a covert counterpart in French, e.g. *contrastive anaphor* (ContrA). Here, I will mostly focus on PartE, and come back to ContrA in the next chapter. As we will see, both approaches fall under the reference-anaphoric approach, rather than the sense-anaphoric one.

The chapter is organized as follows: First, in §3.1, I briefly revisit previous treatments of noun phrase ellipsis. Then, in §3.2, I offer my analysis of PartE and present both semantic and syntactic arguments in its favor. I will also introduce ContrA, which I will discuss in more detail in the next chapter.

## 3.1 A Brief History of Nothing

Within generative linguistics, work on ellipsis has mainly focused on cases of ellipsis in the clausal or verbal domain (Jackendoff 1972, 1977, Zagona 1982, 1988a, 1988b, Lasnik 1995, amongst others). With respect to ellipsis in the DP, most approaches developed are syntactic, and aimed at identifying the exact syntactic conditions under which ellipsis of a noun phrase is licensed and identified (Lobeck 1995, Sleeman 1996, Gengel 2007, Alexiadou and Gengel 2011, Corver and van Koppen 2009, 2011, Yoshida *et al.* 2012).

In this dissertation, I will not be concerned all that much about the licensing conditions on ellipsis within the DP. The licensing question in essence pertains to the mediation role that syntax is taken to play between the sound and meaning components of grarmmar (PF and LF under the minimalist program). This question is distinct from the identification question, although identified under some theories such as Government and Binding (Chomsky 1981).

The question of identification pertains to *what* has gone missing, if anything, and, perhaps, how it can be retrieved by a discourse participant. This is the question I will mostly focus on in this chapter.

### 3.1.1 When Nothing Hides Something

As made salient by a recent series of work by Stainton (2006) and Merchant (2004, 2010), the term 'ellipsis' can stand for a variety of formally distinct phenomena related to different ways of communicating sentential (propositional) content; namely

79

syntactic, semantic, or pragmatic.

(128)  Three senses of 'sentence' (Stainton 2006:31)

    a.     sentence$_{syntactic}$: an expression with a certain kind of structure/form

    b.     sentence$_{semantic}$: an expression with a certain kind of content/meaning

    c.     sentence$_{pragmatic}$: an expression with a certain kind of use

The syntactic view is what most linguists tend to assume; namely that the constituent which has undergone ellipsis is present in the syntax, the semantic, and understood in the pragmatic component, but has undergone deletion on its way from syntax to phonology (PF).

The semantic view has been more famously fleshed out by Culicover and Jackendoff (2005). Broadly speaking, it contends that, at least in some cases, the missing element or constituent is not present in the syntax, but rather retrieved through a contextual variable in the semantic representation. Thus, this account of ellipsis shares fundamental features with the semantic approaches to anaphoric pronouns discussed in the previous chapter.

The pragmatic view is perhaps the most unfamiliar and unsettling to the linguist. It holds that it is possible to utter language fragments, ungrammatical fragments under the strictest theories of Grammar, to perform fully fledged 'speech acts' such as assertions.

I qualify this last possibility of unsettling as its existence complicates our theorizing about ellipsis, as well as the shape of the arguments required to establish the more theoretically loaded claims that ellipsis$_{syntactic}$ and ellipsis$_{semantic}$ are possible,

and required. Hence, a few comments on this possibility are in order.

The possibility of the pragmatic view is compatible with the not uncontroversial assumptions of contextualism (see for instance Cappelen and Lepore 2004, Recanati 2010, and references therein). After Grice's work on implicatures, it is understood that linguistic expressions can be used to convey two types of meaning: both the conventional meaning of the expression used (often called sentence meaning or literal meaning), and also further content the speaker means in using the expression, which he expects the speaker can work out given the circumstances of the conversation.

Stainton argues for the possibility of ellipsis$_{pragmatic}$ by considering a number of cases involving language fragments of different types.[1] Crucially, none of the cases are manifestly derivable from a sentence$_{syntactic}$ of which some part has undergone ellipsis.

(129)  Properties applied to a manifest object

     a.     Sanjay and Silvia are loading up a van. Silvia is looking for a missing table leg. Sanjay says, **'On the stoop'**.

     b.     Anita and Sheryl are at the cottage, looking out over the lake. Watching a boat go by, Anita says, **'Moving pretty fast!'**

     c.     Jack holds up a letter and says, **'From Spain!'**

     d.     A car dealer points at a car and says, **'Driven exactly 10,000km.'**

---

[1] I will not go into the specifics of Stainton (2006)'s version of pragmatic ellipsis, but I refer the reader to Merchant (2010) for a critical discussion of the possibility.

e. On a bottle of cold medicine: **'Recommended for ages 6 and older.'**

f. She looked up at Nok Lek, who watched the forest nervously. **"I told you, one of Anthony Carroll's best men."** (Daniel Mason, *The piano tuner*, Vintage: New York, 2002, p.159)

(130) Individuals as arguments of a manifest property

a. A woman is coming through a door, and a linguist turns to her friend and identifies the new arrival by saying, **'Barbara Partee.'**

b. A girl is doling out jam and says, **'Chunks of strawberries.'** Her mother nods and says, **'Rob's mom.'**

c. After some weeks one summer of unusually cold weather in Manitoba (a part of Canada where the summers are usually warm), Alice, looking at the sky, says to Bruce (who has just returned from a trip to Spain), **'Nova Scotia.'**

d. Edgar didn't have time to ask what this was, for at that instant, from behind the stage rose a plaintive wail. He caught his breath. It was the same tune he had heard that night when the streamer had stopped on the river. He had forgotten it until now. **"The** *ngo-gyin*, **the song of mourning,"** said Nash-Burnham at his side. (Daniel Mason, *The piano tuner*, Vintage: New York, 2002, p.140)

(131) Quantifiers as arguments of a manifest property

a. I'm at a linguistics meeting, talking with Andy. There are some empty

seats around a table. I point at one and say, **'An editor of** *Natural*

*Language Semantics'***.** (p.209)

b.    At a bar: **'Three pints of lager.'**

c.    He continued to walk, the children following at a distance. . . . At the

side of the road, a pair of men [ who are Shan, and know no English,

-JM] sat. . . One of the men pointed to the group of children and said

something, and Edgar answered, **"Yes, quite a lot of children."**

and they both laughed although neither understood a word the other

had said. (Daniel Mason, *The piano tuner*, Vintage: New York, 2002,

p.235)

Merchant (2004, 2010) suggests that the first two sets of cases here could

perhaps be handled through some special type of non-constituent deletion as the

following:

(132)    a.    <It's> on the stoop.

b.    <That's> Moving pretty fast!

c.    <It's> from Spain!

d.    <It's been> driven exactly 10,000km.

e.    <It's> recommended for ages 6 and older.

f.    <He's> one of Anthony Carroll's best men.

(133)    a.    <That's> Barbara Partee.

b.    <It's> Rob's mom.

<blockquote>
c. &lt;It's&gt; Nova Scotia.

d. &lt;It's&gt; the *ngo-gyin*, the song of mourning.
</blockquote>

However, such a solution could not account for the third set of 'fragments' involving quantificational expressions:

(134)  a. ?? It's an editor of *Linguistics and Philosophy.*

b. ?? It's/they are three pints of lager.

c. &lt;There/they are&gt; quite a lot of children.

Further, this type of account is useless with respect to a number of cases brought to bear on the question by Stainton:

(135)  A father is worried that his daughter will spill her chocolate milk. The glass is really full, and she is quite young, and prone to accidents. He says, **'Both hands!'**

Obviously this cannot be 'That's both hands!' underlyingly, as Merchant concedes, along with the likely possibility that 'bare' subsentential phrases (such as DPs) be generable on their own by the syntactic component of the grammar. After all, syntactic principles pertaining to constituent ordering still apply in fragments: the father in the example above could not have uttered **"*Hands both"** to convey the same content. Language specific rules pertaining to the ordering of constituents within the phrasal fragments used do apply.

Nevertheless, Merchant (2010) stresses the gravity of the epistemic challenges posed by Stainton, and proposes that a semantic ellipsis treatment is plausible for a

number of the cases presented by Stainton (2006). I will not delve into the specific of such an account for Stainton's fragments, but rather move on to the cases of ellipsis within DP to be discussed in this chapter:

(136)   Ten boys walked in the room.

   [ **Many/Some/Two** __ ] sat down.

I will be assuming here that something is underlyingly present in the syntax, although not pronounced. Further, I will assume that the structures considered involve syntactic constituents which are deleted on their way to pronunciation (at the PF interface), but are retrievable as syntactically present at the LF interface.

Jackendoff (1971) identifies a number of ways in which the (syntactic) phenomenon of ellipsis and that of gapping may differ (although see Yoshida et al 2011 for an ellipsis treatment). As pointed out by Lobeck (1995), these properties also hold of ellipsis within the DP.

First, the ellipsis site can occur phrase final and can co-occur with either coordinate or subordinate clauses:

(137)   a.   John calls on these students because he is irritated with [those __ ].

   b.   We tasted many wines, and I thought that [some __ ] were extremely dry.

Second, the ellipsis site can occur in a cataphoric, or backward anaphoric, configuration with respect to its intended antecedent:

(138)   a.   Because the professor is irritated with [those __ ], she will only call on these students.

b. Even though Lee thought that [most ___ ] were extremely dry, we bought the Italian wines anyway.

Third and finally, that it involves the deletion of a phrase and not that of a head, as is taken to be evidenced by a ban on stranded complements:

(139) a. *Because the professor didn't like [those ___ of chemistry], she gave only the students of physics achievement awards.

b. *Lee thinks that [most ___ of Italy] are too dry, and that the wines of France are the only ones worth drinking.

This last property is very important. The impossibility of stranding a complement, coupled with the possibility of stranding an adjunct (140) is basically what rules out a pragmatic treatment here. Under a pragmatic account of this phenomenon, nothing would require a grammatical distinction such as that of adjunct vs. complement. Rather, this distinction is to be captured grammatically.

(140) Because the professor didn't like [those ___ from Swabia], she gave only the students from Hamburg achievement awards.

This sensitivity to the complement/adjunct distinction does not however distinguish between syntactic and semantic accounts.

For such cases, a semantic ellipsis solution could also be pursued. Intransitive determiners to which adjuncts, but not noun complements can be attached, could be involved. The adjuncts could be taken as modifying the contextual variable often taken to restrict quantificational expressions (see for instance von Fintel 1994).

I will not pursue this semantic approach here, but rather follow a syntactic solution, where the structure elided is covertly present.

One reason to assume structure in the cases considered pertains to the presence of stranded modifiers which are not usually present in the absence of NP-like constituents. As stated above, I take it, following Abney (1987), that DPs containing a determiner-head alone are possible. That is, intransitive determiners are lexically available to the language user. This is what I assume for pronouns such as *it*, as represented in (141).

(141)   $[_{DP} [_{D}$ it $]$ $]$

Such bare D-heads do not, however, combine with adjuncts that typically modify NPs:

(142)   a.   I saw $[_{DP}$ him/it (*$[_{PP}$ from Swabia$])]$

        b.   I saw $[_{DP}$ Many ___ $[_{PP}$ from Swabia $]$ $]$

And so, under the current approach, what distinguishes (142a) from (142b), what licenses the presence of the adjunct *from Swabia* in one case but not the other, is the underlying presence of the kind of syntactic constituents taking such adjuncts. I will come back to other reasons to discard a semantic ellipsis treatment in favor of a syntactic one below. As I will propose in the next section, I take it that the constituents elided in the cases considered are Partitive Phrases (PartPs).

## 3.2 Part and Parcel of Eliding Partitives

This section argues that bare determiners as in the sentence *'Many sat down.'* should be analyzed as involving the elision of a partitive phrase, as opposed to a noun phrase as is commonly assumed (Lobeck 1991, 1995; Bernstein 1993; Panagiotidis 2003a, 2003b; Alexiadou and Gengel 2007; Corver and van Koppen 2009, 2011). This analysis is supported by (i) the anaphoric interpretation of the bare determiners in context; (ii) the syntax of bare determiners; and (iii) deep event anaphora. Further, the adoption of partitive ellipsis comes with the suggestion that partitive DPs do not involve null intermediary noun phrases (*cf.* Jackendoff 1977, Sauerland and Yatsushiro 2004, and Ionin *et al* 2006), but rather that determiners can take partitive phrases as internal arguments (Matthewson 2001). I will also suggest that the existence of such a phenomenon militates in favor of a *meaning isomorphy* approach to the licensing of ellipsis (Merchant 2001), rather than *structural isomorphy* (Fiengo and May 1994).

It is commonly assumed[2] that cases of bare determiners in languages like English (143a) and French (143b) involve the ellipsis of a noun phrase (NPE).

(143)   a.   Ten boys walked in the room.

Many ~~boys~~ sat down.

b.   Dix garçons sont entrés dans la pièce.

Plusieurs ~~garçons~~ se sont assis.

---

[2]Lobeck 1991, 1995; Bernstein 1993; Panagiotidis 2003; Alexiadou and Gengel 2011; Corver and van Koppen 2009, 2011.

Here, I will argue that such constructions involve the ellipsis of a partitive phrase containing a plural anaphoric pronoun (PartE), as in (144a, 144b).

(144)  a.  Ten boys walked in the room.

Many ~~of them~~ sat down.

b.  Dix garçons sont entrés dans la pièce.

Plusieurs ~~d'entre eux~~ se sont assis.

I further propose that this partitive phrase is directly taken as internal argument by the determiner. To achieve this semantically, I assume the partitive phrase to be of type $\langle e, t \rangle$, and encode proper partitivity, as suggested by Barker (1998):

(145)  a.  $[\![\text{of}]\!] = \lambda x.\ \lambda y.\ y < x$

b.  $[\![\text{of them}_1]\!]^g = \lambda y.\ y < g(1)$

I present evidence for this approach from the interpretation of anaphora in §3.2.1; evidence from syntax in §3.2.2; and evidence from deep event anaphora in §3.2.5. Then, in §3.2.6, I discuss the underlying structure of partitives. In §3.2.7 and §3.2.8, I discuss issues with mass partitives, and other apparent types of ellipsis, which could be taken to challenge the current proposal. Finally, I broach the topic of ellipsis licensing in §3.2.9 and conclude in §3.3.

## 3.2.1  Evidence from Anaphora

Examples such as (143) and (144) above cannot distinguish between the NPE approach and the PartE approach, on the account that a single discourse referent is

available in context. Assuming that an elided phrase obtains the same interpretation as its overt counterpart (call this assumption *meaning parity*), the NPE and PartE approaches make the same predictions with respect to anaphoric readings in such simple contexts.

However, the interpretation of ellipsis in more complex contexts, involving a plurality of discourse referents, supports the PartE analysis and is incompatible with the NPE analysis.

To see this, consider the discourse segment in (146). There, three different reference sets are introduced, corresponding to the boyscouts already present in class ($\mathbf{X}$), the girlscouts ($\mathbf{Y}$), and the ten boys who later walked in ($\mathbf{Z}$).

(146)    a.   I arrived in class five minutes before the start.

           There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

           Then, **ten young boys(Z)** walked in whistling.

   b.   [**Many** __ ] sat down.

           Can mean [**Many** $Z$] , or [**Many** $X \cup Y \cup Z$]

           Cannot mean [**Many** $X \cup Z$]

   c.   = [**Many of them**] sat down.

           Can mean [**Many** $Z$], or [**Many** $X \cup Y \cup Z$]

           Cannot mean [**Many** $X \cup Z$]

   d.   $\neq$ **Many boys** sat down.

           Can only mean [**Many** $X \cup Z$]

Considering (146b), we see that the readings available for the ellipsis site, the sets

restricting the quantifier in context, are just those available for an overt partitive phrase containing a plural anaphoric pronoun, as in (146c); namely, the most salient reference set, consisting of the young boys who just walked in ($\mathbf{Z}$), or the set of all individuals available in context ($\mathbf{X} \cup \mathbf{Y} \cup \mathbf{Z}$). Crucially these readings are distinct from the sentence involving the overt NP *boys*, in (146d), which leads to quantification over the boys present in the context ($\mathbf{X} \cup \mathbf{Z}$). Following the meaning parity assumption, PartE makes the correct predictions here, whereas NPE does not.

Further, to support the claim that PartE involves an embedded plural pronoun, note that the 'anaphoric reach' of the ellipsis site in such cases is the same as that of a simple anaphoric plural pronoun, as seen in the previous chapter:

(147)  a. I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

b. [**They**] sat down. Can refer to $[Z]$, or $[X \cup Y \cup Z]$

Cannot refer to $[X \cup Z]$

Here, the plural pronoun can refer back to the reference sets quantified over by the bare quantifier in (146) above. Again, it crucially cannot refer to the set of individuals picked out by the overt definite description *the boys* in this context.

Cases of ellipsis in donkey split antecedent constructions also militate in favor of the PartE approach over the NPE approach:

(148)  a.  If a man has **a wife** who owns **a donkey**, he surely likes [**one (of them/*wife and(/or) donkey)**] better.

b. If a man has **a wife** who owns **a donkey**, he likes [**the two (of them/\*wife and donkey)**] equally.[3]

In (148), only an overt partitive phrase would be acceptable in the ellipsis site, and yield the desired reading in context.[4] There are no noun phrases which would be appropriate in this context.

I conclude here that evidence from anaphora strongly supports the PartE approach, and is incompatible with the common NPE view.

## 3.2.2 Evidence from Syntax

Support in favor of the PartE approach can also be found in the syntactic distribution of the determiners allowing ellipsis in their scope (or c-command domain). This section discusses different types of evidence from English and French.

## 3.2.3 Ellipsis Licensing Determiners (ELDs)

In English, there is a split between Determiners which license ellipsis in their scope and those which do not:[5]

(149)   A group of boys walked in the room.

a. *ELD*

[**Most/Each/Some/One/All/Many/Few/Both** __] sat down.

---

[3]In such cases, using the type of copy mechanism proposed for NPE in Elbourne (2005), based on Fiengo and May (1994), would not yield the desired result.

[4]I am grateful to Philippe Schlenker for pointing out such cases.

[5]See Jackendoff (1977) and Chomsky (1981) for early discussion of this generalization.

b. *Non-ELD*

*[**Every/The/A/No** __] sat down.

Under an NPE approach, it is unclear what could account for this arbitrary distinction. Why could a noun phrase be elided following the determiners in (149a), but not those in (149b)? The PartE approach on the other hand predicts this generalization. The determiners in (149a) can take partitives, but not those in (149b):

(150)  a.  [**Most/Each/Some/One/All/Many/Few/Both (of them)**] sat down.

b.  * [**Every/The/A/No (of them)**] sat down.

If we assume that only partitive phrases can be elided, then we can straightforwardly account for this distribution.

### 3.2.3.1  *Stranded Adjectives

Adding a prenominal modifier to all the licit examples of the paradigm renders them illicit:

(151)  * [**Most/Each/Some/One/All/Many/Few/Both tall** __] sat down.

Perhaps unsurprisingly, adding a modifier to the illicit ones does not change their status:

(152)  * [**Every/The/A/No tall** __] sat down.

All else being equal, the stranding of prenominal modifiers is what we would expect for cases of NPE. This is in fact what we find in French, (153), and a number

of Germanic languages (Dutch, Afrikaans, Frisian, German), (154).[6]:

(153)   a.   J'ai   vu   les garçons dans la   cour.    [**Les grands __** ]
           I'have seen the boys    in     the courtyard. [**The tall**     __ ]
           jouaient avec [**les petits __** ].
           played    with [**the little**   __ ]

           'I've seen the boys in the courtyard. The big ones were playing with the

           little ones.'

       b.   J'ai   vu   les garçons dans la   cour.    [**Le grand __** ] jouait
           I'have seen the boys    in     the courtyard. [**The tall**     __ ] played
           avec [**le petit __** ].
           with [**the little __** ]

           'I've seen the boys in the courtyard. The big one was playing with the

           little one.'

(154)   Ich traf einige Studenten, und [**die jungen __** ] wollen   mit   mir
        I    met some   students,    and [**the young**    __ ] wanted with me
        sprechen.
        to speak

        'I met some students, and the young ones wanted to speak with me.'[7]

I return to this cross-linguistic distinction in §3.2.4.1.

     This impossibility to strand adjectival modifiers in English can be further

contrasted with the possibility to strand adjuncts:

(155)   10 boys walked in the room.

       a.     [**Some** [$_{PartP}$~~**of them**~~] [**from Swabia**]] sat down.

       b.     [**Some** [$_{PartP}$ **of them**] [**from Swabia**]] sat down.

---

[6]See for instance Lobeck (1995), and Sleeman (1996).

[7]The French cases are originally from Herschensohn (1978); the Dutch, Afrikaans, and Frisian

from Corver and van Koppen (2011); the German from Lobeck (1995).

c.   * [**Some tall** [$_{PartP}$~~of them~~]] sat down.

  d.   * [**Some tall** [$_{PartP}$**of them**]] sat down.

Here again, the PartE approach can help us get a grip on the English facts discussed so far. The adjuncts which can be stranded under ellipsis can co-occur with partitive phrases (155a,b). The adjectives which cannot be stranded simply cannot co-occur with partitive phrases (155c,d).

Note that the modifiers stranded under ellipsis, such as relative clauses and prepositional phrases, can, and in some cases must, be attached higher in the DP than the partitive phrase. This is made obvious from the fact that these modifiers cannot 'move' with a preposed partitive phrase (Jackendoff 1977, p.109):

(156)   a.   * Of the men that you met, $\begin{Bmatrix} \text{the group} \\ \text{the many} \end{Bmatrix}$ aren't here anymore.

  b.   Of the men, $\begin{Bmatrix} \text{the group} \\ \text{the many} \end{Bmatrix}$ that you met aren't here anymore.

Thus I take it that only phrases which can modify partitive phrases can be stranded under PartE. Another fact supporting this conclusion is that plural pronouns cannot combine with such adjuncts, and so in (157b), the modifier cannot be embedded in the PartP.

(157)   a.   * [**They from Swabia**] sat down.

  b.   [**Most** [**of them**] **from Swabia**] sat down.

As an interim conclusion, I assume that apparent NPE, as in French and German, can strand adjectival modifiers; I further take the impossibility to strand

adjectives as an indicator that no NPE has taken place. I will, however, present some evidence below, in §3.2.4.1, which casts doubt on the idea that proper NPE even exists in languages such as French.

## 3.2.4   Evidence from French

French also exhibits PartE in constructions equivalent to the English ones discussed so far:

(158)   Dix garçons sont     entrés   dans la   classe.
        ten  boys    BE-AUX entered in     the class
        'Ten boys entered in the class.'

    a.   [Plusieurs __] se        sont      assis.
             Many       __ REFL-CL BE-AUX sit
             'Many sat down.'

    b.   [Deux/Trois __] se        sont      assis.
             Two/Three   __ REFL-CL BE-AUX sit
             'Two/Three sat down.'

And, as expected, all of these determiners can take an overt PartP:

(159)   Dix garçons sont     entrés   dans la   classe.
        ten  boys    BE-AUX entered in     the class
        'Ten boys entered in the class.'

    a.   [Plusieurs **d' entre eux**] se        sont      assis.
             Many       of among them REFL-CL BE-AUX sit
             'Many **of them** sat down.'

    b.   [Deux/Trois **d' entre eux**] se        sont      assis.
             Two/Three of among them REFL-CL BE-AUX sit
             'Two/Three **of them** sat down.'

In fact, some determiners which allow ellipsis **can only take a PartP argu-**

**ment, and not an NP argument**:

(160)   a.   [Peu d' entre eux] se     sont    assis.
               Few of among them REFL-CL BE-AUX sit

               'Few of them sat down.'

        b.  * [Peu garçons] se      sont    assis.
               Few boys    REFL-CL BE-AUX sit

               'Few boys sat down.'

        c.   [La plupart d' entre eux] se     sont    assis.
               The most    of among them REFL-CL BE-AUX sit

               'Most of them sat down.'

        d.  * [La plupart garçons] se     sont    assis.
               The most    boys    REFL-CL BE-AUX sit

               'Most boys sat down.'

It is then by necessity that in such cases a PartP, and not an NP is elided.

We can also verify that the cases in (158) are interpreted as if a PartP con-

taining a plural anaphoric pronoun was missing in complex contexts:

(161)   a.   Je suis     arrivé en classe dix minutes avant le   début.
               I  AUX-BE arrived in class  ten minutes before the beginning

               'I arrived in class ten minutes before the start.'

        b.   Il     y avait des   louveteaux et   des   jeannettes qui se
               There it was some boyscouts and some girlscouts that SE-CL
               tenaient derrière leurs pupitres.
               stood    behind their desks

               'There were boyscouts and girlscouts standing behind their desks.'

        c.   Ensuite, dix jeunes garçons sont     entrés en    sifflant.
               After,   ten young boys   AUX-BE entered while whistling

               'Then, ten young boys entered whistling.'

d.     [Plusieurs —] se    sont    assis.
         [Many      —] SE-CL AUX-BE sit
         'Many sat down.'

Here, just as in the cases presented in English above, the interpretation of the ellipsis site is equivalent to that of an overt PartP containing a plural pronoun, and not to that of an overt NP.

### 3.2.4.1   Another Type of 'Ellipsis' in French

As mentioned, French seems to allow the stranding of adjectival modifiers. This fact appears to be compatible with a traditional treatment of these cases of ellipsis in terms of NPE. However, here I will follow the proposal that such cases are to be treated on par with English ONE-anaphora (162b):[8]

(162)    a.     FRENCH

         J'ai vu les garçons dans la cour. [Les *(grands) — ] jouaient avec [les *(petits) — ].

   b.     ENGLISH

         I saw the boys play in the yard. [The *(tall) ONES] played with [the *(small) ONES].

A peculiar fact about such constructions is that in both the English and French constructions, a modifier, typically adjectival, must be present (Halliday and Hasan 1976). This is also highlighted in (162).

---

[8]See Alexiadou and Gengel (2011), and Corver and van Koppen (2009, 2011) for recent proposals.

I wish to suggest that in the French cases we are not faced with NPE either, but rather with a null anaphoric pro-noun, the equivalent of ONE in English. I dub this type of anaphora *Contrastive Anaphora* (ContrA). The decision not to treat these cases as involving NPE comes from the fact that the anaphoric reach of these expressions is the same as that of PartE in complex contexts (in English here, the same holds for French):[9]

(163)  a.  I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

b.  [**The tall** ONES] sat down.

Can mean [**the tall** $Z$**s**] , or [**the tall** $X \cup Y \cup Z$**s**]

Cannot mean [**the tall** $X \cup Z$**s**]

Here again, if we were faced with NPE, or N′-substitution, of 'boys', we would expect the anaphoric reference to be to all the boys present in the context. Yet this is not the reading we find. I will discuss this anaphor in more details in the next chapter.

## 3.2.5   Evidence from Deep Event Anaphora

Further evidence for PartE can be found in its interaction with *deep anaphora* (Hankamer and Sag 1976) and *event anaphora*.

It has been known for some time that deep anaphora is generally possible in

---

[9]I am grateful to Uli Sauerland for bringing this fact to light.

the cases I identify here as PartE:[10]

(164)   [Matt snatches an egg from Ian on stage, and smashes it on the floor]

      Matt: Don't worry folks, he has [several/many/more/some more __ ].

However, it is rather strange that deep anaphora to events is not equally possible. Consider (165a), involving PartE, which contrasts with the acceptable case in (165b), involving a singular anaphoric pronoun.

(165)   [While looking at an arguing couple]:

    a.   * [**Some/Most/All** __ ] happen right after Valentine's day.

    b.   **It** always happens right after Valentine's day.

Under the PartE approach, this peculiarity can be explained by two things.

The first part of the explanation is the fact that plural pronouns cannot refer to implied events (Neale 1988):

(166)   a.   Psmith saw every student leave, but Maja didn't see **it**/#**them**.

       (Neale 1988)

    b.   John talked and Mary danced. **It**/ #**They** took place in this room.

In both examples in (166), only singular pronouns can be used to make anaphoric reference to what is clearly understood as pluralities of events.

The second part of the explanation is the fact that the internal argument of partitives must have proper subparts (Barker 1998):

---

[10]This examples is taken from Chisholm (2002).

(167)    * Many of the boy

Under Barker (1998)'s analysis, this is ensured by treating the partitive 'of' as encoding proper partitivity (cf. Ladusaw 1982):

(168)    $[\![of_{PART}]\!] \equiv \lambda x.\lambda y.[y < x]$

As a result of this denotation, the first argument of the partitive must have proper subparts; that is, it must either be plural or mass.

Putting the pieces together, we can now explain the impossibility of (deep) event anaphora under PartE. Given that anaphoric pronouns referring to implicit pluralities of events can only be singular, they cannot be embedded into a partitive, and so PartE cannot have an implicit event as antecedent when combined with *count partitives* (Ionin *et al* 2006).

Under the NPE approach, the impossibility of cases like (165) is rather mysterious. Surely NPE could resolve pragmatically an event noun like *argument*, if it can resolve a concrete entity noun like *egg* in (164). It is very unclear to me what exactly this distinction could be attributed to under such an account. Without a resolution of this issue, I take it that the facts pertaining to deep event anaphora presented here support PartE over NPE.

## 3.2.6   The Structure of Partitives

So far, I have not been precise with respect to the syntactic structure I assume for partitive constructions. Two main views can be found in the literature. One assumes that a covert NP is always present, which is taken as internal argument by

determiners, and takes the PartP as complement (Jackendoff 1977; Sauerland and Yatsushiro 2005; Ionin, Matushansky and Ruys 2006). The second assumes that determiners combine directly with the PartP, without the presence of an intervening null NP (Matthewson 2001). Here, I opt for the second view, and assume the structure in (169) in cases of PartE.

(169)  [$_{DP}$ Most [$_{PartP}$ of [$_{DP}$ the boys] ] ] (Matthewson 2001)[11]

In essence, my suggestion is that certain determiners (those that can appear bare) can take either NPs or (partitive) PPs as arguments. This approach to determiners finds a parallel in the clausal domain in verbs like *rob* which select for specific PP arguments:

(170)  John robbed Mary **of everything she had**.

The determiners that can combine directly with PartPs are to be contrasted with *every*, *the*, *a* and *no* which only take NP arguments in English.

My choice of this syntax is based on two reasons. First, the assumed covert noun cannot typically be overt:

(171)  * Most boys of the boys.

Second, this structure can readily account for the ban on adjectival modifiers discussed above, given that such adjectives can only modify nouns, and not

---

[11]Here, although I adopt the syntactic structure proposed by Matthewson, I do not adopt her treatment of the partitive 'of' as semantically vacuous.

PartPs.[12],[13]

(172)    * Most tall (of them) sat down.

The alternative to this approach would be to assume that a null NP is always present:

(173)   $[_{DP}$Most $[_{NP}$ ⟨boys⟩ $[_{PartP}$ of $[_{DP}$ the boys$]$ $]$ $]$ $]$

(Sauerland and Yatsushiro 2005; Ionin, Matushansky and Ruys 2006)[14]

Under this view, the null NP could then be the target of deletion, and perhaps fall under an NPE treatment. However, this would require an explanation of the impossibility of cases like (171) and (172). It would also fall short of explaining why all types of NPE are not generally possible. In other words, under this approach, cases of NPE would be required to have a PartP argument containing a plural anaphoric pronoun. I have little to say about this alternative, other than point to the generalizations discussed above.

To summarize, even though PartPs appear to be combinable with both NPs and a subset of determiners, only PartPs can be elided, an not NPs with a partitive complement.

---

[12]For alternative views cast in X'-theory and HPSG see Jackendoff 1977 and Nerbonne, Iida and Ladusaw 1989.

[13]Of course, I also allow for the possibility that partitive PPs can be complements to nouns (and combine through predicate modification):

vii. ?Armando only likes three books of the books I read.

[14]See the appendix for a brief discussion of Ionin, Matushansky and Ruys 2006.

### 3.2.7 Issues with Mass Partitives

Here I wish to highlight a puzzle pertaining to mass partitives, which comes about under the PartE approach. First, note that mass partitives appear to be subject to PartE:[15]

(174)   George gave me wine, and. . .

    a.    Some of it was spilled on the white tablecloth.

    b.    Some ~~of it~~ was spilled on the white tablecloth.

However, cases involving coercion of a count noun as a mass noun, universal grinder (Pelletier 1975, pp. 5-6), cannot undergo ellipsis.

(175)   The boys came back from playing outside.

    a.    Most of them were covered in mud.

    b.    Most ~~of them~~ were covered in mud.

(176)   The boy came back from playing outside.

    a.    ? Most of him was covered in mud.

    b.    * Most ~~of him~~ was covered in mud.

---

[15]However, as pointed out to me by Louise McNally, this might not always be the case. As follow up to (174), contrast the overt *'Most of it ended up spilled on the white tablecloth'* with its elided counterpart *'?Most ended up spilled on the white tablecloth.'*. If this contrast is robust, then we would be required to distinguish the determiners allowing for the deletion of a mass partitive. At the moment however, I am rather unclear on what could be the basis of this distinction.

In (175), we have a typical case of PartE, where a partitive containing a plural pronoun is elided. In (176) we have a case involving a singular pronoun anaphoric to a count individual subsequently coerced as mass. There, the overt version in (176a), although degraded, contrasts sharply with its elided counterpart in (176b), which is clearly unacceptable.

The same contrast holds of partitives containing an event-referring pronoun:

(177)   James danced himself to death.

    a.   ? Still, most of it was enjoyable.

    b.   * Still, most ~~of it~~ was enjoyable.

This is rather puzzling. It appears that an overt expression must be present for the universal grinder or event reference to take place. Perhaps the type of coercion involved in turning count expressions into mass meanings is similar in nature to what is involved in making anaphoric reference to implied events. But I can offer little more than speculations here, and hope that future work will shed light on this issue.

### 3.2.8   Other Apparent Types of Ellipsis

To the best of my knowledge, there are, in English two other apparent types of ellipsis which do not readily fall under PartE or ContrA. The first, well-known, involves bare possessives. The second, involves bare determiners. I discuss them in turn in this section.

### 3.2.8.1   Bare Possessives

Bare possessives are usually assumed to involve NPE:[16]

(178)   I prefer Mary's book to John's ___

Such cases do not seem to involve PartE or ContrA:

(179)    a.   * I prefer Mary's book to John's of them.

      b.   ?? I prefer Mary's book to John's one.

There does seem to be a contrasting alternatives requirement for this type of construction to be licit, and so perhaps a variant of the ContrA approach could handle such cases.

    However, here I want to challenge the assumption that ellipsis is involved at all in such cases. First consider the following discourse segment:

(180)    a.   I threw a party last week and specified NO KIDS ALLOWED.

           Still, at the very beginning John brought his three sons.

           Then, two hours later Mary showed up with her three daughters.

      b.   In the end, I preferred Mary's daughters by far.

      c.   * In the end, I preferred Mary's by far.

On the basis of the contrast between (180b) and (180c), there seems to be a homogeneity requirement for bare possessives, which does not hold in overt cases.[17] This

---

[16]See for instance Yoshida *et al* (2012) for a recent discussion.

[17]Another curious fact should be noted here. This homogeneity requirement holds of linguistic antecedent, as seen in (180), but does not hold for pragmatically controlled cases. Consider a

goes against the meaning parity assumption introduced above. That is, I see no reason why such a requirement should hold under NPE. Further, given the possibility of deep anaphora under ellipsis mentioned above, it is unclear why a noun phrase like *children* couldn't be accommodated in such contexts to satisfy this apparent requirement.

An NPE account would also need to explain why adjectival modifiers cannot be stranded in such cases, given that they can appear overtly:

(181)  a.  John's beautiful daughter

  b.  * John's beautiful

I believe another argument against an ellipsis account can be made on the basis of a missing ambiguity. Barker (1995) points out cases like the following:

(182)  At the kiddy AI fair, I liked the three Japanese children's robots.

This example can be read as either involving three japanese children, and an unspecified plurality of robots which they made. Perhaps not as salient is also the reading where there are three robots which were made by an unspecified plurality of japanese children, perhaps a whole class. Under Barker's analysis, this is cashed out by assuming that both the possessor and the possessee have a variable, which

context where John walks in the room accompanied by his three sons, and then Mary walks in the room accompanied by her three daughters. In such a context, I can turn to Bill and whisper "I prefer Mary's", where what is understood is something like "I prefer Mary's children.". It thus appears that the grammatically controlled bare possessive is more restricted here than its pragmatically controlled counterpart.

can be bound by the raised quantifier.[18] With this in mind, consider the following example:

(183)   At the kiddy AI fair, I preferred the three Japanese children's robots to the six American children's.

Here, I believe that the bare possessive is unambiguous, involving exactly six american children. If this is the case, it can be accounted for by assuming that no possessee DP has been elided, which would have contained a bindable variable.[19] But, regardless of the specific treatment given to this ambiguity, the lack of ambiguity in (183) would also run afoul of the meaning parity assumption.

Assuming that cases of bare possessives do not in fact involve ellipsis can prevent us from stipulating a special instance of NPE (or even DPE under the Abney-Barker syntactic analysis).

### 3.2.8.2   Maximal Set Anaphora and Ellipsis

Other cases have been pointed out to me which do not clearly involve PartE:[20]

(184)   Twenty boys were in the playground when [ten (more) (? of them)] arrived.

(185)   A: He didn't see two unicorns.

---

[18]I am aware that Barker is not so categorical about these cases, but I avoid discussing the complications due to a lack of space. The reader is referred to Barker's work for a more complete picture.

[19]Note here that Barker argues in favor of the spec-of-DP syntactic analysis originating from Abney (1987).

[20]I am grateful to two anonymous SALT reviewers for pointing out these cases.

a.　　B: No, he saw three ___.

b.　？B: No, he saw three of them.

Here it appears that the overt counterparts to the cases involving ellipsis are some-what degraded. However, even though I am not certain as to what the source of the degradation might be here, I am not convinced that such cases warrant the adoption of NPE, or N′-ellipsis. A possibility here might be to treat the elided partitives as involving plural demonstratives, as they appear more acceptable in such cases[21]

In any event, I believe that such cases do involve PartE, where the plural pronoun is related not to the **reference set** of the antecedent, but to the **maximal set** (Nouwen 2003). Consider the following cases which make this type of reading salient.[22]

(186)　Few MPs attended the meeting,

a.　　but [most ___] attended the happy hour afterwards.

b.　　but most of them attended the happy hour afterwards.

The challenge we are thus faced with here is to figure out the exact environments in which maximal set anaphora is possible. The resolution of this problem is one of the central issues for the account proposed here. So far, we have seen a lot of evidence to the effect that the sense-anaphoric approach to ellipsis in DP overgenerates. We have also seen that syntactic and semantic generalizations point to a PartE analysis, rather than an NPE one. Given the possibility of cases like

[21]I am grateful to Philippe Schlenker for this suggestion.

[22]The example is based on one of Nouwen's, originally involving a plural pronoun alone.

(184) and (185), our task becomes to figure out where and how the appearance of anaphoric linking to a noun meaning can obtain.

### 3.2.9   It's eGIVEN!

Fiengo and May (1994) have famously argued for a principle of *structural isomorphy* as involved in the licensing of ellipsis. The core idea being that ellipsis can only be licensed if a 'structurally identical' antecedent to the elided constituent can be found in the relevant discourse context. However, such structural isomorphy clearly does not hold for PartE, given that in none of the cases discussed here was there a partitive phrase antecedent.

Rather, a principle of *meaning isomorphy*, as argued for by Merchant (2001) would be appropriate here. Merchant suggests that an elided constituent must be eGIVEN in order for the ellipsis to be licensed. This basically requires that an elided constituent, raised to a propositional meaning (by means of existential quantification over unsaturated arguments), both entails and be entailed by its antecedent.

And so, in (187), we need to verify the entailments in (188):

(187)    Ten boys walked in the room.

Many ~~of them~~ sat down.

(188)    a.    If there are ten boys (B), then there is a subpart of B (e.g. $[\![$ten boys$]\!]$ entails F-Clo($[\![$of them$]\!]$) )

b.    If there is a B that has proper subparts, then there is a B (e.g. $[\![$of them$]\!]$ entails F-Clo($[\![$ten boys$]\!]$))

110

I take these entailments to be trivial here. PartE then favors a meaning isomorphy approach to the licensing of ellipsis, over a structural isomorphy view.

## 3.3 Conclusions

I have argued that cases of bare determiner as in (189) involve the ellipsis of a partitive phrase containing a plural pronoun.

(189)   Ten boys walked in the room.

  Many ~~of them~~ sat down.

To support this view, I have offered arguments from anaphora, the syntax of these expressions, and the interaction between deep anaphora and event anaphora. I have also discussed some possible challenges to this view coming from mass partitives, bare possessives, and maximal set anaphora.

I see this work as a step towards the strong hypothesis that all cases of cross-sentential anaphora, or discourse anaphora, involves not the retrieval of syntactic constituents, but rather the valuation of unsaturated semantic variables, such as those denoted by pronouns. Here, just as was argued for pronouns in the previous chapter, a reference-anaphoric approach is better equipped than the alternative sense-anaphoric approach.

### 3.3.1   Semantic Ellipsis

Another approach one could have taken here is to treat such cases as involving ellipsis in the semantics sense. That is, the covert content required for interpretation

could have been introduced by means of the contextual restrictions on the relevant quantificational expressions.

As is well-known, quantificational expressions are contextually restricted:

(190)   Everybody knows about GB.

Any context where (190) would be judged as true would be one where the expression *everybody* is considered to quantify over a subset of every individual in the world; presumably one including mostly linguists and language enthusiasts.

There is also good evidence to the effect that the restriction is on the quantificational expressions themselves, and not just on the domain of quantification itself. Consider the following example, where the two distinct QPs *each man* can be taken as quantifying over two different groups of men, say one on a boat sailing away, and the other on the shore:

(191)   Each man waved at each man.

This could be represented either as a covert syntactic constituent restricting the determiner or the noun:[23]

(192)   The table is covered with books.

---

[23]Such a variable is perhaps required due to instances of apparent syntactic binding of the contextual restriction:

(1)   Only one class was so bad that no student passed the exam.

    a.   Only one class $x$ was so bad that no student in $x$ passed $x$'s exam.

    b.   only one class $\lambda_2[t_2$ was so bad that no $f_1 v_2$ student passed the $f_3 v_2$ exam]

a. [[ the [$f_1v_2$] table] [is covered with books]]     (von Fintel 1994)

b. [the [table [$f_1v_2$]] [is covered with books]]     (Stanley and Szabó 2000)

It could also be represented as a semantic contextual variable part of the lexical specification of the relevant expressions (Elbourne 2005) or present in the syntax (Percus 2000, Keshet 2008):

(193)   Everyone is asleep and is being monitored by a research assistant.

   a.   $\Sigma_8$ [[every [-one $s_1$]] [[is asleep $s_8$] and [is being monitored $s_8$ by a research assistant $s_8$]]]

   b.   $\lambda s_8$. everyone in $s_1$ is asleep in $s_8$ and being monitored by a research assistant in $s_8$

At first sight, it seems that this independently motivated account of contextual restriction on the QPs is readily extendable to the cases of PartE discussed here. However, I do not adopt such an account for a few reasons.

First, as discussed above, such an account would have to distinguish between different types of intransitive determiners, where the ones involved in this semantic version of PartE can take adjunct modifiers, but not others such as the anaphoric pronouns (e.g. *it, they*).

Secondly, such an account loses the generalization pertaining to the distinction between ELDs and Non-ELDs. That is, *No, every*, and *the*, are also contextually restricted. Yet, these expressions do not allow for ellipsis in their scope. Here, one would have to say that they do not have a possible intransitive instantiation. Under the PartE approach devised here, whatever prevents these expressions from taking

a partitive phrase will also be responsible for their inability to appear bare.

Of course, these facts could merely be challenges to a semantic ellipsis approach. I do not believe that they rule out such an account altogether, and leave it for later work to establish this possibility.

## 3.4  Appendix: How Many Ns Can You See?

Ionin, Matushansky & Ruys (2006) argue that partitive phrases can either be complements or adjuncts, where a null NP is found in (194):

(194)   $[_{DP}$Two $[_{NP}$ ⟨boys⟩ $[_{PartP}$ of $[_{DP}$ the boys] ] ] ]

The structure in (194b) is required at least for cases involving numerals. This is due to the privative meaning they assume for numerals such as *two*. Under their denotation, numerals necessarily combine with semantically singular nouns:[24]

(195)   $\left[\!\!\left[ \begin{cases} iki \\ two \end{cases} \right]\!\!\right] = \lambda P_{sg}.\{x : \exists Y(Y \in part(x) \ \& \ (|Y| = 2) \ \& \ \forall z(z \in Y \rightarrow z \in P_{sg}))$

    a.    A predicate $Q$ is of type $P_{sg} \iff \forall x, y \in Q(x \not> y \ \& \ y \not> x)$

    b.    $\text{PART}(x) =_{def} \{Z : Z \text{ is a partition of } x\}$

    c.    A partition of an aggregate x is a set of aggregates Z such that the join (sum) of all the elements in Z is equal to x $(\bigvee Z = x)$ and for any two elements, $w$ and $v$, in $Z$, the meet of those two elements is empty $(w \wedge v = \emptyset)$

---

[24]The denotation is taken from Bale, Gagnon and Khanjian (2011) for notational consistency with the rest of the discussion.

Languages such as Turkish where numerals necessarily combine with singular nouns is taken as evidence for this denotation which is generalized to languages such as English:

(196)   a.    iki  çocuk
               two  child

         b.  * iki  çocuk-lar
                  two  child-PL

A syntactic structure for the partitive without a null NP would not be compatible with a numeral in English, on the account that a plural predicate is embedded in the partitive.

However, Bale, Gagnon and Khanjian (2011) have argued for a different denotation for numerals such as *two*; a subsective denotation in the spirit of Partee (2004, 2010)'s thesis that all modification is restrictive (and not privative). This denotation is perfectly compatible with a structure lacking a null NP in partitives, as it does not require a singular predicate to combine with:

(197)  $\left\{\begin{matrix} iki \\ two \end{matrix}\right\}$$]\!] = \lambda P_{pl}.\{x : x \in P_{pl}$ & $\exists Y(Y \in part(x)$ & $(|Y| = 2)$ & $\forall z(z \in Y \to z \in MIN(P_{pl})))$

    a.    A predicate $Q$ is of type $P_{pl} \iff \forall x, y \in Q(x \oplus y = Q)$

    b.    MIN($P$) is defined iff

        $\forall x, y((x, y \in P$ & $\neg\exists z(z \in P$ & $(z \leq y \vee z \leq x))) \to x \wedge y = 0)$.

        when defined MIN($P$) = $\{x : x \in P$ & $\neg\exists z(z \leq x)\}$.

Support for this denotation comes from the difference between languages such as English and Turkish in the meaning for the plurally marked and unmarked nouns

in predicative position.

Given this subsective denotation for numerals, there is no reason to assume a singular null NP.

# CHAPTER 4

## Contrastive Anaphora

As mentioned in the previous chapter, French allows for the stranding of adjectival modifiers in constructions which appear to involve NPE. Here I will follow the previously made assumption that such cases are to be treated on par with English ONE-anaphora (198b):[1]

(198)  a.  FRENCH

      J'ai vu les garçons dans la cour. [Les grands ~~ONEs~~ ] jouaient avec [les petits ~~ONEs~~ ].

    b.  ENGLISH

      I saw the boys play in the yard. [The tall ONES] played with [the small ONES].

However, I will argue that NPE is not involved in either the French or English cases. Rather what we find in French is the null contrastive anaphor (henceforth

---

[1]See Alexiadou and Gengel (2011), and Corver and van Koppen (2009, 2011) for recent proposals.

ContrA; 'ᴏɴᴇ' in 198a), the equivalent of the overt English ᴏɴᴇ. A number of authors also treat English ᴏɴᴇ as an N' substitute (originally proposed by Ross 1967; see also McCawley 1988 and Radford 1988); my arguments against an NPE treatment will hold equally against a syntactic substitution account. As we will see, this contrastive anaphor has the same anaphoric reach as pronouns of category D, but is of category N; it is specified as count (and not mass); and it must appear in a DP involving contrastive focus.

In this chapter, I will justify this departure from the traditional NPE treatment, §4.2.1, and discuss a number of properties of this anaphor. Specifically, that it is count, §4.2.2; and that it requires the presence of contrastive alternatives in the context, §4.2.3. I will then propose a syntactic analysis which strongly borrows from the work of Corver and van Koppen (2009), §4.3. In §4.4, I will discuss other homophonic expressions in English from which it should be distinguished. Finally, in §4.5 I will argue that ContrA is to be distinguished from PartE in French, going against the common view which assimilates both types of phenomena under an NPE treatment.

## 4.1 What Others Have Made of ᴏɴᴇ

There are two main analyses of ᴏɴᴇ generally adopted in the generative literature. Under the analysis proposed by Jackendoff (1977), Hornstein and Lightfoot (1981), and Radford (1988), ᴏɴᴇ is treated as an N' substitute, which requires an N' antecedent. Another approach (Llombart-Huesca 2002; Alexiadou and Gengel

2011), proposes that ONE is actually the spell-out of the Number Phrase head in constructions involving NPE. I will tackle this last view in §4.2.3 below. As already mentioned, I will argue here that ONE is actually a ContrA of category N, contrary to both of these views. I will briefly introduce these other views here, before turning to my approach.

The arguments in favor of the N′ substitute approach are based on the type of modifiers which can occur with ONE.

For instance, assuming the following nominal structures involving postmodifiers, as discussed by Radford:

(199)  a.  $[_{N''}a[_{N'}[_{N'}[_N \text{student}] \text{ of Physics}] \text{ with long hair}]]$

     b.  $[_{N''}a[_{N'}[_N \text{student}] \text{ of Physics}]]$

(200)  a.  $[_{N''}a[_{N'}[_{N'}[_N \text{student}]] \text{ with long hair}]]$

     b.  $[_{N''}a[_{N'}[_N \text{student}]]]$

The key claim is that whenever an N shows up modified by adjuncts alone (*with long hair*), it should be possible to refer back to the noun without carrying over the adjunct, as the noun appears alone in an N-bar constituent. The following examples seek to verify this claim:

(201)  a.  The [student] with short hair is dating the ONE with long hair.

     b.  This [student] works harder than that ONE.

In (a), the antecedent appears with an adjunct postmodifier, and can be resumed by ONE to the exclusion of this modifier. In (b), the noun shows up without

any modifier and can also be resumed by ONE, suggesting, when one buys the assumption that ONE requires an N-bar antecedent, that a bar level is present which contains only the noun in the structure THIS STUDENT.

Following this, Radford claims that the noun does not appear on its own when followed by a complement-type modifier like *of Physics*; hence cannot be resumed by *one*:

(202)  a.  Which [student] were you referring to? *The *one* of Physics with long hair?

   b.  * The [student] of chemistry was older than the *one* of Physics.

   (Lightfoot (1982), p.54)

Finally, Radford uses ONE as a diagnostic for the other suggested bar constituents in the following examples:

(203)  a.  Which [student of Physics]? The *one* with long hair?

   b.  Which [student of Physics with long hair]? This *one*?

   c.  Which [student of Physics]? That *one*?

   d.  Which [student with long hair]? This *one*?

Turning to nominal premodifiers, Radford suggests that they can be of two kinds; complements and adjuncts (attributes in his terms). He proposes the following structure for the phrase *a Cambridge Physics student*:

(204)  $[_{N''}a[_{N'}\text{Cambridge}[_{N'}\text{Physics}[_N\text{student}]]]]$

And uses ONE as a diagnostic for this structure:

(205)  a.  Which [Physics student]? The Cambridge ONE?

　　　b.  Which [Cambridge Physics student]? This ONE?

　　　c.  Which [student]? *The Cambridge Physics ONE?

The example in (b) is intended to verify that the constituent *Cambridge Physics student* is indeed an N' constituent. The (c) example is meant to show that *Physics* is a complement type premodifier; where ONE stands for an N' constituent which cannot be modified by a complement.

With this traditional treatment of ONE in mind, I will now turn to my own approach. I will first discuss the its semantic properties, and then turn to its syntax.

## 4.2  Semantic Properties of ONE

### 4.2.1  Anaphoric Reach

Just as in the case of PartE, the anaphoric behavior of ContrA is not what we would expect if it involved NPE, or if it was an N' substitute. For one, it behaves as a deep anaphor, and not as a surface one, (206).

(206)  [While pointing at a unicorn.]

　　　a.  A pink one bit me yesterday.

　　　b.  Pink ones bit me yesterday.

Another interesting generalization pertains to its behavior in contexts involving several referents. There, just as for PartE, ContrA has a more limited reach

than we would expect under the alternative approach.[2]

(207)  a.  I arrived in class five minutes before the start.

        There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

        Then, **ten young boys(Z)** walked in whistling.

     b.  [**The tall** ONES] sat down.

        Can mean '**the tall** $Z$**s**', or '**the tall** $X \cup Y \cup Z$**s**'

        Cannot mean '**the tall** $X \cup Z$**s**'

     c.  [**The tall boys**] sat down.

        Can mean '**the tall** $X \cup Z$'

        Cannot mean '**the tall** $Z$**s**'.

Here, this cannot be substitution, the overt equivalent of the NPE, or N'-ellipsis, of *boys*. If it were substitution, we would expect the anaphoric reference to be to all the boys present in the context. Yet this is not the reading we find. ONE picks up as antecedent the most salient reference set introduced in the context, namely Z in this context, or the set of all available referents in the context. This is what leads me to treat ContrA as an anaphoric pro-noun, and not a straightforward case of deletion or substitution. I thus treat it as involving a contextual variable ranging over reference sets, just as proposed for the plural pronouns in cases of PartE.

(208)  ⟦ ONE$_N$ ⟧ $= X$, where X is a contextually salient referent set

However, ContrA exhibits different semantic and syntactic restrictions from PartE, as we will see below.

---

[2]I am grateful to Uli Sauerland for bringing this fact to light.

Turning to the covert counterpart of 'ONE' in French, '~~ONE~~', it has the same limited reach.

(209)   a.    Je suis    arrivé en classe dix minutes avant  le   début.
                I   AUX-BE arrived in  class  ten minutes before  the beginning

                'I arrived in class ten minutes before the start.'

         b.    Il     y avait des    louveteaux(X) et   des   jeannettes(Y) qui
                There it was  some boyscouts    and some girlscouts    that
                se    tenaient derrière leurs pupitres.
                SE-CL stood    behind  their desks

                'There were boyscouts and girlscouts standing behind their desks.'

         c.    Ensuite, dix jeunes garçons(Z) sont    entrés   en    sifflant.
                After,    ten young boys     AUX-BE entered while whistling

                'Then, ten young boys entered whistling.'

         d.    [Les grands ~~ONES~~] se    sont    assis.
                [the tall    ones]  SE-CL AUX-BE sit

                'the tall ONES sat down.'


                Can refer to **'the tall $Z$s'**, or **'the tall $X \cup Y \cup Z$s'**

                Cannot refer to **'the tall $X \cup Z$s'**

This is in accord with treating this expression as the covert counterpart to English ContrA. This covert anaphor in French is also a deep anaphor, as is made clear by the acceptability of the examples in (210).

(210)   [While pointing at a unicorn.]

         a.    Une rose ~~one~~ m' a    mordu hier
                a    pink one me has bitten  yesterday

                'A pink one bit me yesterday.'

b.  Des    roses ~~ones~~ m'ont mordu hier
    (some) pink  ones me    have    bitten yesterday

    'Pink ones bit me yesterday.'

### 4.2.1.1    Reference Set vs. Maximal Set

Just as it is the case with plural pronouns, ContrA can be anaphoric to the reference set and the maximal set of an antecedent QP.[3] This distinction is unexpected under a formal account where ONE stands for an elided noun phrase, or is substitute for an N' constituent.

Nouwen (2003; p.58) argues that anaphoric reference to the maximal set introduced by an antecedent QP is only possible with *strong quantifiers*.[4] Interestingly, the quantifier *some* can be used both as a strong and a weak quantifier. One way to distinguish between these uses (Milsark 1974) is that only strong noun phrases can be combined with individual-level predicates (predicates expressing properties inherent to individuals).

(211)    a.    SOME students are intelligent.

         b.    Some students came to my office.

Another way to distinguish between strong and weak uses pertains to the stress assignment. In (211a), stress falls on the determiner *some*, and the sentence

---

[3]In Generalized Quantifier Theory, for an expression $Q(A)(B)$, the reference set is the set verifying the quantificational statement, e.g. $A \cap B$; whereas the maximal set is the set corresponding to the restriction of the quantifier, e.g. $A$.

[4]The traditional test for weak noun phrases (Milsark 1974) is whether they can occur in there-existential sentences: *There are four/a few/many/few/no/*most/*all/*the boys in the room.*

implies a contrast between students already salient in the discourse context. This is the strong use of *some*. In (211b), if the sentence is uttered discourse initially, the QP can be used to introduce a group of students to the context, in which case the stress falls on the NP *students*; e.g. the weak use of *some*. Nouwen then uses this diagnostic to establish that only strong quantifiers can make the maximal set available for subsequent anaphoric reference. Consider the following examples, involving the anaphoric expression *the others*.

(212)   a.   Some STUDENTS came to my office. # The others didn't bother.

     b.   SOME students came to my office. The others didn't bother.

In (212a), we have the weak version of *some students*, consequently only the reference set, the students who visited the office, is available for subsequent reference, and the second sentence leads to a contradiction. This is not so for (212b), where the strong use of *some students* introduces the maximal set to the discourse.

Turning to ContrA, the same pattern obtains:

(213)   a.   Some STUDENTS came to my office. # The tall ONES didn't bother.

     b.   SOME students came to my office. The tall ONES didn't bother.

This fact is in line with the proposal that ONE, just as plural pronouns, is anaphoric to sets salient in the context. A theory which holds that ONE is anaphoric to an NP, or an N' constituent predicts no such contrast here.

## 4.2.2 To Count as ONE

It was noted early on by Baker (1978) that nominal ONE is a count noun. As such, it cannot be anaphoric to a mass term, unlike its pronoun counterpart. This can be seen in (214). In (215), we see that the same holds for ContrA in French.

(214)    `Water surrounds the planet.`

       `L'eau recouvre la planète.`

       **English**

       a.    *It* is required for life to subsist.

       b.    *A/The good ONE is required for life to subsist.

       c.    *A/The good ONE that is fresh is required for life to subsist.

(215)    **French**

       a.    *Elle* est requise pour que la vie subsiste.

       b.    *Une/La bonne ~~ONE~~ est requise pour que la vie subsiste.

       c.    *Une/La bonne ~~ONE~~ qui est fraiche est requise pour que la vie subsiste.

In (214a), we see that a typical third person singular pronoun can accommodate a mass antecedent. Examples (214b-c) demonstrate that ONE does not in fact allow for such an antecedent.

In addition, it can appear with plural and singular marking, cardinal numerals, as well as determiner such as *these*. All typical traits of count nouns.[5] When it has a count antecedent however, it appears syntactically, just like count terms and unlike

---

[5]See Gillon 1992 for discussion.

mass terms, both in the singular and the plural when preceded by an article or a numeral; but only in the plural when bare:

(216)   Bill dropped *books* by the office.

      a.     Mary grabbed the interesting ONE.

      b.     Mary grabbed the interesting ONES.

      c.   * Mary grabbed interesting ONE.

      d.     Mary grabbed interesting ONES.

Further it accommodates *many* and *few*:

(217)   How many *dots* did you see?

      a.     I don't know, I've seen **many** blue ONES.

      b.     I don't know, I've seen **few** red ONES.

For these reasons, I will treat ONE as being marked as count, which I take to be a syntactic and semantic property of nouns.

Here, I also want to point out that, just as it was the case for PartE, ContrA cannot refer back to an event implied by an antecedent sentence (218a). This contrasts with cases involving an anaphoric definite description headed by the corresponding event nominal as in (218b).

(218)   John hit the blackboard, and then he hit the table

      a.  # The first ONE was louder.

      b.     The first hit was louder.

Note further that, again just as it was the case for PartE, ContrA can resume an event introduced by an event nominal.

(219)   Marcus Aurelius witnessed the destruction of the city.

    a.   A much more gruesome ONE had taken place a century earlier.

I come back to this issue in detail in the next chapter, but foreshadowing, I want to state here that this impossibility of ContrA to resume implicit event is tied to its count requirement. As we will see, anaphoric reference to implicit events is simply incompatible with features such as count, but also other $\phi$-features such as gender in French. Given that ContrA is specified as count, just like plural pronouns, it cannot be used to resume such events.

### 4.2.3   ONE's Contrastive Posse

At first glance, it appears that the pro-noun ONE must be accompanied by a modifier.

(220)   John dropped books by the office.

    a.   # Bill took some ONES from the pile.

    b.   Bill took some good ONEs from the pile.

(221)   a.   Bill took some books from the pile.

    b.   Bill took some good books from the pile.

(222)   a.   Bill took some ~~of them~~ from the pile.

    b.   * Bill took some good ~~of them~~ from the pile.

In (220), we see that ContrA is unacceptable without the presence of an adjectival modifier. This contrasts with the overt nominal, *books* in this case, which can occur with or without a modifier in the same context, (221). This behavior is also distinct from instances of PartE which simply do not take a modifier, as seen before and repeated in (222).

Two explanations can be taken to account for this requirement; one pragmatic, the other formal. The pragmatic approach holds that this requirement does not in fact pertain to the modifiers *per se*, but rather is due to the fact that anaphoric uses of nominal ONE require that a contrast be established between the referent of ONE and other entities in the antecedent set. In other words, ONE can only occur in environments which can support a contrast. The formal approach holds that the presence of the modifiers bleeds the use of ellipsis, leading to the ONE-anaphora strategy; I know of two different versions of this formal approach, to which I will come back below. But first, I present arguments in favor of the contrastive approach.

## 4.2.3.1   The Nature of the Modifier

In line with the idea that contrast is what matters to ONE, Llombart-Huesca (2002) notes that the modifier licensing the use of ONE must be a restrictive modifier:

(223)   Did you read the book?

  a.   Yes, I read the whole *ONE / book.

(Llombart-Huesca 2002, p.61)

129

However, the issue with the example she provides might be that the context does not allow for other occurrences of the same type, to be contrasted, given the use of the singular definite *the book*. Nevertheless, it appears that, provided with a good context, the use of ONE with a non-restrictive modifier still leads to degradation:

(224)  Did you read the books?

    a.   ? Well, I read a whole ONE

    b.   ? Well, I read two whole ONEs

    c.   * Well, I read two ONES

In (224a-b) the strings involving a non-restrictive modifier appear degraded; however, this degradation might not be as drastic as in examples where a modifier is lacking altogether (224c). This restriction pertaining to the type of modifiers to be used is consistent with the hypothesis that the modifier requirement is due to the contrastive nature of ONE. Non-restrictive modifiers like *whole* simply do not lead to a narrowing of the sets being contrasted.

Expressives are another type of non-restrictive modifiers which fail to license ContrA. Contrast the anaphoric use of the noun phrase *thing* in (225a), to the infelicitous version involving ONE in (225b).

(225)  I bought a toaster, but...

    a.   there was no instruction manual for the fuckin' thing.

    b.  # there was no instruction manual for the fuckin' ONE.

Here again, the expressive does not allow for a partitioning of the antecedent set, thus leading to infelicity.

### 4.2.3.2 How about these ONEs?

There are a few cases where ONE appears not to require a modifier. However, such instances are cases where the context makes clear what the intended sets contrasted are. For instance, ONE can be used without a modifier when figuring in a demonstrative construction, where the contrast is indeed provided by context (e.g. a pointing gesture)

(226)   [While pointing at fruits at the market]

     a.     I want these ONEs.

In (226), the pointing gesture in the context renders the lack of modifier felicitous. Notice that (226a) would be infelicitous if uttered in the absence of a pointing gesture or any such indicator:

(227)   [While standing in front of a variety of fruits at the market]

     a.  ?? I want these ONEs.

     b.     I want these green ONEs.

Without any modification, (227a) is unacceptable; however, adding a modifier to the demonstrative construction in the same context (and assuming only a subset of the fruits under consideration are green) yields an acceptable sentence.

Another instance where the nominal anaphor appears without a modifier is when it stands as the head-noun of a wh-phrase:

131

(228)   [While standing in front of a variety of fruits at the market]

    a.    Which ONES would you like, sir?

Nevertheless, I do not believe that such examples constitute any counter evidence to the hypothesis that ONE requires a contrast to be made. As we have seen, the demonstrative cases also require a partitioning, *viz.* one that can be provided contextually. And the wh-cases are queries for such a partitioning.

#### 4.2.3.3   ONE-deletion, ONE-support and complementarity

As seen in (220) and (222) above, repeated here, there is a complementarity between ONE and ellipsis with respect to their taking modifiers.

(229)   John dropped books by the office.

    a.  # Bill took some ONES from the pile.

    b.    Bill took some good ONEs from the pile.

(230)   a.    Bill took some ~~of them~~ from the pile.

    b.  * Bill took some good ~~of them~~ from the pile.

Under the current approach, this is accounted for by treating ONE as an instance of ContrA, requiring a contrast to be made; and ellipsis as an instance of PartE, where the modifier simply cannot result from the derivation.

However, the early and influential approach of Ross (1967) provides a derivational explanation to this complementarity. Basically, ONE is present underlyingly, and certain transformations, operations, can delete it in certain environments.

(231)　a.　Mary bought two books on astronomy, and she read [both books on astronomy] last night. (deep structure)

　　　b.　Mary bought two books on astronomy, and she read [both ones] last night. (one pronominalization)

　　　c.　Mary bought two books on astronomy, and she read [both] last night. (one's deletion)

However, as pointed out by Jackendoff (1971; see also Perlmutter 1970 and Sommerstein 1972), one clear issue with this approach is the fact that certain cases would be derived from ungrammatical sources:

(232)　a.　I prefer Mary's book to John's.

　　　b.　＊I prefer Mary's book to John's one.

Another approach to this complementarity is also found in the literature. Llombart-Huesca (2002; see also Alexiadou and Gengel 2011) propose that ONE is the spell-out of the Number Phrase (Ritter 1991). In effect, ONE appears as the result of a last-resort operation, much of the sort often proposed for the auxiliary *do* in English, in a configuration known as do-support (Chomsky 1955; Halle and Marantz 1993; Bobaljik 1994; Lasnik 1995). Under this approach, ONE is introduced in constructions where no noun or other appropriate head is present to bear the number marking introduced by Num.

(233)　a.　All the students took the exam, but many lazy ones failed.

b.

```
                        QP
                      /    \
                   Q⁰       AP
                    |      /   \
                  many  lazy   NumP
                              /    \
                          Num⁰     NP
                            |       |
                          ones      ∅
```
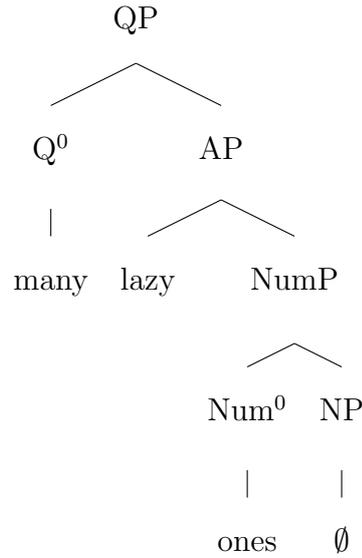
In (233), Llombart-Huesca proposes that ONE appears to bear the morphology introduced by $\text{Num}^0$, which could have been borne by the quantifier *many*, had the modifier *lazy* not been present as an intervener. This type of last resort approach thus requires the complementarity between ONE and ellipsis.

However, the assumed complementarity at the basis of such approaches does not hold across the board. As we have just seen, in a few cases, ONE does not require a modifier to be present. Those are environments which I have suggested already encode the required notion of contrast. As it happens, these environments can also accommodate ellipsis.

(234)   [While standing in front of a variety of fruits at the market]

   a.   Which would you like, sir?

   b.   Which ONES would you like, sir?

Another case where ONE and ellipsis appear in overlapping distribution is in constructions involving superlative adjectives:

(235)    a.    The tallest ~~of them~~ sat down.

            b.    The tallest ONE sat down.

Further, cases involving the definite determiner require a type of contrastive modifier, however this modifier need not intervene between the determiner and ONE:

(236)    a.  The ONEs from Swabia sat down.

            b.  The ONEs that Brad loves best sat down.

These facts are incompatible with the approaches which take ONE and ellipsis to be two sides of the same coin. However, they are totally compatible with the approach proposed here where they are simply two different formal phenomena which can overlap in distribution.

Here, I want to address another argument offered by Llombart-Huesca for treating ONE and ellipsis on par. Both yield strict and sloppy readings. As originally pointed out by Valois (1991), cases of ellipsis in DP allow for both strict and sloppy readings:

(237)    I saw Janet's picture of her cat and Jack saw Julie's.

(238)    I saw Janet's beautiful picture of her cat and Jack saw Julie's ugly one.

This ambiguity is also found in cases of VP-ellipsis, and is usually assumed to be symptomatic of elided constituents (see for instance Fiengo and May 1994 for discussion).

(239)    Kim likes her cat and Karl does too.

Given that both ONE and ellipsis in DPs allow for this ambiguity, Llombart-Huesca suggests that this is consistent with both constructions involving the ellipsis of an NP.

However, as pointed out by Merchant (2010), sloppy readings are found in a number of constructions which cannot involve ellipsis, and even with pronouns, such as in cases of paycheck pronouns:

(240) a. Ralph ate his ice-cream with a spoon, and Seymour did **the same thing**.

 b. Harvey stubbed his toe on the doorstop,and **it** happened to Max, too.

 c. Undergraduates can be covered under their parents health plans if desired; { **likewise** for graduate students./ **that** goes for grad students, too. }

 d. A professor who pays down her mortgage with her paycheck is wiser than one who gambles **it** away in online poker.

In conclusion, the complementarity in distribution between ONE and ellipsis is only apparent. They actually overlap in distribution, which is compatible with the proposal that they are distinct reference-anaphoric phenomena; namely instances of ContrA and PartE.

## 4.3 The Syntax of ONE

For concreteness, I adopt here the syntactic analysis proposed by Corver and van Koppen (2009) for this construction in a number of languages (Afrikaans, Frisian,

Dutch, English French,...):

(241)  UNDERLYING STRUCTURES:

    a.    French: $[_{DP}$ Les $[_{FocP}$ grands $[_{NumP}$ $[_{NP}$ ~~ONEs~~ $]\,]\,]\,]$

    b.    English: $[_{DP}$ Many $[_{FocP}$ tall $[_{NumP}$ $[_{NP}$ ONES $]\,]\,]\,]$

In these constructions, the modifier moves to the focus phrase projection, where it supplies the basis for the contrast established. Further, the use of the overt or covert ONE is licensed by the presence of the focus projection.

Under this syntactic analysis, ONE is a noun, of syntactic category N. As mentioned at the outset, this is different from most previous analyses, which typically assume that ONE is of syntactic category N′. Researchers have been drawn to the N′ analysis because of what I call the 'No-complement generalization'; that is, ONE is not compatible with complements typically combinable with head nouns. I now turn to this issue.

## 4.3.1   The No-complement Generalization

Under the substitution account (Hornstein and Lightfoot 1981; Radford 1989) it is often assumed that ONE, being of category N', does not allow for complements, because such constituents are sister to $X^0$ constituents. This ban on complements does not come out straightforwardly under the syntactic treatment adopted here, where ONE is a nominal head, $N^0$.

(242)    a.    * The students of physics are taller than the ONEs of chemistry.

          b.    The students from physics are taller than the ONEs from chemistry.

This generalization is not however incompatible with the proposed syntax, as already argued by Panagiotidis (2003). While arguing for an $N^0$ status for nominal ONE, he points out an observation made by Radford (1989) and Speas (1990; attributed there to Lisa Travis). The observation pertains to certain modifiers which appear to be complements, and yet are felicitous as modifiers of ONE:

(243)  a.  * The students of physics are taller than the ones of chemistry.

   b.  The portrait of the Queen is lower than the one of the vice-chancellor.

   c.  The ones from New York are taller than the students from New Jersey.

(Panagiotidis 2003)

Panagiotidis' suggestion with respect to the examples in (243) is that we are faced with two types of propositions; thematic ones (243b-c) and non-thematic ones (243a). What is then particular with ONE is that, unlike typical common nouns, it does not have a thematic role to offer. The noun *chemistry* in (243a) requires thematic marking, but since neither the preposition, nor ONE can fulfill this role, the string ends up being ungrammatical. On the other hand, the *of* in (243b), just like the *from* in (243c) are thematic, and thus license their complements, allowing the derivation to converge.

Panagiotidis further points out two other ways in which these two types of prepositions may be distinguished.[6] Prepositional phrases headed by a thematic preposition can be extraposed (244a), whereas those headed by non-thematic prepositions cannot (244b):

---

[6]Originally used as diagnostics by Radford (1988).

(244)   Only thematic *of*-PPs can be extraposed.

    a.    Thematic: [A photo ___ ] was found [of the vice-chancellor drinking absinthe].

    b.    Nonthematic: *[A student ___ ] was jailed [of chemistry].

                                      (Panagiotidis 2003)

He also suggests that only non-thematic *of*-PPs have a prenominal counterpart which is lacking a preposition:

(245)   Only nonthematic *of*-PPs have a prenominal counterpart.

    a.    Thematic: a (*vice-chancellor) picture (of the vice-chancellor)

    b.    Nonthematic: a (chemistry) student (of chemistry)

                                        (Panagiotidis 2003)

However, this behavior of thematic *of*-Phrases would be compatible with them being adjuncts, not constituting in and of itself evidence for ONE as a lexical head, but being consistent with it being N'. A further paradigm pertaining to extraction might provide further support for this point. It is typically assumed that an asymmetry holds between complements and adjuncts with respect to extraction; whereas the former type of constituents allows for it, and the latter doesn't. Consider the following examples:

(246)   a.    What is this a picture of? [the corkboard in Howard's office]

    b.    What is Hans a teacher of? [German]

    c.    What is this actually a criticism of? [LGB]

d.    What is this a portrait of? [The Queen]

(247)   a.   * What is this a picture on? [the corkboard in Howard's office]

b.   * What is Hans a teacher with? [brown hair]

c.   * What is this actually a criticism in? [LGB]

The examples in (246) would thus be considered as complements under this view, and the ones in (247) adjuncts. Then, we can also verify that the PPs with thematic prepositions in (246) are in fact compatible with ONE:

(248)   a.   John likes the pictures of Mary, and Bill likes the ONES of Sue.

b.   ?? John admires the teachers of German, but Bill prefers the ONES of Marshallese.

c.   The criticisms of Obama are much harsher than the ONES of Bush.

d.   The portrait of Colbert is closer to the toilets than the ONES of Washington.

This leads us to the conclusion that ONE is indeed of syntactic type $N^0$, but simply doesn't have a thematic role to offer to its complement.

However, this argument is not without problems. For one thing, the putative complement/adjunct asymmetry with respect to extraction does not appear to hold, as it is possible to extract out of instrumental PPs at the VP level, phrases that are adjuncts by any known measure:

(249)   a.   What did Hans cut the rope with __?

b.   What did Stieg climb the wall with __?

140

Taking away the evidence that would constitute the extraction facts, we are then left with a set of paradigms that are consistent with the relevant PPs being adjuncts (*e.g.* compatibility with ONE, and extraposition). Further, it is possible to recursively stack those putative complements with adjuncts to the noun phrases. Consider the following:

(250)   John likes the pictures on the wall of Mary, and Bill likes the ONES on the table of Sue.

It thus seems to me that in most respects, those PPs behave more like adjuncts than complements, and given the unreliability of the extraction test, we probably better treat them as such. The non-thematic *of*-Phrases do in fact appear to be complement, but this does not help us in deciding whether ONE can or cannot take a complement.

Nevertheless, I will adopt Panagiotidis' proposal that ONE cannot dispense thematic roles, and I will go further and suggest that it does not subcategorize for a complement either. I now turn to a paradigm in French which supports this stronger position.

### 4.3.1.1   The French ONEs

Ronat (1977) discusses a number of cases involving relative clauses (RCs) in French, which *prima facie* might be taken as problematic for the proposal put forth here, namely that it exhibits ContrA just as English, but covertly.

(251)   a.   * [$_{NP}$ le  [$_{N'}$ e] qui  est susceptible de te   plaire]
              the      e  that is   susceptible of  you please

'the one that is susceptible to please you'

b.  * [_{NP} le  [_{N'} e] susceptible de te  plaire]
       the    e  susceptible of you please

'the one that pleases you'

c.    the one that is susceptible to please you

In (251a,b), we see that definite DPs involving only an RC, or a reduced RC, with an empty noun ('~~ONE~~' under the current proposal). This contrasts with the English case in (251c), where overt ONE is possible with the definite determiner and an RC. Ronat offers the syntactic representations in (251a,b), and takes such cases to support her proposal that in French, as opposed to English, N' cannot be empty.

However, the syntactic analysis she assumes is incompatible with traditional treatments of RCs in French. In particular, Vergnaud (1974) famously argued that French RCs should be analyzed as involving raising of the head-noun from within the RC. One striking argument in favor of this analysis pertains to the fact that, in French, the Φ-features of the head-noun and its embedded counterpart must match. To see this, consider the cases in (252), where a mismatch in gender leads to infelicity; and the contrasting examples in (253), involving number marking.

(252)  a.  * Marie n'   est pas  la      comédienne  que son père  était.
             Mary NEG is   NEG the.Fem comedian.Fem that her father was

       b.  * Marie n'   est pas  le      comédien     que son père
             Mary NEG is   NEG the.Masc Comedian.Masc that her father
             était.
             was

       'Mary is not the comedian that her father was.

(253)　a.　Ce　　ne　　sont pas　les　　comédiens que leurs parents étaient.
　　　　　　　Those NEG are　　NEG the.Pl comedians that their parents were

　　　　　　　'They are not the comedians that their parents were.'

　　　　　b.　*Ce　　ne　　sont pas　les comédiens que leur père　　était.
　　　　　　　Those NEG are　　NEG the comedians that their father was

　　　　　　　'They are not the comedians that their father was.'

Further, these examples contrast with cases involving comparative deletion (254a), where no such Φ-feature matching is required.[7]

(254)　a.　Ce　　sont de　bien　meilleurs comédiens que　leur　père.
　　　　　　　These are　Det much better　　comedians than their father

　　　　　　　'They are much better comedians than their father.'

　　　　　b.　*Ce　　ne　　sont pas　les comédiens que leur père　　était.
　　　　　　　Those NEG are　　NEG the comedians that their father was

　　　　　　　'They are not the comedians that their father was.'

Going back to the cases in (251), it is clear that the structures assumed by Ronat for French are incompatible with Vergnaud's raising analysis. That is, the RCs should be complement to the head noun. I assume the following syntactic analysis:

(255)　a.　*$[_{NP}$ le　$[_{N'}$ ~~ONE~~ qui　est susceptible de te　　plaire]
　　　　　　　　　　the　　　　ONE that is　　susceptible of　you please

　　　　　　　'the one that is susceptible to please you'

　　　　　b.　*$[_{NP}$ le　$[_{N'}$ ~~ONE~~ susceptible de te　　plaire]
　　　　　　　　　　the　　　　ONE susceptible of　you please

　　　　　　　'the one that pleases you'

---

[7]Assuming the same conditions apply to matching in RCs and the locus of comparative deletion.

As was just suggested above, ONE in English, and ~~ONE~~ in French, do not allow for a complement. The unacceptability of the examples in (251) is thus predicted under the ContrA analysis proposed here.

## 4.4   The Other Ones

In English, the expression *one* can be found under two different guises in anaphoric constructions. On the one hand, we have *nominal* ONE which stands for an anaphor; on the other, we have *numeral one*, which can be followed by an elided partitive phrase, an instance of PartE.

(256)   Nominal one:

    a.   John bought the magazines on Monday .

    b.   Mary read the long ONE on Tuesday.

(257)   Numeral one:

    a.   John bought the magazines on Monday.

    b.   Mary read *one* on Tuesday.

In what follows, I provide a few diagnostics meant to ensure that we are dealing with the right one.

### 4.4.1   *One ~~of them~~* vs. *The Ones*

As a first distinguishing property I note that nominal ONE can be pluralized, whereas the numeral *one* heading a PartE construction, being a numeral, cannot:

(258)    Mary dropped a pile of books at the office...

    a.    Bill took the most interesting *ones*.

    b.    Bill took the *ones* that Mary wanted.

    c.    Bill took two big *ones*.

    d.    * Bill took *ones*.

    e.    Bill took *one ~~of them~~*.

Here, the examples (a) through (c) featuring pluralized versions of ONE are felicitous, taking *books* as their antecedent; whereas the example in (d), featuring a pluralized instantiation of numeral *one* is infelicitous.[8] The example in (e) demonstrates that numeral *one* followed by ellipsis is indeed felicitous in this environment.

As a second guideline towards distinguishing these two terms, I take it that whenever *one* can be substituted by another numeral in a given context, then numeral *one* can figure in this position. However, this doesn't preclude nominal ONE from also showing up in the same environment (*e.g.* compare (258b) to (259b)):

(259)    a.    Bill took the *one*/ONE that Mary wanted.

    b.    Bill took the two that Mary wanted.

    c.    Bill took the interesting ONE/?*one* that Mary wanted.

    d.    ? Bill took the interesting two that Mary wanted.

Comparing (259a) with both (258b) and (259b), we see that this environment is available both to nominal ONE and numeral *one*. Comparing (259c) to (259d), we

---

[8]This construction could also have a different derivation where it involves ONE. This would be unacceptable here due to the issues pertaining to contrast discussed above.

(unsurprisingly) see that numeral *one* cannot be preceded by a prenominal modifier.

Another fact discussed above, which becomes helpful when contrasting these two *ones*, is that Nominal ONE requires a modifier, or contrastive environment, when it appears as argument to a determiner:

(260)   Mary dropped a pile of books at the office...

    a.   Bill took an interesting ONE(s).

    b.   Bill took the ONE(s) that Mary wanted.

The fact that this is a requirement becomes obvious when the modifier is done away with as in the following examples:

(261)   Mary dropped a pile of books at the office.

    a.   ? Bill took the ONE.

    b.   ? Bill took a ONE.

Contrasting with this, numeral *one* cannot appear with a pre-nominal modifier, although it can appear with a post-nominal modifier. When it appears with a post-nominal modifier, it can be preceded by a definite determiner:

(262)   Mary dropped a pile of books at the office.

    a.   * Bill took *one* interesting.

    b.   Bill took *one* that Mary wanted.

    c.   Bill took two that Mary wanted.

    d.   * Bill took the *one* interesting.

    e.   Bill took the *one* that Mary wanted.

146

f.      Bill took the two that Mary wanted.

Here we see in (a) that *one* cannot be followed by a pre-nominal modifier; whereas the examples (b) and (c) demonstrate that the numeral can be followed by post-nominal modifiers. The examples (d-f) demonstrate that the numeral can be preceded by a definite determiner, whilst taking post-nominal modifiers, but not pre-nominal ones.

Thus, being careful to distinguish these two different beasts, I will go on, focusing on nominal ONE.

## 4.4.2    Other *Ones* to Worry About

Halliday and Hasan (1976; henceforth H&H) offer one of the earliest and keenest discussions of nominal ONE in the generative tradition. In their work, they point out three other morphosyntactic elements showing up as 'one' which we want to avoid confusing with ONE. Concluding this section is a brief survey of those three possible impostors.

### 4.4.2.1    Personal Pronoun *one*

This is the 'one' in this one:

(263)    One never knows what might happen.

     (H&H 1976)

They note that this 'one' is never used anaphorically, but always exophorically, a role that can also be played by the pronouns *you* and *we*. The environment in

which it appears is inaccessible to the nominal substitute (*e.g.* bare singular).

### 4.4.2.2   Indefinite Article *one*

H&H identify this form as *the form taken by the indefinite article [a, MG] when it is functioning as Head of an elliptical nominal group (cf: Have one of mine!).* They further suggest that its plural counterpart is the weakened some (s'm) and that together they form the class of non-specific determiners which distinguish (count) singular/non-singular, with mass (grouped with the plural), as in *a/one house* (count-singular), and *some sugar, some houses* (non-singular).

Here are some examples where these determiners are meant to be distinguishable from the use of the numeral as Head of an elliptical complex:

(264)   **Some**

    a.    Are there lions in those hills? - Yes, we saw some on the way over.

    b.    I'd like some coffee. - Then make some.

(265)   **One**

    a.    Are there lions in those hills? - Yes, we saw one on the way over.

    b.    I'd like some coffee. - Then make one.

<div align="right">(H&H 1976)</div>

Where the suggested completions for the examples in (265) are *a lion, a cup of coffee*, and not *one lion, one cup of coffee*.

Their status as indefinite determiner is further suggested by the fact that, just as *a*, they are replaced by *any* in downward entailing environments:

(266)    a.    We didn't see any on the way.

       b.    ? We didn't see one on the way.

(H&H 1976)

They however do note some negative environments where *one* can occur as determiner, environments where *a* can also show up:

(267)    'I vote the young lady tells us a story.' 'I'm afraid I don't know one [a story, MG],' said Alice.

They offer the following classifications of what they call the definite and indefinite determiners of English, on the basis of their phonological (tonic) behavior:

|  | Selective form [salient] | Article [non-salient] | |
|---|---|---|---|
|  | as Modifier or Head | as modifier [reduced] | as Head [weak] |
| (268) | (demonstrative) | | |
|  | that | the | it |
|  | (numeral) | | |
|  | one; some | a/an; s'm | one;some |

(H&H 1976)

As briefly discussed above, they see the article *one* as endowed with the power of nominal fusion (as in *one with wheels*); they suggest that in some cases the determiner can co-occur with the substitute:

(269)    a.    I need a one with a sharp point.

       b.    There's a one I hadn't seen before.

However, the native speakers I have questioned with respect to such cases find them rather degraded. I am thus left uncertain with respect to the status of these cases.

### 4.4.2.3 'Pro-Noun' *one*

This 'one' is the one which they claim appears in the following constructions:

(270)  a.  If such a one be fit to govern, speak.

  b.  The ones she really loves are her grandparents.

<div align="right">(H&H 1976)</div>

They suggest that this *one* can only have human referents, and as such is a counterpart to *thing*.

(271)  a.  What does he need? The thing he needs is a passport.

  b.  What does he need? The thing he needs is his passport.

  c.  What does he need? The thing he needs is a lawyer.

  d.  Who does he need? The one/ones he needs is/are his lawyer/lawyers.

<div align="right">(H&H 1976)</div>

As the reader can notice, this form also appears in the plural form as *ones*. H&H claim that this form is mostly used in clauses displaying **theme identification**. Take the following example:

(272)  The children seemed to enjoy the outing. The one who didn't was George.

Here, *one* is ambiguous between the substitute and the 'pro-noun' form. However, H&H claim that the substitute is cohesive (anaphoric for the present purposes), whereas the 'pro-noun' isn't; and so, in this example, two different readings are available, one where George is of the children, the other where he is just a human, perhaps a professor who's not fond of candy. This second reading is taken to belong to the 'pro-noun'.

Note that if we do not hold that the referent of ONE must be supplied linguistically, then perhaps they could be unified, the 'pro-noun' gaining a referent from context.

This concludes our survey of the many potential 'ones' which we should be careful to distinguish from ContrA.


## 4.5   Supporting the Distinction Between PartE and ContrA

Distributional support for the distinction between ContrA and PartE comes from the partitive clitic *en*, as in (273), with respect to elided constituents found in object position.

(273)   Dix garçons sont     entré   dans la   classe.
        ten  boys    BE-AUX  entered in    the  class
        'Ten boys entered in the class.'

    a.   J' **en**    connaissais [trois/plusieurs __].
        I  EN-CL knew         three/many      __
        'I knew three/many of them.'

Following Kayne (1975) and Jones (1996),[9] I assume that this clitic stands for a prepositional phrase (PP) headed by the preposition *de*. The clitic can stand for PPs with different meanings and different syntactic sources. The version of the clitic we are interested in here is its partitive occurrence.[10] Another version of the clitic we will not be discussing here is its possessive, or sometimes called genitive, instantiation. Various syntactic distinctions can be made between these versions of the clitic, for instance, the partitive clitic cannot be extracted out of a subject whereas the genitive clitic can, (274); further, the partitive clitic can 'double' , or co-occur, with its source phrase, whereas the genitive clitic cannot (275).

(274)  a.  Aucune    n'     (*en)     est        intelligente.
           None-Fem NEG-Cl PART-Cl AUX-be intelligent
           'None is clever.'

       b.  La         forme    (*de ce  poème) n'      en      est      pas
           The-Fem structure (of   this poem)  NEG-Cl GEN-Cl AUX-be not
           admirable.
           admirable
           'The structure of this poem is not admirable.'

(275)  a.  Je n'      en       connait aucune d'entre    elles
           I   NEG-Cl PART-Cl know    none    of amongst them-Fem
           'I know none of them.'

       b.  Je n'      (*en)    connait pas la      forme    de ce  poème.
           I   NEG-Cl GEN-Cl know    not the-Fem structure of this poem
           'I do not know the structure of this poem.'

---

[9]But contra Sleeman 1996, who follows Cardinaletti and Giusti (1991)'s analysis of the Italian counterpart to the French clitic, *ne*, which they analyze as being of category NP.

[10]Sometimes called quantitative, see Sleeman (1996) for some discussion of this possible distinction.

These differences between the two uses of the clitic are themselves a little mysterious, and likely suggest that the syntax of the sources for the clitics, or the processes through which the clitic obtains in either case is likely different. Establishing the source of such distinctions is beyond the goals of the current work.

Here, I will simply assume that the partitive clitic is the spell-out of a higher copy of a moved partitive phrase, whether or not the lower partitive phrase is spelled out or not (given 275a).

With this in mind, consider the following paradigm:

(276) Dix garçons sont     entré   dans la  classe.
      ten  boys    BE-AUX entered in    the class
      'Ten boys entered in the class.'

    a.    J' en      connaissais [trois/plusieurs __].
               I  EN-CL knew        three/many    __
               'I knew three/many of them.'

    b.    * Je connaissais [trois/plusieurs __].
               I  knew        three/many    __
               'I knew three/many.'

    c.    Je connaissais [trois/plusieurs d' entre   eux].
               I  knew        three/many     of among them
               'I knew three/many of them.'

    d.    J' en      connaissais [trois/plusieurs d' entre   eux].
               I  EN-CL knew        three/many     of among them
               'I knew three/many of them.'

From the contrast between (276a,b) we see that the partitive clitic *'en'* must necessarily be present when partitive ellipsis takes place. We can further see for (276c,d) that the presence of the clitic is not required, although possible, when the parti-

tive phrase is present overtly. Presumably, the clitic necessarily appears in cases of ellipsis, and not optionally as in the overt cases, due to some form of interaction between cliticization and a type of condition on retrievability.

Contrast now such cases of PartE in French, with the following cases of ContrA:

(277)   a.   Je préfère la        rouge ___
             I   prefer  the-Fem. red   ___
             'I prefer the red one'

        b.   *J' en        préfère la        rouge ___
             I   PART-Cl prefer  the-Fem. red   ___
             'I prefer the red one'

Here, we see that the partitive clitic cannot occur at all in cases of ContrA. There is thus a clear distinction between PartE and ContrA when it comes down to the use of the partitive clitic in French; it is required (when it can raise/cliticize) in cases of PartE, whereas it is forbidden in cases of ContrA.

## 4.6   Conclusion

In this chapter, I have argued that ContrA in English and French is an anaphor of syntactic category N. It shares the same semantic representation as pronouns, but also comes with the pragmatic requirement that it appears in a contrastive context.

There still remains a question as to why French and English differ in having covert and overt versions of ONE respectively. I cannot offer an explanation of this cross-linguistic distinction here, but am tempted to agree with Lobeck (1995)'s suggestion that what matters here might be the overt morphological realization of

$\phi$-features on the adjectives in French, and the bareness of their counterpart in English.

# CHAPTER 5

## Event Anaphora

A variety of nominal expressions can be used to make anaphoric reference to *events* and other abstract entities (Vendler 1967, Asher 1993, Zucchi 1993, Hegarty et al 2002, Hegarty 2003). Among them, event nominals (278a), personal pronouns (278b) and demonstrative pronouns (278c).

(278)   The Romans destroyed the city.

      a.   **The destruction/Their destroying of the city** was gruesome.

      b.   **It** was gruesome.

      c.   **This** was gruesome.

However, as we have seen in previous chapters, neither PartE (279) nor ContrA (280) can make anaphoric reference to events implied by antecedent sentences:

(279)   [While looking at an arguing couple]:

    a.  # [**Some/Most/All** __ ] always happen(s) right after Valentine's day.

(280)   John hit the blackboard, and then he hit the table

    a.  # The first ONE was louder.

    b.    The first hit was louder.

I have claimed that in the case of PartE, this impossibility is tied to two facts. First, only singular pronouns can refer back to implied events (Neale 1988).

(281)   Bill stumbled and John stumbled. **it/#they** happened quickly.

And second, that count partitive phrases must be headed by a plural DP (Barker 1998).

(282)   * Many of the boy

Turning to cases of ContrA, I have suggested that the incompatibility is due to the fact that ContrA, unlike singular pronouns, is marked as count. This can also be seen from the fact that it cannot have a mass antecedent:

(283)  `Water surrounds the planet.`

    a.    *It* is required for life to subsist.

    b.  * A/The good ONE is required for life to subsist.

    c.  * A/The good ONE that is fresh is required for life to subsist.

Still, it remains a question as to why only singular pronouns or demonstratives can resume implicit events anaphorically. This issue is further complicated by a number of facts. First, events introduced to the discourse by means of nominalization can be pluralized:

(284)   According to archeological findings, there would have been nine *destructions* of Troy. Although not all of them are attributable to wars such as that depicted in the Homeric tale, **they** were certainly all gruesome.

Second, although clausally introduced events cannot be simply resumed by plural pronouns, expressions involving more descriptive content may do so:

(285)   Bill stumbled and John stumbled. **These events** happened in the afternoon.

To the best of my knowledge, only one solution to this puzzle has been put forth, which I will call the **metaphysical solution**. The proposal there is to treat pluralities of clausally introduced events as *singular sums*, on par with mass terms (Asher 1993, Moltmann 1997). However, Webber (1991) offers a different account of event anaphora, which can also inform this issue. I dub this solution the **discourse-structure solution**. Under Webber's account, pronominal event anaphors actually resume a discourse segment which is then taken to refer to events by means of deferred reference. I adopt this treatment, and suggest that discourse segments are simply not pluralizable. As we will see below, evidence from French shows that event anaphors cannot bear **any** $\phi$-features; plural, feminine or masculine. This incompatibility with grammatical gender features cannot be explained by the metaphysical approach, but is compatible with the discourse-structure solution.

This chapter is structured as follows: First, I discuss a number of assumptions pertaining to event reference (§5.1), then, in §5.2, I discuss the metaphysical solution and the discourse-structure solution.

## 5.1 In Vendler's Shadow

As mentioned above, Davidson (1967) argues that sentences are existential statements about events, and that pronouns can refer back to such events.

(286) a.  Jean hugged Marie

b.  $\exists e.\text{Hugged}(e)$ & $\text{Agent}(e, \text{Jean})$ & $\text{Patient}(e, \text{Marie})$

c.  **It** was sweet.

d.  True $\iff$ $\iota e.[\text{Hugged}(e)$ & $\text{Agent}(e, \text{Jean})$ & $\text{Patient}(e, \text{Marie})]$&$\text{Sweet}(e)$

Vendler (1967, 1968, 1975) further distinguished between two kinds of nominals which may refer to abstract entities: Those he called *perfect nominals* and *imperfect nominals*.

(287) a.  the *performance* of the song **(perfect)**

b.  the *performing* of the song **(perfect)**

c.  his *performing* the song **(imperfect)**

*Perfect nominals* correspond to the two types *derived NPs* and $ing_{of}$ *NPs*; the *imperfect nominals* correspond to the *gerundive nominals*. The division between *perfect* and *imperfect* is justified by a number of differences in the distributional behavior of these noun phrases, namely with regards to nominal adjectives, articles, auxiliaries, and adverbs:

(288) a.  the/ a/ that performing/performance of the song

b.  the beautiful performing/performance of the song

c.   *the having performed/performance of the song

d.   *the performing/performance of the song beautifully

(289)   a.   *the/ a/ that performing the song

b.   *his beautiful performing the song

c.   his having performed the song

d.   his performing the song beautifully

In Vendler's terminology, perfect nominals can take determiners and nominal adjectives, but not auxiliaries or adverbs. The opposite obtains with imperfect nominals. He further notes that perfect nominals are compatible with certain predicates, whereas imperfect nominals, just like that-clauses and fact-NPs, are not.

(290)   a.   John's performing of the song was slow.

b.   John's performance of the song was slow

(291)   a.   John's performing of the song was sudden.

b.   John's performance of the song was sudden.

(292)   a.   John's performing of the song took a long time.

b.   John's performance of the song took a long time.

(293)   a.   # John's performing the song was slow.

b.   # That John performed the song was slow.

c.   # The fact that John performed the song was slow.

(294)   a.   # John's performing the song was sudden.

b.   # That John performed the song was sudden.

    c.  # The fact that John performed the song was sudden

(295)    a.  # John's performing of the song took a long time.

    b.  # That John performed the song took a long time.

    c.  # The fact that John performed the song took a long time

Zucchi (1993) further highlights a number of meaning distinctions between derived NPs, *that*-clauses, and *fact*-NPs.

(296)    Mary remembers John's arrival.

(297)    Mary remembers that John arrived.

(298)    Mary remembers the fact that John arrived.

In (296), it is necessary that Mary witnessed the event of John arriving. For instance, one could not utter the sentence truthfully if someone had told Mary that John arrived, without her being present at the moment of his arrival, despite her remembering the fact. However, it need not be so for (297) and (298); in both of these cases, the sentence might be uttered truthfully in the context just described.

Zucchi suggests that this might be due to the semantic identity of the different arguments. More specifically, he suggests an ontological difference between (296) and the contrasting cases; namely that the nominalized expression in (296) denotes an event, whereas the following two cases denote true propositions (e.g. facts). Further, (298) controls for the possibility that two meanings for *remember* are involved; one which takes NPs as arguments, the other which takes clause. If this was the case (298) should pattern with (296) and not with (297). The explanation thus rely on the assumption that the state denoted by a verb like 'remember' is different

when related to an event from when it is related to a proposition. That is, in order to be in a remembering relation with an event, one must have witnessed the event itself; whereas there are a variety of ways of becoming familiar with a proposition (witnessing the event(s) reported by the proposition, reading about the proposition, gossip. . . ), which in turn allows one to enter in a remembering relation with it.

To be sure that this isn't an idiosyncratic property of the verb *remember*, here are other predicates which behave similarly with propositional and eventish arguments:

(299)  a.  John noticed Mary's arrival.

       b.  John noticed that Mary arrived.

(300)  a.  John saw Mary's arrival.

       b.  John saw that Mary arrived.

The reader can convince himself that a similar distinction holds in these cases.

Also, it is possible to get a similar contrast with the expressions of interest appearing in the subject position. Consider the following:

(301)  Mary's resignation surprised us

(302)  a.  It surprised us that Mary resigned.

       b.  That Mary resigned surprised us.

       c.  The fact that Mary resigned surprised us.

In (301), it is possible that we knew in advance that Mary was going to resign, and what surprised us is the way she did it. No such reading is available for any of

the sentences in (302); in all of these cases, it ought to be the case that we weren't expecting Mary's imminent resignation, and that the fact of it itself surprised us. In this regard, events behave similarly to individuals:

(303)   A: I had a meeting with Norbert today and he surprised me.

  B: How so?

  A: He was wearing a gorilla costume.

Putting aside the fact that Norbert wearing a gorilla costume is hardly surprising, the point here is that the mere presence of an individual is not the only thing that can surprise another individual, rather the entire array of properties that can be held by an individual could potentially be surprise triggers. In other words, certain predicates can be satisfied not only by *individuals* and *events*, but by some properties held by them. Propositions appear to be different in these regards.

Zucchi and Asher propose, following Vendler, that, minimally, these facts suggest that perfect nominals are event denoting, whereas imperfect nominals are proposition denoting. The idea is that predicates like *was slow* semantically select for events, thus accounting for the distribution seen from (290) to (295). Similarly, the distribution observed in (288) and (289) could be attributed to selection for the cases involving articles and nominal adjectives; that is, both of these would select for individual or event denoting nouns, and crucially not for propositions. As for the adverbs and auxiliaries, the difference could be attributed to the process of nominalization involved. More specifically, in the case of imperfect nominals, the subtree which undergoes nominalization is larger, and can thus include such modifiers and

163

functional projections, whereas this is not the case with perfect NPs taken to involve the nominalization of a smaller structure.

Zucchi also points out that this proposal of Vendler's, paired with the earlier observations about predicates like *surprise*, makes further predictions:

(304)   Mary's performing of the song surprised us.

(305)   Mary's performing the song surprised us.

Since we take the nominalized expression in (304) to denote an event, just as derived NPs do, we predict them to behave alike. This is indeed the case; (304) would be true in a situation where we were expecting Mary to perform, but were surprised by, say, the quality of her performance. No such reading is available for (305); an expected result given the proposal that it denotes a proposition.

## 5.1.1   Taking Stock

As we have seen, following arguments of Davidson (1967), it is common to assume that sentences denote existential statements about events. It is also common to assume that these events can be resumed by anaphoric pronouns. Other nominal expressions, such as nominalizations, have also been argued to denote such events, and making an ontological distinction between individuals, events, and proposition in our domain of entities has been argued for by Vendler and Zucchi.

However, if all such expressions, sentences, pronouns, event nominals, can denote event individuals in the same way, what then accounts for the peculiar constraint on pronouns anaphoric to events introduced by sentences? In the next sec-

tion, I turn to two different possible account of this puzzle.

## 5.2 What To Do with These

As just mentioned, we are now left with a question: What accounts for the distinctions in acceptability between singular and plural event anaphora introduced earlier:

(306)   Three men raised the flag of the republic on three separate occasions during the month.

   a.    This took the ruling junta by surprise.

   b.    This situation/*event took the ruling junta by surprise.

   c.    It took the ruling junta by surprise.

   d.    These events took the ruling junta by surprise.

   e.    # They took the ruling junta by surprise.

Numerous authors have taken such patterns to imply that events form singular sums (Asher 1993, Lasersohn 1990, Schein 1993). Under some treatments (Asher 1993, Moltmann 1997), singular events are taken to be closed under summation, and the event domain is treated as mass. This is the metaphysical solution introduced above which I will first discuss before turning to my approach inspired by the work of Webber (1988, 1991).

### 5.2.1  The Metaphysical Solution

Moltmann (1997) considers the examples just mentioned and proposes that plural anaphoric pronouns cannot be used because the "verbs (with respect to their event argument position) are classified as mass expressions, rather than as singular count or plural" (1997; 231). In arguing for this position, she points to the German pronominal quantifiers which exhibit a differentiated mass-count distinction. These quantifiers do not require a head noun, and take the mass form when quantifying over events:

(307)  Maria las Zeitung, schrieb Briefe, führte Telephongespräche un ärgerte

Hans. Alles/Vieles/Viel/Einiges/#Alle/#Viele/#Einige tat sie mit

Begeisterung.

'Mary read the newspaper, wrote letters, made phone calls, and bothered

John. She did all (mass)/many (mass)/much/several(mass)/all (plur.)/ many

(plur.) / several (plur.) with enthusiasm.'

However, here I wish to suggest that the reason why the quantifiers take the mass form is simply because 'mass-marking' is the default marking, as argued by Bale and Barner (2011) and related work.

I find the claim that events in such cases are to be thought of as mass, on par with mass terms such as 'water'. Whereas it is true that mass terms can be resumed anaphorically by a singular pronoun:

(308)  Brad drank a lot of *beer*, because he thinks **it**'s tasty.

It is not the case however that a single pronoun can refer back to a plurality of different mass terms introduce in prior discourse, in the way that a singular pronoun can refer back to an apparent plurality of antecedent events. Compare (309a) to (309b).

(309)   a.    John stumbled and then Bill slipped. Mary thought **it** was funny.

          b.  # Brad drank beer and Sue drank milk. Maud thought **it** was tasty.

Furthermore, as we have seen above, whereas PartE can have a mass antecedent in some cases, it cannot have an event antecedent:

(310)   a.    George gave me wine, and some ~~of it~~ was spilled on the white tablecloth.

          b.    George spilled wine on the white tablecloth, and then Bill fell down the stair. Some ~~of it~~ was funny.

For these reasons, I will now turn to the discourse-structure solution of Webber (1991), which I adopt. I will then present further evidence from event anaphora in French, which makes clear that the issue does not in fact pertain to the mass/count distinction with respect to events, but rather to $\phi$-features generally, and their incompatibility with reference to discourse segments.

## 5.2.2  The Discourse-Structure Solution

Webber (1991) proposes a different approach to event anaphora. She argues that what the pronouns actually pick out are *discourse segments*, and that the reference to events obtains by mean of deferred reference.

In doing so, she considers complex discourses like the following.

(311) It's always been presumed that when the glaciers receded, the area got very hot. The Folsum men couldn't adapt, and they died out. **That**'s what is supposed to have happened. **It**'s the textbook dogma. But **it**'s wrong.

(312) Using microscopes and lasers and ultrasound, he removes tumors that are intertwined with children's brain stems and spinal cords. There is only the most minute visual difference between the tumors and normal tissue. Operations can last 12 hours or more. The tiniest slip can kill, paralyze or leave a child mentally retarded. **This** is the easy part of his job. (New York Times, 11 August 1990)

Such cases clearly involve several different events, which are introduced by different sentences, and subsequently resumed together by the singular pronouns or demonstratives. Under Webber's account this is because what is resumed is a single discourse segment, rather than a plurality or a mass of events.

In establishing that we are dealing with reference to discourse segments, Webber presents the following discourse segment.

(313)  a.  For his part in their joint project, John built a two-armed robot.

b.  He had learned about robotics in CSE391.

c.  For her part, Mary taught it to play the saxophone.

Given this segment, she points out that it is easy to come up with a subsequent sentence in which the referent of *that* derives from the immediately previous clause,

(313c), or a subsequent sentence where the referent of *that* derives from the previous three clauses, (313a-c):

(314)    a.    **That** took her six months.

            b.    **That** earned them both As.

However, it does not seem possible to produce a follow-up sentence where the reference of *that* derives solely from (313b-c). Webber takes it that this is due to the fact that these two clauses are not treated as a unit, a discourse segment, in the discourse at hand.

Webber proposes that discourse segments are recursive structures, where clauses constitute the minimal segments. In combining segments, she proposes two different types of operations *attachment* and *adjunction*. The nodes on the right frontiers of these trees are said to be *in focus*, and accessible by later anaphors.

As I said at the outset, Webber proposes that event anaphora obtains by means of deferred reference, where a referring function relates the demonstrata, discourse segments here, to the intended referents, events.

Recall that the *referring function*, (315), maps *demonstrata* into *intended referents*.

(315)   **f: D → R**

In (315), **f** is the referring function, **D** is the domain of the demonstrata and **R**, the range of intended referents.

Consider now Webber's example in (311), with the discourse segments numbered:

(316)    (1) It's always been presumed that (2) when the glaciers receded, (3) the area

 got very hot.  (4) The Folsum men couldn't adapt, and (5) they died out.

 (6) **That**'s what is supposed to have happened.  **It**'s the textbook dogma.

 But **it**'s wrong.

In this example, at least four regions of the discourse are *in focus* when *that*

appears:

- the region associated with clause 5

- the region associated with clauses 4 and 5

- the region associated with clauses 2-5

- the region associated with clauses 1-5

And so the domain for the referring function is composed of their four "prox-

ies".  The range of the function is a subset of event tokens, as suggested by the

sentential context in which the anaphor appears; that is 'things that can **happen**.'

Having discussed the basis for the discourse-structure solution, I now turn to

a further argument in its favor taken from event anaphora in French.

## 5.2.2.1   A Grammatical Edge

Broadening our focus to French, where third person singular pronouns are marked

for grammatical gender (317a), we find that only demonstrative pronouns can be

used to make reference to events (317b).  It thus seems that implicitly referred events,

such as *playing the guitar*, cannot be readily referred to by a pronoun marked for gender.

(317)   [Marie jouait de la guitare.]
         Marie played of the guitar

         'Marie was playing guitar.'

    a.  # **Il** était fort.
         3rdsg.pro was loud

    b.  **C'** était fort.
         dem.pro was loud

         'It was loud.'

Note further that in French, just as in English, derived nominals like *destruction* are also possible. These derived nominals participate in the gender system of the language, like all other nominals, and can be resumed by an anaphoric pronoun marked for the appropriate gender.

(318)   Marcus Aurelius a vu *la destruction du temple.*
         Marcus Aurelius has seen the.Fem destruction.Fem of the temple.Masc
         **Elle** était horrible.
         She was horrible

         'Marcus Aurelius saw the destruction of the temple. It was horrible.'

However, when such events are introduced to the discourse not by mean of nominalized expressions, but implicitly, here again only a demonstrative devoid of $\phi$-features can be used to refer back to the event.

(319)   Les barbares ont détruit le temple. #Elle/C' était horrible.
         The barbarians have destroyed the temple #She/That was horrible

         'The barbarians have destroyed the temple. It was horrible.'

This pattern makes sense under the discourse-structure approach. Given that discourse segments are what is actually referred to, and that such grammatical structure do not bear $\phi$-features, the fact that gender features or number features cannot be attributed to them is sensible. This is why only expressions devoid of such $\phi$-features, *it* and the singular (qua unmarked) demonstratives in French and English, can make anaphoric reference to events. ContrA and PartE, which are in effect marked for count, cannot.

It is hard for me to see how the metaphysical solution could account for this French generalization. No one would seriously hold that grammatical gender correlates with some aspect of our ontological structures: Why should it be that a rifle is feminine in French, and a pistol masculine?

## 5.3    Conclusion

I started this chapter with a puzzle pertaining to event anaphora: Why can implicit events only be resumed by singular pronouns? The answer I proposed to this question, following Webber (1991), is that event anaphora in such cases actually involves deferred reference, where the actual referent is a discourse segment. Discourse segments cannot be marked by grammatical features such as number, and gender in languages like French. This solution to the problem contrasts with a metaphysical approach, which states that events are 'mass', and so can only be resumed by singular pronouns.

Still, this leaves us with a new problem for the generally accepted Neo-Davidsonian

semantic. As we have seen, following Davidson (1967), affirmative sentences are commonly taken as existential statements about events. Advocates of this view add events to our natural language ontology. What then is different between individuals and events, such that the ones can be resumed directly by anaphoric pronouns, but not the others? This question will have to await future investigations.

# CHAPTER 6

## Conclusion

In this dissertation, I have argued that pronouns, PartE and ContrA all have the same representational basis for anaphora; namely a set variable in the semantics.

In the case of pronouns, I argued against syntactic D-type approaches (Elbourne 2005) and semantic D-type approaches (Cooper 1979). Instead, I presented arguments in favor of the set variable representation assumed under Nouwen (2003)'s approach. Following this, I considered a number of cases usually taken to involve the elision of a noun phrase, and argued that instead they involve the deletion of a partitive phrase containing an anaphoric plural pronoun. Third, I discussed to the contrastive anaphor 'one' and its null counterpart in French. Here again, I argued that the basis for anaphora is a semantic set variable, where this anaphor differs from pronouns in being of category N rather than D, and in having a pragmatic requirement for contrast. This analysis differs from previous ones which hold that this expression is a syntactic substitute of category N′, or the spell-out of the head of a number phrase followed by ellipsis of a noun phrase.

Finally, I discussed the phenomenon of event anaphora. Given the phenomenon's interaction with the anaphors discussed prior in the dissertation, and the impossibility to refer back to events with expressions bearing $\phi$-features, I argued that it is better seen as a case of deferred reference to an event on the basis of anaphoric reference to a *discourse segment*, following Webber (1991). This contrasts with what I called metaphysical approaches, which hold that the anaphor directly resumes an event introduced to the context by a previous clause (Asher 1993; Moltmann 1997).

## 6.1 What It Was All About

In concluding, I will summarize the various proposals and arguments presented throughout this work.

### 6.1.1 Pronouns

I discussed various uses of pronouns and compared two families of theories which could account for the interpretations possible. I focused on their semantic representation. I presented arguments against D-type theories, and in favor of the standard representation of pronouns as variables, as typically assumed under dynamic theories.

(320)   a.   **Syntax:** $[_{DP}\ it_D\ ]$

      b.   **Semantic:** X

The arguments against syntactic D-type theories were based on the cases of event anaphora, deep anaphora and singular pronouns with split antecedents.

(321)    John was shot on the street in broad daylight in NYC. **It** would have never happened to Marie in Paris.

(322)    [WAVING A TRAVEL FORM TO A UNIVERSITY EMPLOYEE:]

Where do people usually submit **it**?

(323)    Whenever Mary sees a horse or a donkey, she waves at **it**.

The arguments against all D-type theories, syntactic and semantic, involved contexts with several discourse referents which meet the same description, and cases involving predicational and specificational antecedent copular sentences.

(324)    a.    I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

   b.    [**They**] sat down.

Can refer to $[Z]$, or $[X \cup Y \cup Z]$

Cannot refer to $[X \cup Z]$

   c.    [**The boys**] sat down.

Can refer to **'The** $X \cup Z$**'**

(325)    a.    This afternoon *the manager* is John, who is always super nice.

But last night I got into a fight with #**him** [=the manager], since he was being completely unreasonable.

176

     b.     He is the president of the U.S. # Come next election, **he** will be a

           Republican.

Rather, as already mentioned, I suggested that the traditional semantic variable representation was a better fit, than the D-type idea. Theories, such as D-type, which hold that what is missing is a predicate, or NP meaning, have been presented with several challenges. Perhaps it would ultimately be possible to correctly constrain such theories to capture the facts more appropriately. But the exact way to do this is illusive, given that the account both under-predicts and over-predicts readings.

I then turned to two different types of anaphors, PartE and ContrA, which are typically taken to require an NP meaning. Rather, I suggested that in both such cases, the anaphoric representation traditionally offered for pronouns is better suited there as well.

## 6.1.2  Partitive Ellipsis

Turning to a number of cases generally taken to involve NPE, I have argued that they actually involved the deletion of a partitive phrase containing an anaphoric pronoun.

(326)   Ten boys walked in the room.

     a.     Many ~~boys~~ sat down.

     b.     Many ~~of them~~ sat down.

The arguments in favor of this view involved first anaphora, (327), and the syntactic distribution of ellipsis, (328).

(327)  a.  I arrived in class five minutes before the start.

Then, **ten young boys(Z)** walked in whistling.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

b.  [**Many** ___ ] sat down.

Can mean [**Many** $Z$], or [**Many** $X \cup Y \cup Z$]

Cannot mean [**Many** $X \cup Z$]

c.  = [**Many of them**] sat down.

Can mean [**Many** $Z$], or [**Many** $X \cup Y \cup Z$]

Cannot mean [**Many** $X \cup Z$]

d.  ≠ **Many boys** sat down.

Can only mean [**Many** $X \cup Z$]

(328)  A group of boys walked in the room.

a.  *ELD*

[**Most/Each/Some/One/All/Many/Few/Both** ___] sat down.

b.  *Non-ELD*

*[**Every/The/A/No** ___] sat down.

A further argument was drawn from a subset of determiners in French which allow for ellipsis, but can only combine with a partitive phrase, and not a noun phrase.

(329)  a.  [Peu (d' entre  eux)] se      sont    assis.
            Few  of  among them REFL-CL BE-AUX sit

            'Few of them sat down.'

    b.  * [Peu garçons] se      sont    assis.
            Few  boys     REFL-CL BE-AUX sit

            'Few boys sat down.'

Another argument was presented on the basis of the impossibility to get events as antecedents with such cases of ellipsis.

(330)  [While looking at an arguing couple]:

    a.  * [**Some/Most/All** __ ] always happen(s) right after Valentine's day.

    b.  **It** always happens right after Valentine's day.

I hope to have demonstrated that there is overwhelming evidence in favor of a PartE account over an NPE approach.

In the end, a few cases, such as bare possessives, were shown to be recalcitrant to the PartE analysis, however, I argued that in such cases, an NPE account was not clearly the way to go either. Nevertheless, more work is needed to assess the status of such cases appropriately.

### 6.1.3  Contrastive Anaphora

Turning to ContrA, I have argued that both the cases of ONE-anaphors in English, and what I claimed to be its French null counterpart, were anaphors of syntactic category N. There, the anaphoric component of the representation is a variable just as in the case of plural anaphoric pronouns; e.g. it is resolved by a plurality of

discourse referents, rather than an NP meaning.

There again, we have seen that in contexts involving several possible antecedents, ContrA behaves like plural anaphoric pronouns.

(331) a. I arrived in class five minutes before the start.

There were **boyscouts(X)** and **girlscouts(Y)** standing at their desks.

Then, **ten young boys(Z)** walked in whistling.

b. [**The tall** ONES] sat down.

Can refer to '**the tall** $Z$**s**', or '**the tall** $X \cup Y \cup Z$**s**'

Cannot refer to '**the tall** $X \cup Z$**s**'

c. [**The tall boys**] sat down.

Can refer to '**the tall** $X \cup Z$'

Cannot refer to '**the tall** $Z$**s**'.

I further discussed a peculiar property of ContrA, namely that it must involve a contrast. This is most obvious in a number of cases, where a pre-nominal modifier must be present. I have suggested however that this phenomenon is better seen as a pragmatic requirement, rather than a syntactic one, as previously proposed.

## 6.1.4 Event Anaphora

Turning to cases of event anaphora, I addressed two aspects of it in conjunction. First, the fact that in English, only singular pronouns and demonstratives can resume an implicit event. Then, the fact that ContrA, which is restricted as count, cannot have implicit events as antecedent either. This is in conflict with the idea

that events are introduced to the context by sentences, just as they are by event-nominals. Why then can a plurality of such implicit events not be resumed by a plural pronoun?

I have discussed two approaches to this question, one the metaphysical solution; the other, the discourse-structure solution.

The metaphysical solution holds that events are mass. This explains why they cannot be referred to plurally. However, as we've seen, this view couldn't readily handle french cases, where the expression resuming the event in this case, cannot be a pronoun marked for gender.

Instead, I adopted a suggestion of Webber (1991), the discourse-structure solution, which involves deferred reference. The anaphoric reference of the pronoun is to a discourse-segment, which cannot be marked for number or gender features. The intended reference is to an event, or group of events.

## 6.2   What's Next

Finally, a number of issues have arose in this work which open the door for further investigation.

First, the proposals put forth here would gain a lot from a clearer characterization of the type of pragmatic processes such as deferred reference, which have been called upon both in cases of neontological pronouns and event anaphora. However, as the growing literature on this type of issue makes clear (Nunberg 1979, 1995; Ward 2000; Percus 2005), this will likely be the focus of very interesting future

work, and I hope that the few comments made in this work can contribute to it.

Another issue which deserves more research is the case of bare possessives. Bare possessives are the poster child of NPE, and they do not lend themselves to the PartE or ContrA accounts presented here. However, as we have seen, a number of facts with respect to such cases do not accord with a simple NPE treatment either. Could semantic ellipsis be what is at stake here? Hopefully, future work will reveal more about such constructions, and the exact role they should play in theorizing about anaphora.

Turning to ContrA, a more specific characterization of the contrastiveness requirement is needed. Specifically, it remains puzzling under the pragmatic characterization I have offered that a PRE-nominal modifier is required in most cases.

Finally, as I hope to have demonstrated, cross-linguistic comparison can be very informative of phenomena such as event anaphora. More such work could definitely be informative with respect to this phenomenon. For instance, Wiltschko (2001) demonstrates that gender marking is completely optional for independent pronouns in Halkomelem, and only needed in case of disambiguation. Assuming that event reference is indeed sensitive to this marking, we would predict that pronouns not marked for gender can refer to events in Halkomelem, but not their marked counterparts. The results of such investigation promise to be very informative with respect to the proper representation of anaphora: What is missing, and what morphosyntactic markings can it possibly combine with?

# References

Alexiadou, Artemis and Kirsten Gengel. 2011. Classifiers as Morphosyntactic Licensors of NP ellipsis: English vs. Romance. In *Proceedings of NELS 39*, 15-28.

Anand, Pranav. 2006. *De de se*. Doctoral Dissertation. Department of Linguistics and Philosophy. MIT.

Armstrong, David. 1978. *Universals and scientific realism*, Volume I, Nominalism and Realism. Cambridge: Cambridge University Press.

Armstrong, David. 1997. *A world of states of affairs*. Cambridge: Cambridge University Press.

Asher, Nicholas. 1993. *Reference to Abstract Entities*. Dordrecht: Kluwer Academic Publishers.

Asher, Nicholas. 2000. Events, Facts, Propositions, and Evolutive Anaphora. In James Higginbotham, Fabio Pianesi, Achille C. Varzi eds., *Speaking of Events*. New York: Oxford University Press.

Baker, C. L. 1978. *Introduction to Generative-transformational Syntax*. Englewood Cliffs, NJ: Prentice-Hall.

Bale, Alan, Michaël R. Gagnon and Hrayr Khanjian. 2011. Cross-Linguistic Representations of Numerals and Number Marking. *Proceedings of SALT XX*.

Barbiers, Sjef. 2005. Variation in the Morphosyntax of ONE. In *The Journal of Comparative Germanic Linguistics 8*: 159-183.

Barker, Chris. 1995. *Possessive Descriptions*. CSLI Publications.

Barker, Chris. 1998. Partitives, Double Genitives and Anti-uniqueness. *Natural Language & Linguistic Theory 16*, 679-717.

Barwise, Jon, and John Perry. 1983. *Situations and Attitudes*. Cambridge, Mass.: MIT Press.

Beaver, David. 2001. *Presupposition and Assertion in Dynamic Semantics.* CSLI, Stanford.

Belletti, Adriana and Luigi Rizzi. 1981. The Syntax of Ne: Some Theoretical Implications. *Linguistic Review* (1) : 117-154.

Berman, S. 1987. Situation-Based Semantics for Adverbs of Quantification. In J. Blevins and A. Vainikka (eds.), *University of Massachusetts Occasional Papers 12*, University of Massachusetts, Amherst.

Bernstein, Judy. 1993. *Topics in the Syntax of Nominal Structure Across Romance.* Dissertation. City University of New York.

Bobaljik, Jonathan D. 1994. What Does Adjacency Do? In H. Harley and C. Phillips, eds., *MIT Working Papers in Linguistics* vol. 22: The Morphology-Syntax Connection, pp. 1-32.

Bolinger, D. 1977. Pronouns and Repeated Nouns. Indiana University Linguistics Club.

Borer, Hagit. 2005. *Structuring Sense. Volume 1: In Name Only.* Oxford: Oxford University Press.

Brasoveanu, Adrian. 2006. *Structured Nominal and Modal Reference.* PhD thesis, Rutgers, The State University of New Jersey.

Brasoveanu, Adrian. 2008. Donkey Pluralities: Plural Information States versus Non-Atomic Individuals.*Linguistics and Philosophy* 31: 129-209.

Burge, Tyler. 1973. Reference and Proper Names. *Journal of Philosophy* 70: 425-439.

Cappelen, Herman and Ernest Lepore. 2004. *Insensitive Semantics. A Defense of Semantic Minimalism and Speech Act Pluralism.* Blackwell Publishers.

Cardinaletti, Anna and Giuliana Giusti. 1991. Partitive *ne* and the QP-hypothesis: A Case Study. In *Working Papers in Linguistics*, University of Venice.

Carlson, Gregory. 2006. Anaphora. *Encyclopedia of Cognitive Science.*

Castañeda, H. 1967. Comments. In N. Rescher (ed.), *The Logic of Decision and Action.* Pittsburgh: University of Pittsburgh Press.

Chierchia, Gennaro. 1992. Anaphora and dynamic binding. *Linguistics and Philosophy* 15, 111183.

Chierchia, Gennaro. 1995. *Dynamics of meaning. Anaphora, presupposition, and the theory of grammar.* Chicago: University of Chicago Press.

Chisholm, Matt. 2001. *Ellipsis in DP*. Masters thesis, University of California, Santa Cruz.

Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge: MIT Press.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

Cooper, Robin. 1975. *Montague's Semantic Theory and Transformational Syntax*. Doctoral Dissertation, University of Massachusetts, Amherst.

Cooper, Robin. 1979. The interpretation of pronouns. In Frank Heny and Helmut Schnelle, eds., *Syntax and Semantics 10: Selections from the Third Gröningen Round Table*, 61-92. New York: Academic Press.

Corver, Norbert and Marjo van Koppen. 2009. Let's Focus on Noun Phrase Ellipsis. In *Groninger Arbeiten zur Germanistischen Kinguistiek (GAGL)* 48: 3:26.

Corver, Norbert and Marjo van Koppen. 2011. NP-ellipsis with Adjectival Remnants: A Micro-Comparative Perspective. In *Natural Language and Linguistic Theory* 29: 371-421.

Culicover, Peter and Ray Jackendoff. 2005. *Simpler Syntax*. Oxford University Press: Oxford.

Davidson, Donald. 1967. The logical form of action sentences. In Nicolas Rescher, ed., *The logic of decision and action*, 81-95. Pittsburgh: University of Pittsburgh Press.

Dekker, Paul. 2004. Cases, adverbs, situations and events. In Kamp, Hans and Barbara Partee, eds.: *Context-dependence in the Analysis of Linguistic Meaning*. Elsevier.

Donnellan, Keith. 1966. Reference and definite descriptions. Philosophical Review 75, 281304.

van Eijck, Jan, and Hans Kamp. 1997. Representing discourse in context. In Johan van Benthem and Alice ter Meulen, eds., Handbook of logic and language, 179-237. Amsterdam and Cambridge, MA: Elsevier and MIT Press.

Elbourne, Paul. 2005. *Situations and individuals*. Cambridge: MIT Press.

Elbourne, Paul. 2008. The Interpretation of Pronouns. *Language and Linguistics Compass 2(1)*. 119-150.

Elbourne, Paul. 2010. On bishop sentences. *Natural Language Semantics* 18:65-78

Evans, Gareth. 1977. Pronouns, quantifiers and relative clauses (I). *Canadian Journal of Philosophy 7*, 467-536.

Evans, Gareth. 1980. Pronouns. *Linguistic Inquiry* 11, 337-362.

Fiengo, Robert and Robert May. 1994. *Indices and Identity*. MIT Press.

von Fintel, Kai. 1994. Restrictions on Quantifier Domains. Doctoral dissertation, University of Massachusetts, Amherst.

Fox, Danny. 2000. Economy and Semantic Interpretation. Cambridge, MA: MIT Press.

Fox, Danny. 2002. Antecedent Contained Deletion and the Copy Theory of Movement. *Linguistic Inquiry 33 (1)*. 63-96.

Frege, Gottlob. 1879. *Begriffsschrift* (Halle: Louis Nebert). English translation in J. van Heijenoort ed. *From Frege to Gödel: A Source Book in Mathematical Logic.* Cambridge: Harvard University Press. 1879-1931.

Frege, Gottlob. 1892. Über Sinn und Bedeutung. Zeitschrift für Philosophie und Philosophische Kritik 100, 25-50. [Translated as On sense and reference, in Peter Geach and Max Black, eds., Translations from the philosophical writings of Gottlob Frege, 56-78. Oxford: Blackwell.]

Frege, Gottlob. 1918. Der Gedanke. *Beiträge zur Philosophie des Deutschen Idealismus I.* pp. 58-77.

Geach, Peter. 1962. *Reference and generality*. Ithaca: Cornell University Press.

Gengel, Kirsten. 2007. *Focus and Ellipsis: A Generative Analysis of Pseudogapping and other Elliptical Structures.* Dissertation, Stuttgart.

Geurts, Bart. 2011. Anaphora, accessibility, and bridging. To appear in: Claudia Maienborn, Klaus von Heusinger, and Paul Portner eds. *Semantics: an international handbook of natural language Meaning.* Mouton de Gruyter, Berlin.

Gould, Stephen Jay. 2002. *The Structure of Evolutionary Theory.* Harvard University Press.

Grice, H.P. 1967. Logic and Conversation. (William James Lectures.) In *Studies in the Way of Words.* Cambridge, Mass.: Harvard University Press, 1989.

Grimshaw, Jane. 1981. Form, Function, and the Language Acquisition Devise. In C.L. Baker and J.J. McCarthy eds. *The Logical Problem of Language Acquisition.* MIT, Cambridge, Massachusetts.

Grodzinsky, Yosef, and Tanya Reinhart. 1993. The innateness of binding and coreference. *Linguistic Inquiry* 24, 69-101.

Groenendijk, Jeroen, and Martin Stokhof. 1990. Dynamic Montague Grammar. In László Kálmán and László Pólos, eds., *Papers from the Second Symposium on Logic and Language*, 348. Budapest: Akadémiai Kiadó.

Groenendijk, Jeroen, and Martin Stokhof. 1991. Dynamic Predicate Logic. *Linguistics and Philosophy* 14, 39-100.

Grosz, Barbara J., Candace L. Sidner. 1986. Attention, Intentions, and the Structure of Discourse. *Computational Linguistics*, Volume 12, Number 3.

Grosz, Barbara J., Aravind Joshi and Scott Weinstein. 1995. Centering: a framework for modelling the local coherence of discourse. *Computational Linguistics* 21: 203-225.

Halle, Morris and Alec Marantz. 1993. Distributed Morphology and the Pieces of Inection. In *The View from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, Samuel Jay Keyser and Kenneth Hale, eds., MIT Press, 111-176.

Halliday, M.A.K. and Ruqaiya Hasan. 1976. *Cohesion in English*. Longman: London.

Hankamer, Jorge and Ivan Sag. 1976. Deep and surface anaphora. *Linguistic Inquiry* 7, 391-426.

Haviland, S. and H. H. Clark. 1974. What's New? Acquiring New Information as a Process in Comprehension. *Journal of Verbal Learning and Verbal Behavior 13*: 512-521.

Heim, Irene. 1982. *The semantics of definite and indefinite noun phrases*. Doctoral dissertation, University of Massachusetts, Amherst.

Heim, Irene. 1983. On the projection problem for presuppositions. In Michael Barlow, Dan P. Flickinger and Michael T. Wescoat, eds., *Proceedings of the 2nd West Coast Conference on Formal Linguistics*, 114-125. Stanford: Stanford University Linguistics Department.

Heim, Irene. 1990. E-type pronouns and donkey anaphora. *Linguistics and Philosophy* 13, 137-177.

Heim, Irene. 1991. Artikel und Definitheit. In Arnim von Stechow and Dieter Wunderlich, eds., *Semantik. Ein internationales Handbuch der zeitgenössischen Forschung*, 487-535. Berlin: Walter de Gruyter.

Heim, Irene. 1993. Anaphora and semantic interpretation: a reinterpretation of Reinharts approach. University of Tübingen Seminar für Sprachwissenschaft working paper series (SfS-Report-07-93). [Also published in Uli Sauerland and Orin Percus , eds., *The interpretive tract*, 205-246. (MIT Working Papers in Linguistics 25.) Cambridge, MA: MIT Working Papers in Linguistics, 1998.]

Hegarty, Michael. 2003. Semantic Types of Abstract Entities. *Lingua* 116, pp. 891-927.

Hegarty, M., Gundel, J.K., Borthen, K., 2002. Information Structure and the Accessibility of Clausally Introduced Referents. *Theoretical Linguistics* 27, 163-186.

Heim, Irene and Angelika Kratzer. 1998. *Semantics in generative grammar.* Oxford: Blackwell.

Herschensohn, Julia. 1978. Deep and Surface Nominalized Adjectives in French. *Linguistic Inquiry* (9) : 135-137.

Higginbotham, James. 1983. The Logical Form of Perceptual Reports. *Journal of Philosophy 80.* 100-127.

Higginbotham, James. 1985. On Semantics. *Linguistic Inquiry 16.* 547-593.

Higginbotham, James. 1986. Davidson's Program in Semantics. In E. Lepore ed. *Perspectives on the Philosophy of Donald Davidson.* Oxford: Blackwell.

Higginbotham, James, F. Pianesi and A. C. Varzi eds. 2000. *Speaking of Events* Oxford: Oxford University Press.

Hornstein, Norbert and David Lightfoot. 1981. *Explanation in Linguistics.* London: Longman.

Ionin, Tania, Ora Matushansky and E.G. Ruys. 2006. Parts of Speech: Towards a Unified Semantics for Partitives. *Proceedings of NELS 36.*

Jackendoff, Ray S. 1971. Gapping and Related Rules. *Linguistic Inquiry* **2**:21-35.

Jackendoff, Ray S. 1972. *Semantic Interpretation in Generative Grammar.* Cambridge: MIT Press.

Jackendoff, Ray S. 1977. *X-bar Syntax: A Study of Phrase Structure.* Cambridge: MIT Press.

Jacobson, Pauline. 1977. *The syntax of crossing coreference sentences.* Doctoral dissertation, Berkeley.

Jacobson, Pauline. 1999. Towards a variable-free semantics. *Linguistics and Philosophy* 22, 117-184.

Jacobson, Pauline. 2000. Paycheck pronouns, Bach-Peters sentences, and variable-free semantics. *Natural Language Semantics* 8, 77-155.

Jones, Michael A. 1996. *Foundations of French Syntax*. Cambridge: Cambridge University Press.

Kadmon, Nirit. 1987. *On unique and non-unique reference and asymmetric quantification*. Doctoral dissertation, University of Massachusetts, Amherst.

Kamp, Hans. 1981. A theory of truth and semantic representation. In Jeroen Groenendijk, Theo Janssen and Martin Stokhof, eds., *Formal methods in the study of languages*, 277-322. (Tract 135.) Amsterdam: Mathematical Centre.

Kamp, Hans and Uwe Reyle. 1993. *From Discourse to Logic*. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Kaplan, David. 1989. Demonstratives. In Joseph Almog, John Perry, and Howard Wettstein, eds., *Themes from Kaplan*, 481-563. Oxford: Oxford University Press.

Karttunen, Lauri. 1969. Pronouns and variables. In Robert Binnick, Alice Davison, Georgia Green and Jerry Morgan, eds., *Papers from the fifth regional meeting of the Chicago Linguistic Society*, 108116. Chicago: Department of Linguistics, University of Chicago.

Kayne, Richard. 1975. *French Syntax: The Transformational Cycle*. Cambridge, Massachusetts: MIT Press.

Kehler, Andrew and Gregory Ward. 2004. Constraints on Ellipsis and Event Reference. In Laurence R. Horn and Gregory Ward eds. *The Handbook of Pragmatics*. Blackwell. 383-403

Keshet, Ezra. 2008. Only the Strong: Restricting Situation Variables. *Proceedings of SALT 18*.

King, Jeffrey. 2001. *Complex demonstratives. A quantificational account*. Cambridge, MA: MIT Press.

Kratzer, Angelika. 1989. An investigation of the lumps of thought. *Linguistics and Philosophy* 12, 607-653.

Krifka, Manfred. 1996. Parametrized sum individuals for plural reference and partitive quantification. *Linguistics and Philosophy* 19, 555-598.

Kripke, Saul. 1972. Naming and necessity. In Donald Davidson and Gilbert Harman, eds., *Semantics of natural languages*, 253-355. Dordrecht: Reidel. [Also published as a separate volume with a new introduction, *Naming and necessity*, Cambridge, Mass.: Harvard University Press, 1980.]

Ladusaw, William A. 1982. Semantic Constraints on the English Partitive Construction. In Daniel P. Flickinger, Marlys Macken, and Nancy Wiegand (eds.), *Proceedings of WCCFL 1*, Stanford Linguistics Association, Stanford, pp. 231-242.

Landman, Fred. 2000. *Events and Plurality: The Jerusalem Lectures*. Springer.

Langacker, Ronald. 1969. On pronominalization and the chain of command. In D. A. Reibel and S. A. Schane eds, *Modern Studies in English: Readings in Transformational Grammar*. Englewood Cliffs, New Jersey: Prentice-Hall. 160-186.

Larson, Richard and Gabriel Segal. 1995. *Knowledge of Meaning*. Cambridge, MA: MIT Press.

Lasersohn, Peter. 1990. *A Semantics for Groups and Events*. Garland, New York.

Lasnik, Howard. 1995. A Note on Pseudogapping. *MIT Working Papers in Linguistics*, Vol. 27, pp. 143-163.

Lasnik, Howard and Mamoru Saito. 1992. *Move α*. Cambridge, MA: MIT Press.

Lewis, David. 1968. Counterpart theory and quantified modal logic. *Journal of Philosophy* 65, 113-126.

Lewis, David. 1973. *Counterfactuals*. Oxford: Blackwell.

Lewis, David. 1979a. Attitudes De Dicto and De Se. *The Philosophical Review*, 88, pp. 513-543.

Lewis, David. 1979. Scorekeeping in a Language Game. *Journal of Philosophical Logic 8*: 339-359.

Llombart-Huesca, Amàlia. Anaphoric *One* and NP-Ellipsis. 2002. *Studia Linguistica* 56(1), pp. 59-89.

Lobeck, Anne. 1991. The Phrase Structure of Ellipsis. In *Perspectives on Phrase Structure: Heads and Licensing*, ed. Susan Rothstein, 81-103. San Diego: Academic Press.

Lobeck, Anne. 1995. *Ellipsis*. Oxford: Oxford University Press.

Matthewson, Lisa. 2001. Quantification and the nature of crosslinguistic variation. *Natural Language Semantics 9*:145-189.

May, Robert. 1977. *The grammar of quantification.* Doctoral dissertation, MIT, Cambridge, MA.

May, Robert. 1985. *Logical Form. Its Structure and Derivation.* Cambridge, MA: MIT Press.

Merchant, Jason. 2001. *The syntax of silence. Sluicing, islands, and the theory of ellipsis.* Oxford: Oxford University Press.

Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy* 27: 661-738.

Merchant, Jason. 2010. Three Types of Ellipsis. In Francois Recanati, Isidora Stojanovic, Neftali Villanueva (eds.), *Context-Dependence, Perspective, and Relativity*, 141-192. Walter de Gruyter: Berlin.

Milsark, Gary. 1974. *Existential Sentences in English.* PhD. thesis, MIT, Cambridge, MA.

Moltmann, Friederike. 1997. *Parts and Wholes in Semantics*, New York: Oxford University Press.

Montague, Richard. 1973. The proper treatment of quantification in ordinary English. In Jaakko Hintikka, Julius Moravcsik and Patrick Suppes, eds., *Approaches to natural language: proceedings of the 1970 Stanford Workshop on Grammar and Semantics*, 221242. Dordrecht: Reidel.

Muller, H. J. 1932. Further studies on the nature and causes of gene mutations. *Proceedings of the 6th International Congress of Genetics*, pp. 213-255.

Neale, Stephen. 1988. Events and "Logical Form". *Linguistics and Philosophy*, **Vol 11**, Number 3, 303-321.

Neale, Stephen. 1990. *Descriptions.* Cambridge, MA: MIT Press.

Neale, Stephen. 1993. Term limits. In James E. Tomberlin, ed., *Philosophical Perspectives 7: Logic and language*, pp. 89-123. Atascadero, California: Ridgeview Publishing.

Nerbonne, John, Masayo Iida and William Ladusaw. 1989. Running on Empty: Null Heads in Head-Driven Grammar. In *Proceedings of the Eight West Coast Conference on Formal Linguistics (WCCFL 8)*, ed. E. Jane Fee and Katherine Hunt.

Nouwen, Rick. 2003. *Plural pronominal anaphora in context.* Number 84 in Netherlands Graduate School of Linguistics Dissertations, LOT, Utrecht.

Nunberg, Geoffrey. 1979. The Non-Uniqueness of Semantic Solutions: Polysemy. *Linguistics and Philosophy* 3(2): 143-184.

Nunberg, Geoffrey. 1995. Transfers of Meaning. *Journal of Semantics* 12: 109-132.

Panagiotidis, Phoevos. 2002. Pronominal Nouns. In Wiese, Heike and Simon Horst eds. *Pronouns: Grammar and Representation.* Amsterdam & Philadelphia: John Benjamins. 183-203.

Panagiotidis, Phoevos. 2003. Empty nouns. *Natural Language & Linguistic Theory 21.* 381-432.

Parsons, Terence. 1990. *Events in the semantics of English: a study in subatomic semantics.* Cambridge, MA: MIT Press.

Partee, Barbara. 2010. Formal Semantics, Lexical Semantics, and Compositionality: The Puzzle of Privative Adjectives. *Philologia* 7. 7-19.

Partee, Barbara, and Mats Rooth. 1983. Generalized conjunction and type ambiguity. In Rainer Bäuerle, Christoph Schwarze and Arnim von Stechow, eds., *Meaning, use, and the interpretation of language*, 362383. Berlin: Walter de Gruyter.

Pelletier, Francis J. 1975. Non-Singular Reference: Some Preliminaries. in *Philosphia 5*, 451- 465, reprinted in Pelletier (ed.), 1979, pp. 1-14.

Percus, Orin. 2000. Constraints on some other variables in syntax. *Natural Language Semantics 8*, 173-229.

Perlmutter, David. 1970. On the Article in English. In: *Progress in Linguistics.* Manfred Bierwisch and Karl Heidolph(eds.). The Hague: Mouton.

Peterson, Philip L. 1982. Anaphoric Reference to Facts, Propositions, and Events. In *Linguistics and Philosophy 5(2).* 235-276.

Pietroski, Paul. 2005. *Events and Semantics Architecture.* Oxford University Press.

Pinker, Stephen. 1984. *Language Learnability and Language Development.* Cambridge: Harvard University Press.

Postal, Paul. 1966. On so-called 'pronouns' in English. In F. Dinneen, ed., *Report on the seventeenth annual round table meeting on linguistics and language studies*, 177-206. Washington, D.C.: Georgetown University Press.

Postal, Paul. 1969. Anaphoric Islands. *Chicago Linguistic Society* 5. 205-239.

Prince, Ellen F. 1978. A comparison of WH-Clefts and IT-Clefts in discourse. *Language* 54.883-906.

Prince, Ellen F. 1986. On the Syntactic Marking of Presupposed Open Propositions. In Farley, A., Farley, P., and McCullough, K.-E., eds. *Papers from the Parasession on Pragmatics and Grammatical Theory, 22nd Regional Meeting, Chicago Linguistic Society.* 208-222.

Pullum, Geoffrey K. 1991. English nominal gerund phrases as noun phrases with verb phrase heads. *Linguistics* 29. 763-799.

Radford, Andrew. 1988. *English Syntax: An Introduction.* Cambridge University Press.

Recanati, François. 2010. Pragmatic Enrichment. in G. Russell & D. Graff Fara (eds.) *Routledge Companion to the Philosophy of Language.*

Reinhart, Tanya. 1976. *The Syntactic Domain of Anaphora.* Doctoral Dissertation, MIT.

Reinhart, Tanya. 1983. *Anaphora and semantic interpretation.* London: Croom Helm.

Reinhart, Tanya. 2000. Strategies of anaphora resolution. In Hans Bennis, M. Everaert and E. Reuland (eds.), *Interface Strategies.* North Holland Amsterdam.

Ritter, Elizabeth. 1991. Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. In: *Perspectives on Phrase Structure: Heads and Licensing.* Susan Rothstein(Ed.), 37-62. San Diego: Academic Press.

Roberts, Craige. 1987. *Modal subordination, anaphora, and distributivity.* Doctoral dissertation, University of Massachusetts, Amherst.

Roberts, Craige. 1989. Modal subordination and pronominal anaphora in discourse. *Linguistics and Philosophy* 12, 683-721.

Roberts, Craige. 1996. Anaphora in intensional contexts. In Shalom Lappin, ed., *The handbook of contemporary semantic theory*, 21546. Oxford: Blackwell.

Roberts, Craige. 2010. Retrievability and Incomplete Descriptions. *Ms.*

Roberts, Craige. 2011. Solving for Interpretation: Talk given at the Workshop on Meaning and Understanding at the Centre for Advanced Study, Oslo. June 2011.

Rooth, Mats. 1992a. A theory of focus interpretation. *Natural Language Semantics* 1, 75-116.

Rooth, Mats. 1992b. Ellipsis redundancy and reduction redundancy. In Stephen Berman and Arild Hestvik, eds., *Proceedings of the Stuttgart Ellipsis Workshop.* Arbeitspapiere des Sonderforschungsbereichs 340, Bericht Nr. 29. Heidelberg: IBM Germany.

Ross, John. 1967. *Constraints on Variables in Syntax*. Doctoral Dissertation, MIT.

Ross, John. 1969. Guess who? In Robert I. Binnick, A. Davison, Georgia M. Green and James L. Morgan eds, *The 5th Regional Meeting of the Chicago Linguistic Society* 252-286.

Russell, Bertrand. 1903. *The principles of mathematics*. Cambridge: Cambridge University Press.

Russell, Bertrand. 1905. On denoting. *Mind* 14, 479-493.

Sauerland, Uli. 2000. The content of pronouns: evidence from focus. In Brendan Jackson and Tanya Matthews, eds., *Proceedings from Semantics and Linguistic Theory* X, 167-184. Ithaca: CLC Publications.

Sauerland, Uli. 2002. The silent content of bound variable pronouns. Ms., Universitat Tübingen. Final version to appear in Kyle Johnson, ed., *Topics in ellipsis*, Oxford University Press.

Sauerland, Uli and Kazuko Yatsushiro. 2004. A Silent Noun in Partitives. In *Proceedings of NELS 34*, ed. Keir Moulton and Matthew Wolf, pp.101-112.

Schein, Barry. 1993. *Plurals and events*. Cambridge, MA: MIT Press.

Schein, Barry. 2001. Adverbial, descriptive reciprocals. In Rachel Hastings, Brendan Jackson and Zsofia Zvolenszky, eds., *Proceedings of Semantics and Linguistic Theory* XI, 404-430. Ithaca: CLC Publications.

Schlenker, Philippe. 2005, Non-Redundancy: Towards A Semantic Reinterpretation of Binding Theory, *Natural Language Semantics* 13, 1:1-92

Schlenker, Philippe. 2010. Singular Pronouns with Split Antecedents. In *Snippets*.

Schlenker, Philippe. 2011. Donkey Anaphora: the View from Sign Language (ASL and LSF). *Linguistics & Philosophy* 34 (4): 341-395.

Schueler, David. 2005. *The Syntax and Semantics of Implicit Conditionals: Filling in the Antecedent*. Doctoral Dissertation, UCLA.

Schueler, David. 2006. Definiteness and Eventive Nominals. In *WCCFL Proceedings 25*.

Schutser, E. 1986. *Towards a Computational Model of Anaphora in Discourse: Reference to Events and Actions*. Doctoral Dissertation Proposal.

Sleeman, Petra. 1996. *Licensing Empty Nouns in French*. Dissertation, University of Amsterdam.

Smullyan, Arthur F. 1948. Modality and description. *Journal of Symbolic Logic* 13, 31-37.

Soames, Scott. 1987. Direct reference, propositional attitudes, and semantic content. *Philosophical Topics* 15, 47-87.

Soames, Scott. 1989. Semantics and semantic competence. *Philosophical Perspectives* 3, 575-596.

Soames, Scott. 2002. *Beyond rigidity. The unfinished semantic agenda of* Naming and Necessity. Oxford: Oxford University Press.

Sommers, Fred. 1982. *The logic of natural language.* Oxford: Clarendon Press.

Sommerstein, Alan. 1972. On the So-Called Definite Article in English. *Linguistic Inquiry* (3) : 197-209.

Stainton, Robert J. 2006. *Words and Thoughts: Subsentences, Ellipsis, and the Philosophy of Language.* Oxford: Oxford University Press.

Stalnaker, Robert. 1979. Assertion. In Peter Cole, ed., *Syntax and Semantics 9: Pragmatics*, 315-332. New York: Academic Press.

Stanley, Jason. 1997. Names and rigid designation. In Bob Hale and Crispin Wright, eds., *A companion to the philosophy of language*, 555-585. Oxford: Blackwell.

Stanley, Jason and Zoltan Szabó. 2000. On Quantifier Domain Restriction. *Mind & Language*, 15, 219-61.

Stone, Matthew. 1992. Or and anaphora. In Chris Barker and David Dowty, eds., SALT II. *Proceedings from the second conference on Semantics and Linguistic Theory*, 367-385. Columbus, Ohio: Department of Linguistics, Ohio State University.

Taylor, Barry. 1985. *Modes of Occurence.* Oxford: Blackwell.

Tic Douloureux, P. 1971. A Note on One's Privates. In A. Zwicky, P. Salus, R. Binnick, and A. Vanek eds. *Studies Out in Left Field: Defamatory Essays Presented to James D. McCawley on the Occasion of his 33rd or 34th Birthday.* Indiana University Linguistics Club. 45-51.

Vallduví, Enric and Elisabet Engdahl. 1996. The Linguistic Realization of Information Packaging. *Linguistics* 34, 459-519.

Valois, Daniel. 1991. *The Internal Syntax of DP.* PhD dissertation, UCLA.

van den Berg, M. 1996. Dynamic Generalised Quantifiers. In J. van der Does and J. van Eijck (Eds.), *Quantifiers, logic and language*, pp. 63- 94. Stanford: CSLI.

Vendler, Zeno. 1967. *Linguistics in Philosophy.* Cornell University Press.

Vendler, Zeno. 1967. *Adjectives and Nominalizations.* Moulton, The Hague.

Vendler, Zeno. 1975. Causal Realtions. in D. Davidson and G. Harman, eds., *The Logic of Grammar*, Dickenson, 255-261.

Vergnaud, Jean-Roger. 1974. *French Relative Clauses.* PhD Dissertation. MIT.

Wasow, Thomas. 1972. *Anaphoric Relations in English.* PhD dissertation, MIT.

Webber, Bonnie. 1978. *A formal approach to discourse anaphora.* Doctoral dissertation, Harvard University.

Webber, Bonnie. 1988. Tense as Definite Anaphor. *Computational Linguistic* 14(2), 61-73.

Webber, Bonnie. 1991. Structure and Ostension in the Interpretation of Discourse Deixis. *Language and Cognitive Processes* Volume 6, Issue 2.

Yoshida, Masaya, Honglei Wang and David Potter. 2012. Remarks on "Gapping" in DP. In *Linguistic Inquiry* Vol 43, No. 3.

Yule, G. 1982. Interpreting Anaphora Without Identifying Reference. *Journal of Semantics 1*: 315-322.

Zagona, Karen. 1982. *Government and Proper Government of Verbal Projections.* PhD dissertation, Seattle, University of Washington.

Zagona, Karen. 1988a. Proper Government of Antecedentless VP in English and Spanish. *Natural Language and Linguistic Theory* (6) : 95-128.

Zagona, Karen. 1988b. *Verb Phrase Syntax: A Parametric Study of English and Spanish.* Dordrecht: Kluwer.

Zucchi, Alessandro. 1993. *The Language of Propositions and Events: Issues in the Syntax and the Semantics of Nominalization.* Springer.