Ellipsis and Focus in Generative Grammar

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by

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Preface

This monograph presents the results of an in-depth syntactic and focus-theoretical investigation of ellipsis in generative grammar. The syntactic analysis of ellipsis is couched in the Minimalist Program. The focus analysis addresses the question of the prosodic realization of elliptical constructions in relation to deaccentuation and deletion. This multidimensional account shows that ellipsis is an interface phenomenon which results from the complex interaction of the core grammatical components with the information structural component. The central hypothesis is that there are two types of ellipses in English, one sentence-bound and the other discourse-bound, and that their different syntactic derivations correlate with their specific information structural functions. This hypothesis is based on a revised model of grammar in which focus and information structure play a crucial role. Considering linguistic research on empty categories and focus from over more than three decades the book develops an account of ellipsis based on parallel computation, which is shown to be a natural consequence of the division of labor between the syntactic, the information structural and the interpretive components. Empirical evidence for this account comes from a detailed analysis of discourse-bound ellipsis, such as VP-ellipsis in English and its less well-known instantiations in German, and an intensive investigation of the syntax and information structure of gapping, a case of sentence-bound ellipsis. Both empirical analyses provide evidence for the claim that the information structural component functions as a relay station between syntax and the interpretive components on the one hand and between phonology and pragmatics on the other.

The aim of this book is to explain on the basis of modern linguistic theory how it is possible that we understand more than we actually hear. The answer developed throughout this book is that ellipsis is an interface phenomenon which can only be explained on the basis of the complex interaction between syntax, semantics and information structure.

This book is based on my 2003 University of Tübingen postdoctoral thesis. The topic of ellipsis and focus arose in connection with my DFG-project *Ellipse und Informationsstruktur im Englischen* of the Sonderforschungsbereich 441 *Linguistische Datenstrukturen: Theoretische und empirische Grundlagen der Grammatikforschung* at the University of

Tübingen. The research program presented here has been developed as an integral part of the project work.

First and foremost, I would like to thank my committee, Bernie Drubig, Kyle Johnson, Uwe Mönnich, Marga Reis and Wolfgang Sternefeld, for encouraging me to put my thoughts on ellipsis on paper and thus bring the period of postdoctoral studies to an end.

A special thank you goes to Ewald Lang for his detailed and constructive comments on the original manuscript. The remaining mistakes are mine.

I would further like to gratefully acknowledge the fruitful discussions on ellipsis, syntax and focus I have had with the following people: Bernie Drubig, Kirsten Gengel, Remus Gergel, Edward Göbbel, Carlos Gussenhoven, Dan Hardt, Jutta Hartmann, Katharina Hartmann, Klaus von Heusinger, Kyle Johnson, Chris Kennedy, Wolfgang Klein, Ekkehard König, Angelika Kratzer, Tony Kroch, Ewald Lang, Luis López, Jason Merchant, Valéria Molnár, Jürgen Pafel, Ellen Prince, Marga Reis, Kerstin Schwabe, Lisa Selkirk, Arnim von Stechow, Mark Steedman, Wolfgang Sternefeld, Satoshi Tomioka, Michael Wagner, and Ellen Woolford.

Special gratitude goes to Kirsten Brock, Ladi Bursik, Juliane Möck, and Tina Schäfer who started editing this study the moment the latest version of each chapter left the printer.

I also thank the DFG for supporting the research presented in this book with a special grant (Habilitationsstipendium) from 2001 to 2002 and with support for the DFG-project since 2002.

This book is dedicated to Jan, Ben and Ladi.

Contents

Prologue

"In any field find the strangest thing and then explore it."
– John Archibald Wheeler

This study is concerned with a puzzle of the human language system that Robert D. Ladd described more than 20 years ago with the following *light and shadow* metaphor: "If we shine the spotlight on one actor, everything else on stage is in shadow in comparison" (Ladd 1979: 111). This metaphor expresses the idea that prosodic phenomena in language can be better understood in terms of the concepts of visual perception: "perhaps accents go where they do *both* in order to highlight what they are on and to cast in shade what they are not on" (Dwight Bolinger quoted by Ladd 1979: 110). The puzzle of prosodic highlighting and backgrounding still has not been solved, let alone the relation between highlighting and the degrees of backgrounding – from prosodic flatness up to the point of omitting prosodic realization altogether. Therefore, let me start out by investigating the visual metaphor more closely and see how it pertains to the topic of this book..

Now You See It – Now You Don't: Rubin's well-known demonstration of the visual reversal of figure and ground in figure 1 allows us to perceive either a vase or two faces looking at each other.[1] Our perception changes depending on what is highlighted and thereby moved into focus. If grey models the background, and we focus on black, the vase will be perceived as salient. If the background is black, and we focus on grey, the faces become prominent.

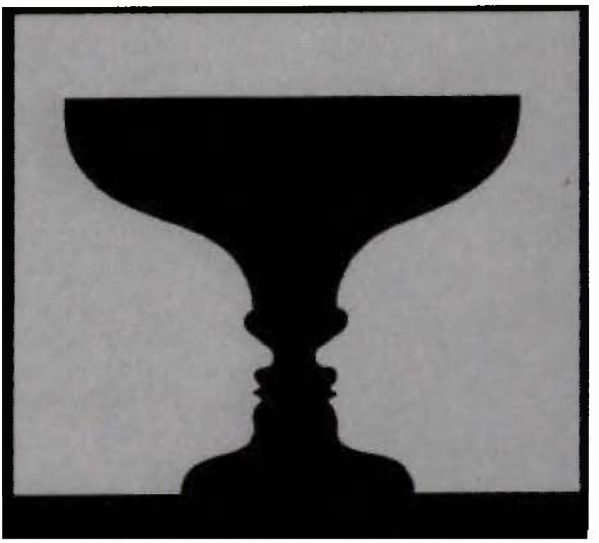


Figure 1. (taken from Rubin 1915)

If the grey background is omitted, as in figure 2, the vase is the only thing we see.

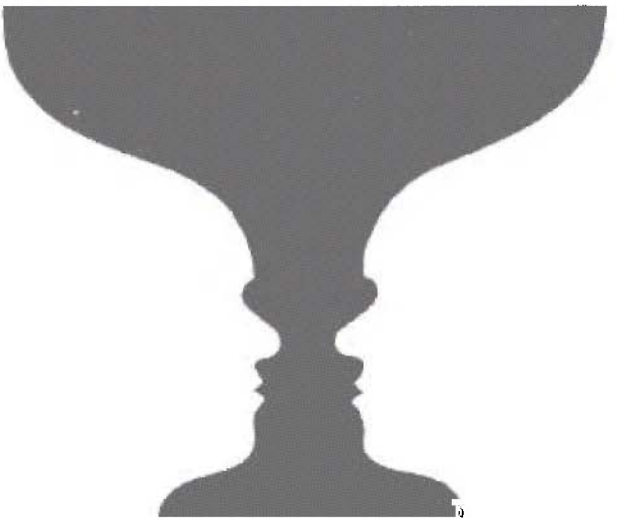


Figure 2. (adopted from Rubin 1915)

Sometimes, our brain must supply missing information, as in figure 3 below. Spot, a Dalmatian, comes alive if we reconstruct the missing parts of the picture.

Figure 3. (taken from Simon 1998: 31)

If Spot appears on a background as in figure 4, the identification is much easier.

Figure 4. (background added)

Note, however, that if the black spots are moved further apart or if some of them are removed altogether, it becomes more and more difficult to fill in the missing information and Spot cannot be recognized.

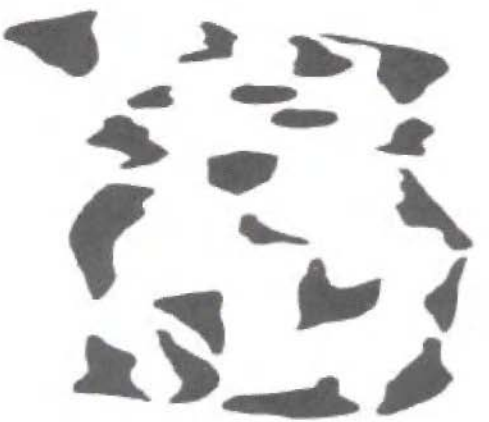


Figure 5. (changes added)

Add a background of black and white dots, and perceptual recognition again becomes more difficult, as illustrated in figure 6. If you see a dog walking away from you, then you succeeded in organizing a mass of black and white shapes into Spot.

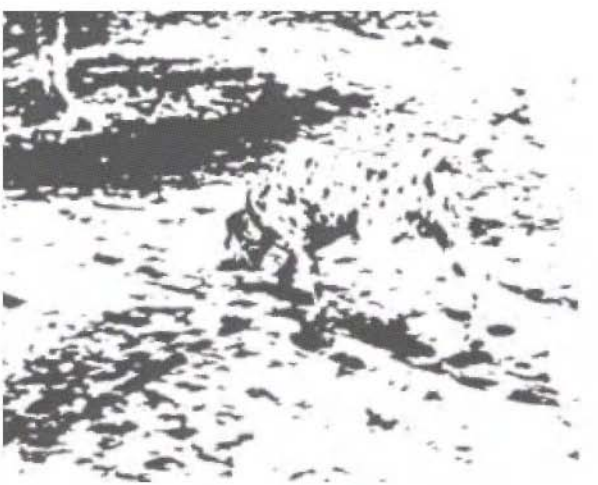


Figure 6. (taken from Goldstein 1996: 183, fig. 5.13)

Intuitively, the optical illusions presented above are qualitatively different from each other: Figure 1 shows that visual perception is sensitive to foregrounding via focusing and backgrounding via defocusing; that is, the interpretation of figure 1 changes depending on what we select as highlighted or focused, and what as background. Omitting the background, as in figure 2, not only causes the vase to be perceived as salient, but removes the ambiguity almost completely.

Figures 3 and 4 show that the process of image interpretation can operate on incomplete information. Missing information can be reconstructed up to a certain point (see figure 5). Additional information, such as adding a homogeneous background, as in figure 4, can facilitate the search. Adding a heterogeneous background, as in figure 6, makes the search more difficult (because no particular part of the picture is highlighted).

Three initial observations seem relevant for the metaphoric extension of the visual system to the prosodic phenomena in language:[2]

1. Visual perception is sensitive to different mechanisms of focusing and defocusing/backgrounding, highlighting and putting into shade.
2. Reconstruction of missing visual information is rule governed.
3. Reconstruction of missing information is dependent on the mechanisms employed in focusing and backgrounding. For example, a previously focused figure can be reconstructed more easily. Also, a figure with a homogeneous background can be reconstructed more easily than one with a heterogeneous background.

Now You Hear It – Now You Don't: The claim implicit in the *light and shadow* metaphor is that similar observations hold for the prosodic phenomena in language. There are various ways of foregrounding and backgrounding in language. One immediately accessible way is accenting one word and reducing another, as described by Bolinger's quote in the opening passage above. This quote, in addition to establishing a metaphoric relationship between the visual system and prosody, proposes that the function of accents in language is two-fold: their presence has the function of foregrounding one part of the utterance, while their absence has the function of backgrounding the other part. The discourse in (1) shows that this implied complementarity of foregrounding and backgrounding is

not complete. (Capitalization signals foregrounding/focusing via high pitch accent assignment, and italics signal backgrounding via deaccentuation.

(1) (Cookie Monster to Bert from behind a venetian blind:)
- a. Someone is going to eat a COOKIE. And you must GUESS exactly WHO.
- b. Now you hear ERNIE *eating a cookie*.
- c. Now you HEAR it.
- d. Now you DON'T.

Although the instructions of the game in (1a) are presumably completely new to Bert, a single accent on *cookie* is required in the opening statement. In the coordinate sentence, there are two accents, one on the verbal head of the embedding sentence *guess* and another one on the wh-word *who*. In the first sample in (1b), we learn that *ERNIE* is doing the eating. This information is new and focused, while the rest of the sentence can go without pronounced pitch accents. The immediate intuition is that the phrase *eating a cookie* is uttered with a low flat intonation because it is repeated and therefore backgrounded. However, even repeated elements like *hear* can be accented, as in (1c), if what follows cannot be accented, as in the case of the pronoun *it* that refers to the process of *Ernie eating a cookie*. (1d) shows that the complete deletion of *hear it* brings out the meaning that what we hear is silence.

Let us assume that the game "Identify the cookie-eater by the munching sound" continues with the following statements:

(1) (Continuation after (1d))
- e. Now you hear ME *eating a cookie*.
- f. Now you HEAR it.
- g. Now you DON'T.

The statement in (1e) is parallel in structure to (1b): the subject of the eating process, in this case *ME,* carries a pitch accent, while the verb phrase *eating a cookie* is deaccented. Although (1b) and (1e) differ only in the instantiation of the subject, the role within the game is different. While in (1b) the agent of the eating process, namely *Ernie,* is merely identified, in (1d), the information is that in contrast to *Ernie*, now *Cookie Monster* is eating the cookie. Note that although we can assume by now that the game is about cookie-eating, the instructions would be imprecise if not

misleading, if (1e) did not repeat *eating a cookie*. The idea of the game described in (1) requires Bert to identify the respective cookie-eater by the sound he makes eating a cookie.[3]

As in the case of image interpretation the language system uses foregrounding and backgrounding for interpretation. And as in the optical illusions looked at above, the language game in (1) also shows that there is not just one way of foregrounding and backgrounding; the function and the means of foregrounding and backgrounding can differ. In addition to accentuation and deaccentuation, which might be thought of as complementary concepts, there are focus movement, pronominalization and deletion. All of these are not static but dynamic notions as implied by Ladd's *light and shadow* metaphor in the context of a stage play. They are highly discourse dependent and they play a particular function at each point in time in the language game.

The comparison of examples (1d) and (1e) also shows that, as in the case of image interpretation, the language system has the ability to reconstruct missing information up to a certain limit. An intuitively accessible initial hypothesis is given in (2):

(2) Initial hypothesis:
Whatever is backgrounded via deaccentuation (spoken without audible pitch accents) in a sentence can be deleted.

The examples in (3) show that this preliminary hypothesis is not correct (deletion is signaled by strike-through):

(3) a. Now you hear ERNIE eating a COOKIE.
b. Now you DON'T *hear Ernie eating a cookie*.
c. *Now you DON'T *hear Ernie eating a ~~cookie~~*.
d. #Now you DON'T *hear Ernie eating ~~a cookie~~*.
e. #Now you DON'T *hear Ernie ~~eating a cookie~~*.
f. *Now you DON'T *hear ~~Ernie eating a cookie~~*.
g. Now you DON'T *~~hear Ernie eating a cookie~~*.

(3a, b) establish that deaccentuation of the string *hear Ernie eating a cookie* is possible. If we cut into the sentence from the end, it becomes obvious that other constraints are at play, too. (3c) shows that if we delete the last unaccented word the sentence becomes highly ungrammatical. The sentence turns into a grammatical string if we delete the complete DP, as in

(3d), but the meaning has changed. If we delete another word, the sentence remains grammatical but again means something different: what is communicated is that we don't hear *Ernie*. Removing the DP *Ernie* leaves us with an ungrammatical sentence in (3f), which turns grammatical again with the additional deletion of the verb in (3g). Moreover, (3g) does not feel like an incomplete sentence; it is a perfect continuation of (3a).

Let us revise the hypothesis in (2) as in (4):

(4) Deaccented phrases can be deleted.

Let us consider a case which shows that not all deaccented phrases can be deleted, as in (5), and then one that shows that even seeming nonconstituents can delete, as in (6a-c):

(5) a. Now you hear ERNIE eating a COOKIE.
b. *Now you SEE ~~*Ernie eating a cookie*~~.

Example (5) shows that the deaccented DP cannot be deleted despite the fact that it is properly deaccented.

The examples in (6) show that apparent nonconstituents can delete:

(6) a. COOKIE Monster was eating a PEAnut-butter cookie, and ERNIE ~~*was eating*~~ a CHOcolate-chip cookie.
b. COOKIE Monster was eating HIS peanut-butter cookie, and ERNIE ~~*was eating his peanut-butter cookie*~~, TOO.
c. COOKIE Monster has eaten more COOKIES than ERNIE has ~~*eaten*~~ CHIPS.

The deaccented words that are deleted in (6a-c) do not seem to form phrases and thus constitute a problem for the hypothesis in (4). Moreover, as in the discussion of the optical illusions (fig. 1), there is an ambiguity in (6b): it is not completely clear whether *Ern*ie is eating his own peanut-butter cookie, or in fact Cookie Monster's. Hypothesis (4) cannot account for these two interpretations.

We can conclude from this initial discussion that deletion process is rule governed. It does not seem possible to just delete whatever is deaccented. Deaccentuation is a necessary, but not a sufficient condition for deletion, as seen in (3) and (5).

Economy and Default Strategies in the Cognitive Organization of the Mind: The discussion of Ladd's *light and shadow* metaphor, correlating the concepts of visual perception with the functioning of the prosodic system, can be summarized by three hypotheses that constitute the starting point of the present study.

(7) Initial Hypotheses:
   a. The prosodic system is sensitive to different mechanisms of focusing and backgrounding. The processes of focusing by prominence assignment and backgrounding by reduction of the phonological prominence (or complete omission) are not complementary processes.
   b. Reconstruction of missing information is possible and rule governed.
   c. Hypotheses 1 and 2 are systematically related.

Before I begin with the investigation of these hypotheses and others in chapter 1, a word of caution is in order here: translating the visual metaphor into initial hypotheses of language might be considered unorthodox, and the underlying hypothesis of this prologue, namely the parallel internal organization of the visual system and the language system, might turn out not to be tenable. However, the fascinating and hitherto unanswered question that researchers in both areas will have to tackle is: why do we perceive more than we see, and why do we understand more than we hear? An answer will have to be sought in the maximally economic cognitive organization of the mind. The mind is equipped for using default strategies of information processing which integrate information from all the interfaces (cf. Seuren 2003). Focusing on the language system, the answer lies in the most economic division of labor between the interfaces. Explaining ellipsis means explaining the sound of silence at the interfaces.

Chapter 1
Ellipsis and focus: An introduction

1. Introduction

The main aim of this study is the development of an interdisciplinary account of ellipsis. More specifically, I will explore the syntax and information structure of a subset of the set of elliptical constructions in English given in (1a) to (1f):

(1) a. Manny plays the piano and Anna the flute.
b. Manny plays the piano but Anna doesn't.
c. Manny plays the piano and Anna does the flute.
d. Manny plays the piano and Anna, too.
e. Someone's playing the piano but I don't know who.
f. Manny played a solo with one hand and Anna with two.

The term ellipsis, from Greek *élleipsis*, most generally, refers to the omission of linguistic material, structure and sound. In each of the elliptical constructions in (1) linguistic material is omitted, deleted or simply left unpronounced. Nevertheless, the silent string is understood in each case. The silent sting in the second conjunct in (1a) is interpreted with the so-called *Ellipsis Remnants*, *Anna* and *the flute*, as *...and Anna plays the flute*.[1] The verb *play* is gapped, therefore the construction is called *Gapping*. In (1b) the second conjunct is interpreted as *...but Anna doesn't play the piano*. Here the verb phrase after the auxiliary is elided, forming a case of *VP-Ellipsis* (VPE). The interpretation of the second conjunct of (1c) as *...and Anna does the flute* constitutes a case of *Pseudogapping*. The construction in (1d), where the second conjunct is interpreted as *...and Anna plays the piano, too* is known as *Stripping*. (1e) where the missing material is understood as *...but I don't know who is playing the piano* is *Sluicing*, and the example (1f) which is interpreted as *...and Anna played a solo with two hands* combines *Noun Phrase Ellipsis* (NPE) with gapping.

I investigate the interaction between the syntactic, the prosodic and the semantic derivations of elliptical sentences in the framework of generative grammar and the information structural component. In particular, I address

the problem of deriving adequate phonological and semantic representations from the computational system of human language (C_{HL}) in correspondence with the syntactic theory of focus that is rooted in the Anglo-American tradition of information structure theory (as developed by Halliday 1967a, b, Bolinger 1972, Jackendoff 1972, 2002, Kuno 1972, Chafe 1976, Prince 1981, 1986, 1988, Rochemont 1986, Gussenhoven 1992, 1999, Vallduví 1992, Selkirk 1995, Ladd 1996, Winkler 1996, Culicover and McNally 1998, Kiss 1998, Steedman 1996, 2000, Drubig 2003, among others). Thereby I am going to concentrate on issues of the interpretation of the elliptical construction from three perspectives: first, I will focus on the issues related to the syntactic derivation and the surface syntactic interpretation (such as the interpretation of *Contrastive* vs. *Information Focus*, the informational relation between the gap and the remnants), second the interpretation of the ellipsis itself (such as strict and sloppy readings, *Backward Anaphora Constraint*, *Binding Principles*, different scopal readings, the interaction of scopal readings under negation), and finally on the interaction between the phonology and discourse-pragmatics (such as deaccentuation vs. deletion, intonational disambiguation, and different focus readings).

Throughout this investigation, I am interested in the interaction between the syntactic derivation of ellipsis, the focusing of the remnants and the phonological reduction of the elliptical material and its interpretation. The main goal is the formalization of the interrelatedness between syntax, surface semantic interpretation, focus and deaccentuation in the derivation and interpretation processes of ellipsis. Considering the set of examples in (1), I focus essentially on two types ellipsis, VPE on the one hand and gapping and stripping on the other. The starting-point of the present investigation is captured by three main questions, given in below:

i. What is the role of focus in the derivation of VPE vs. gapping and stripping?
ii. What are the principles that regulate the interrelatedness between deaccentuation of the elliptical material and focusing of the remnant(s)?
iii. What role does phonological disambiguation play in the interpretation of VPE and gapping and stripping?

Recent influential work on the theory of ellipsis (Dalrymple et al. 1991, Hardt 1993, 2003, Hartmann 2003, Johnson 2004, Kehler 2000, Lappin

1996, Merchant 2001, Romero 2003, Tomioka 2003, among others) and new developments in the semantic/pragmatic theory of focus (Rooth 1992, Schwarzschild 1999) seem to suggest that the meaning of omitted elements is a purely interpretive process taking place in direct correspondence between phonology and semantics/pragmatics without recourse to syntax. My aim here, however, is to show that core computational processes and operations – such as the syntactic theory of displacement – do in fact play an important role in the process of deriving and interpreting elliptical constructions in the information structural component at LF and PF. In particular, I will show that ellipsis provides evidence for the hypothesis that displacements have a direct effect on the *Information Structure* (IS) of a sentence.

The term IS stems from Halliday (1967b: 200) and refers to the hypothesis that "the distribution of information specifies a distinct constituent structure on a different plane; this 'information structure' is then mapped on to the constituent structure as specified in terms of sentences, clauses and so forth (...)." Many different research programs have since explored aspects of IS. In the present study, I will concentrate on the interrelatedness between the syntactic structure of a sentences, its derivational history (including movement and anaphoric processes) and its information structural interpretation. I use IS to refer to both the constituent structure and its respective interpretation that results from topic and focus movement and the distribution of *given* and *new* information. When I am referring to the interface at which syntax affects IS, I use the term *Surface Semantic Interpretation* (SSI), a term introduced by Chomsky (2000, 2001: 15) to describe the subcomponent of LF that is responsible for the interpretation of syntactic displacement.

Further, I will also show how syntax, information structure, intonational phonology and discourse-pragmatics connect in deriving elliptical sentences in a parallel effort. I am developing an account of the architecture of grammar in which the syntactic theory of contrastive focus and *Topic Movement* is recast more formally in the theory of syntactic displacement which operates in parallel with the interpretational and the phonological component. More straightforwardly, I am putting to test an account of ellipsis at the interfaces.

Most linguists working in the generative framework today agree that ellipsis and information structure is an interface phenomenon. However, the question about the actual division of labor between the components is more controversially discussed; for example, how do the components of

grammar divide up the work between them so that at the end all that needs to be said is *nothing*? To narrow down this question: (i) What exactly happens when, for example, a VP is left unpronounced? Does the deletion process take place in syntax or in phonology? (ii) What exactly is the role of LF? Does it interface only with syntax or also with phonology? When and where does interpretation of the elided element(s) take place? Is the parallelism requirement and the identity constraint checked at different levels? (iii) What exactly is the role of PF? Is it an extension of the syntactic component? How does it identify focused/defocused material and how does it derive intonational contours? The issue of the division of labor between syntax, SSI, LF and PF is the main focus of this work.[2]

Specifically, I will propose that the syntactic theory known as the *Minimalist Program* (Chomsky 1995, 2000, 2001, 2004, 2005) enriched by the theory of displacement, formerly known as the *Movement Theory of Focus* (cf. Rizzi 1997, Kiss 1998, Drubig 1994) allows us to derive the SSI and the prosody of *Sentence-Bound Ellipses* (SBE) directly from its syntactic encoding (cf. Phillips 2003, Uriagereka 1999, Platzack 2001, López and Winkler 2003, López to appear). For the *Discourse-Bound Ellipses* (DBE) additional interface correspondence rules pertaining to anaphora are required to derive the appropriate interpretation (Hardt 1993, Kamp and Reyle 1993). Thus, the ultimate goal is deriving a theory of ellipsis from a syntactic theory of focus and thereby clarifying the function and interaction of the interfaces with respect to focus, deaccentuation, anaphoricity and deletion.

Let me caution the expectations of a unified theory of ellipsis at this point. The analysis that I propose is a *Hybrid Focus Account of Ellipsis*. It takes the distinction between SBE and DBE, which is inspired by Williams' (1977a) original differentiation in sentence grammar and discourse grammar, as one essential indication of the different information structural functions that ellipsis can assume. However, the method of investigation is essentially the same for both types of ellipses. In each case, I start out investigating the contribution of the syntactic derivation to the IS and SSI on the one hand and to the semantic interpretation and intonation on the other.

Before I start testing this essentially syntax-driven account of ellipsis, I will introduce the grammatical model, the core cases of ellipsis discussed in this book and their intonational realization, as well as the basic hypotheses that explain their behavior as the result of mapping syntactic structures to SSI.

2. The derivational model

The basic syntactic framework that I adopt for my analysis of ellipsis is that of the Minimalist Program (MP) (Chomsky 1995) with its current further developments (Chomsky 2000, 2001, 2004, 2005) keeping in mind its roots in the *Principles and Parameters* approach (PandP) (Chomsky 1981). I will concentrate in this introductory chapter on two main areas of this theory which are essential for the leading idea of this study. The first concerns the concept of the basic grammatical model that underwent a change in recent years from a basically representational model, known as the T-Model (Chomsky and Lasnik 1977), to a *D(erivational)-Model* (cf. Chomsky 2000, 2001, 2004, 2005). More precisely, the question that will be central to this and the next chapter is how is ellipsis explained in the D-model. The second area concerns the precise nature of the interfaces involved. In this chapter, I concentrate on the interaction of core computational processes and focus interpretation at SSI, leaving the discussion of these interfaces with phonology to chapter 2. Now, let me start with the discussion of the D-model.

In the classic view set out by Chomsky (see Chomsky 1965, 1981, 1995), the syntactic component of the grammar accounts for the matching of sound and meaning (see Jackendoff 1997, 1998 for an opposite view). More precisely, syntactic structures are interpreted at two different levels: at the *Phonological Form* (PF) and at the *Logical Form* (LF), which constitute interfaces with other systems, the articulatory-perceptional and the conceptual-intensional system (Chomsky 1995: 168). Under this conception, it is one of the most important issues to find an explanation of how it is possible for speakers to produce ellipses and for listeners to interpret them in the absence of form. One central hypothesis of this study is that the intonation of the sentences is relevant for an answer to this question. In examples (2) to (7), pitch extraction contours of a prototypical intonational realization of attested examples are provided below. The contour description uses Pierrehumbert's (1980) notation, as it is modified in Beckman and Pierrehumbert (1986). Intuitively, the idea is that intonational contours consist of only two phonemic tones, H(igh) and L(ow). The prosody of a sentence containing a gap, such as example (2), is made up of several possible sequences of pitch accents (H*, L*, L+H*, L*+H, H+L*, H*+L) which are associated with a lexical item (for a more detailed discussion of the inventory of tones the reader is referred to Chapter 2.2.2.1.).

(2) Gapping
She wrote long [...] letters, which she sent to her sister and she to my mother. (Ruth Prawer Ihabrala (1975) *Heat and Dust*; quoted from Prince 1988)

The intonational contour depends on three parameters: the relationship of the tone to the baseline, the degree of prominence expressed by the pitch range, and the relationship of the present tone to the preceding tone. The concatenation of the single tones makes up the melody of the sentence. The intonation of the embedded gapping example in (2) is graphically represented in figure 1:

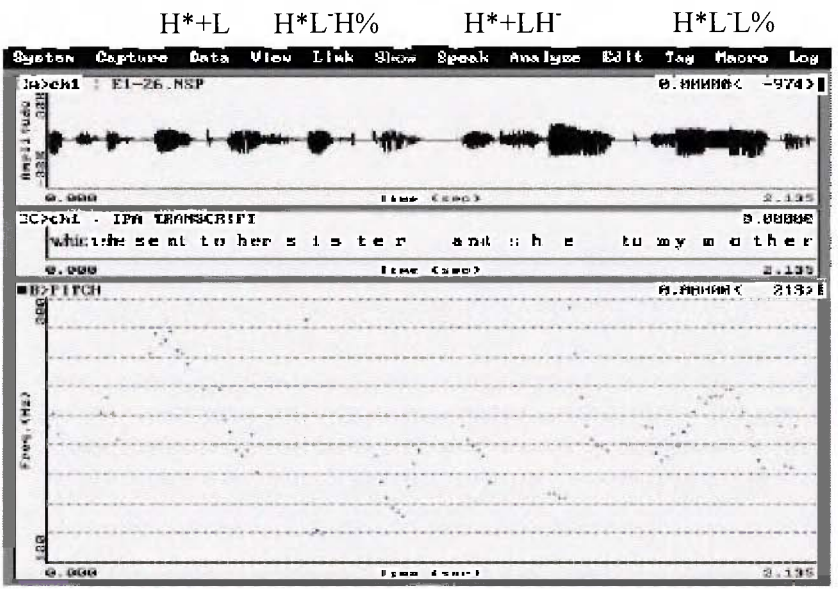


Figure 1.

In the elliptical clause, the verbal head is gapped together with the object-complement, leaving behind two constituents, the subject NP *she* and the PP *to my mother*. These gapping remnants bear the typical intonational contour of a fall-rise (H*+LH-) on *she* and a fall (H*+L-L%) on *mother*.

Whereas in gapping constructions, as in (2), parallel foci with a contrastive interpretation are isolated, in stripping constructions the complete background of the contrastively focused element is omitted, making the skeleton of the focus phrase visible.[3] Apart from the optional occurrence of a sentential adverb (e.g. *maybe*), only the focused element

itself and a reflex of sentence polarity (negation in (3a) or the focus sensitive particle *too* in (3b)) remain, as is predicted by a contrastive focus approach. The pitch extraction contours of (3a) and (3b) are given in figure 2a and figure 2b:

(3) Stripping

a. He gave the FLOWERS to Linda, but (maybe) *not* the LOVE-letter.

b. He gave the FLOWERS to Linda, and (probably) a LOVE-letter, *too.*

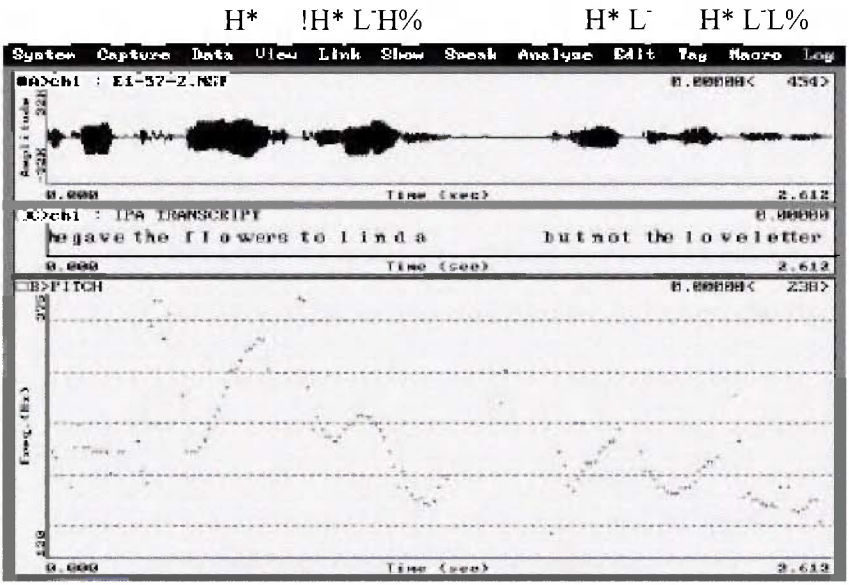


Figure 2a.

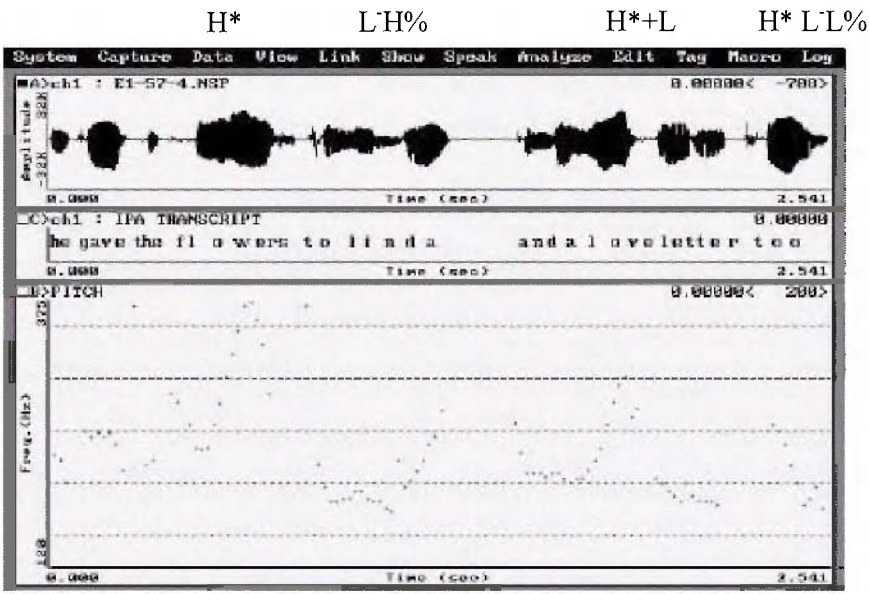


Figure 2b.

The pitch track in figure 2a shows an H* pitch accent on *flowers* and a downstepped H* pitch accent on *Linda* (!H* according to Beckman and Ayers 1997). At the end of the first intonation phrase, which corresponds to the first conjunct, we see a small rise signaling continuation. In the second intonation phrase, both the negative element *not* and the DP *love-letter* are assigned an H* pitch accent. The intonation contour corresponds to the interpretation that of all possible things that he could have given to Linda, he gave her the flowers but not the love-letter.

The contour in figure 2b also shows an H* pitch accent on the correlate *flowers* in the antecedent clause, but the prepositional phrase *to Linda* is characterized not by an H* but by an L- phrase accent and an H% boundary tone. Thus, whereas the contour of the first conjunct in figure 2a could also have qualified as a gapping contour, figure 2b clearly marks only the DP *the flowers* as focus in the first conjunct, which is contrasted with the DP *a love-letter* in the second conjunct. The affirmative instantiation of sentence polarity, *too*, is also assigned an H* pitch accent.

Example (4) contains two cases of ellipsis:

(4) VP- and NP-Ellipsis
[Why does Betty think I was trying to kill myself?]
On the principle that one swallow doesn't make a summer, but two probably do, dear girl. (Walters (1996) *The Dark Room*. London: Pan Books, p. 42.)

Example (4) involves both a VPE and an NPE in the second conjunct: *but two ~~swallows~~ probably do ~~make a summer~~*. The remaining functional heads, number head *two* in the case of the NPE and Infl *do* in the case of the VPE, both bear highly modulated peak accents (H*) with a subsequent fall (L), as can be seen in the pitch track representation in figure 3.

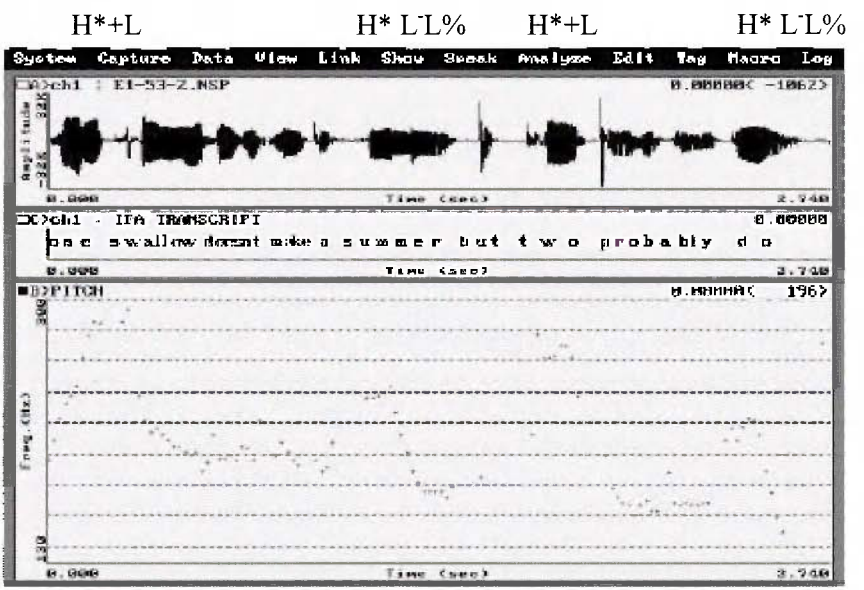


Figure 3.

The VPE and NPE realized in figure 3 differ from gapping and stripping in that the H* accents target functional elements immediately preceding the ellipsis site and not phrasal remnants. The question what exactly triggers the accent realization will be further discussed in section 1.3.3, where it is proposed that different focusing mechanisms are at work in VPE/NPE and in gapping and stripping. In particular, the assumption that accent realization is directly associated with focus feature assignment in languages like English is replaced by the *Phasal Head Prominence Principle*, which accounts for sentences, in which the head of a phrase, in

our case the functional heads *Number* and *Inflection*, are prominent because the elided material in (4) is redundant or anaphorically given.

The examples of pseudogapping, as in (5), seem to constitute a mixed form. In (5a), an accent is realized on the functional head *didn't* and on the remnant *The Great American Novel*. In (5b), again a fall (H*+L) is realized on the modal *would* and two accents on the complex remnant *on a straight policy for the same amount*.

(5) Pseudogapping

a. Manny read *The Facts*, but he DIDN'T ~~read~~ *The Great American NOVEL.*

b. Third and most important, Amex would charge me a far higher premium than other reputable companies WOULD on a STRAIGHT POLICY for the same AMOUNT.
(Penn Treebank #9)

The sluicing examples in (6) are characterized by the omission of the IP-constituent following the *wh*-element. In (6a) the IP *he read t* is omitted. In (6b), the IP *it exists*, which follows the *wh*-phrase *where,* is omitted. A pitch extraction contour of (6b) is given in figure 4.

(6) Sluicing

a. Manny read *The Facts*, but I don't know what else$_i$ [$_{IP}$ ~~he read t$_i$~~].

b. There is a lot of talk about freedom. It's like the Holy Grail, we grow up hearing about it, it exists, we're sure of that, and every person has his own idea of WHERE.
(Winterson 1987 *The Passion*. Penguin Books, p. 154.)

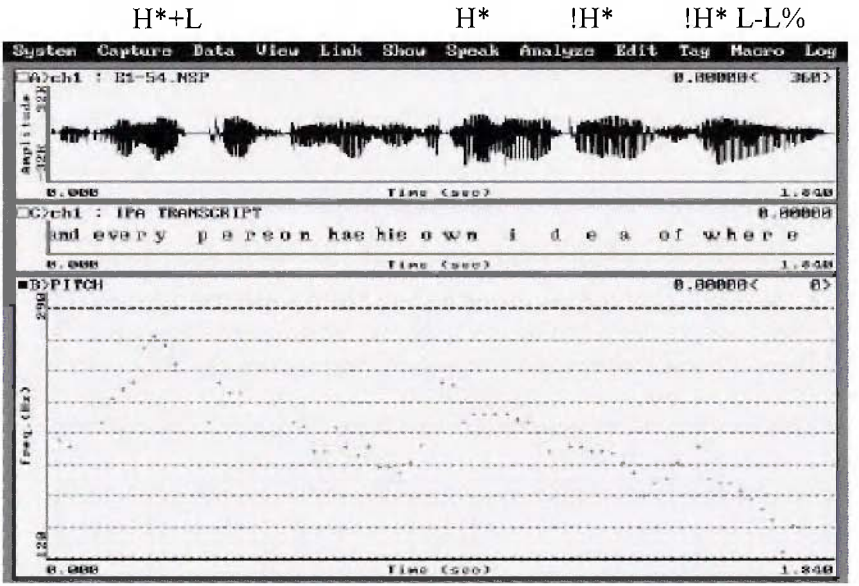


Figure 4.

In example (6b), sluicing is licensed by the presence of C^0, which is specified for [+wh]-features, as originally proposed by Fukui and Speas (1986) and later captured as *Specifier-Head Agreement* in the MP (see the detailed proposal by Merchant 2001). The remaining overt *wh*-element *where* bears a downstepped H* pitch accent immediately followed by an L^- phrase accent and an L% boundary tone.

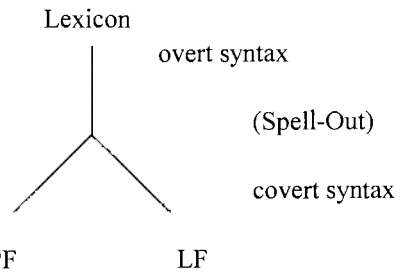
An interesting ambiguity arises in (7) that can be intonationally disambiguated, as observed by Merchant (2001: 77). Depending on the intonation of the first conjunct, *who else* is either interpreted as a subject or an object expression, as shown in (7a) and (7b).

(7) Manny called Ben an idiot, but I don't know who else.
   a. MANNY called Ben an IDIOT, but I don't know who ELSE ~~called Ben an idiot~~.
   b. Manny called BEN an idiot, but I don't know who ELSE ~~Manny called an idiot~~.

In each of the above elliptical constructions in English, part of the second conjunct is omitted but still interpretable at LF. In this respect the mere occurrence of ellipsis is a challenge to our understanding of the architecture of grammar, conceived of in terms of the MP-version of the T-

Model as in (8), where the most powerful constraint, the *Principle of Full Interpretation* (PFI), requires all PF/LF symbols to have interpretations at the PF/LF interface levels (Chomsky 1995).

(8) The T-Model of the MP (Chomsky 1993, 1995)



Part of the answer to the question of how words or phrases can be understood without being pronounced, or otherwise referred to, already lies in the way we assume that elliptical material is represented and where. Three questions that are central to the study of ellipsis are listed in (9):

(9) Core questions of the study of ellipsis:
- i. Does ellipsis have internal structure?
- ii. How is the elliptical structure interpreted?
- iii. Is ellipsis the result of a deletion operation or is it a base-generated empty category?

The answers to (9i) and (9ii) determine the answer to (9iii), namely the answer to the question of whether ellipsis can be derived by transformational operations or whether it is to be analyzed as a base-generated empty category.

Within the T-Model of the early MP, three prevailing research paradigms can be isolated: the *Phonological Deletion Theory*, the *Syntactic Displacement Theory*, and the *Semantic Theory*. The phonological deletion theory assumes that elliptical material is fully syntactically represented, but deleted at a certain point in the derivation of the sentence.[4] The syntactic displacement theory investigates the computational system proper and aims at an answer to the question of whether ellipsis can be reduced to movement or other independently existing syntactic processes.[5] Although the starting point of any syntax-first methodology is, as is self-evident,