



Linguistik Aktuell



Linguistics Today

Middle Voice

A comparative study in
the syntax-semantics interface of German

Markus Steinbach



Middle Voice

Linguistik Aktuell/Linguistics Today

Linguistik Aktuell/Linguistics Today (LA) provides a platform for original monograph studies into synchronic and diachronic linguistics. Studies in LA confront empirical and theoretical problems as these are currently discussed in syntax, semantics, morphology, phonology, and systematic pragmatics with the aim to establish robust empirical generalizations within a universalistic perspective.

Series Editor

Werner Abraham

University of Vienna, Austria

Advisory Editorial Board

Guglielmo Cinque (University of Venice)

Günther Grewendorf (J.W. Goethe-University, Frankfurt)

Liliane Haegeman (University of Lille, France)

Hubert Haider (University of Salzburg)

Christer Platzack (University of Lund)

Ian Roberts (Cambridge University)

Ken Safir (Rutgers University, New Brunswick NJ)

Lisa deMena Travis (McGill University)

Sten Vikner (University of Aarhus)

C. Jan-Wouter Zwart (University of Groningen)

Volume 50

Middle Voice: A comparative study in the syntax-semantics interface of German by Markus Steinbach

Middle Voice

A comparative study in the
syntax-semantics interface of German

Markus Steinbach

Johannes Gutenberg-Universität Mainz

John Benjamins Publishing Company
Amsterdam / Philadelphia



™ The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences – Permanence of Paper for Printed Library Materials, ANSI Z39.48-1984.

Library of Congress Cataloging-in-Publication Data

Markus Steinbach

Middle Voice : A comparative study in the syntax-semantics interface of German / Markus Steinbach.

p. cm. (Linguistik Aktuell/Linguistics Today, ISSN 0166-0829 ; v. 50)

Includes bibliographical references and indexes.

1. German language—Voice. 2. German language—Verb. 3. German Language—Syntax. 4. German language— Semantics. 5. Grammar, Comparative and general—Middle voice. I. Title. II. Linguistik aktuell; Bd. 50.

PF3285 S74 2002

435-dc21

2002016438

ISBN 90 272 2771 3 (Eur.) / 1 58811 194 6 (US) (Hb; alk. paper)

© 2002 – John Benjamins B.V.

No part of this book may be reproduced in any form, by print, photoprint, microfilm, or any other means, without written permission from the publisher.

John Benjamins Publishing Co. · P.O. Box 36224 · 1020 ME Amsterdam · The Netherlands
John Benjamins North America · P.O. Box 27519 · Philadelphia PA 19118-0519 · USA

Table of contents

Acknowledgments ix

List of abbreviations xi

CHAPTER 1

Introduction

CHAPTER 2

Middle constructions and middle voice

- 2.1 The middle construction in German 22
 - 2.1.1 Verbs in the middle construction 22
 - 2.1.2 The subject of middle constructions 28
 - 2.1.3 The reflexive pronoun 34
 - 2.1.4 Adverbs, genericity, and the implicit argument 35
- 2.2 Anticausatives and inherent reflexives 42
- 2.3 The interpretation of weak reflexive pronouns in Indo-European languages 46
- 2.4 The middle voice marker in German 52
- 2.5 Conclusion 59

CHAPTER 3

Lexical and syntactic approaches to middle formation

- 3.1 Syntactic theories 75
 - 3.1.1 English and Dutch 76
 - 3.1.2 Italian 86
 - 3.1.3 German 91
 - 3.1.4 Summary 96
- 3.2 Lexical theories 97
 - 3.2.1 Rule based accounts 97
 - 3.2.2 The middle template analysis 108
 - 3.2.3 Summary 114
- 3.3 Conclusion 115

CHAPTER 4

The syntax of transitive reflexive sentences

- 4.1 Similarities between argument and non-argument reflexives 130
- 4.2 Focus, coordination, and fronting: Explaining the difference 139
 - 4.2.1 Coordination 143
 - 4.2.2 Focus 150
 - 4.2.2.1 Theoretical background 150
 - 4.2.2.2 Narrow focus 152
 - 4.2.2.3 Focus particles 153
 - 4.2.2.4 Contrastive negation and substitution 154
 - 4.2.2.5 Questioning 155
 - 4.2.2.6 Adnominal focus particle 156
 - 4.2.3 Fronting 162
 - 4.2.3.1 Unmarked word order 162
 - 4.2.3.2 Focus in CP, Spec 164
 - 4.2.3.3 Topic in CP, Spec 164
- 4.3 Conclusion 167

CHAPTER 5

The interpretation of reflexive pronouns in German

- 5.1 Logophoric or exempt anaphors 179
- 5.2 Syntactic and semantic predicates and A-chains 183
- 5.3 Weak and strong reflexive pronouns and the [\pm R]-distinction 188
- 5.4 O-command and o-binding in German 195
- 5.5 The interpretation of accusative reflexive pronouns 204
- 5.6 Weak and strong reflexive pronouns revisited 212
- 5.7 Conclusion 214

CHAPTER 6

Suppressed arguments and dative objects

- 6.1 The difference between middle constructions, anticausatives, and unaccusatives 229
 - 6.1.1 Argument saturation and argument reduction 230
 - 6.1.2 Anticausatives and unaccusatives 233
- 6.2 Dative objects in German 236
 - 6.2.1 Morphological differences between structural and oblique case 239
 - 6.2.1.1 Marked and unmarked case forms 240
 - 6.2.1.2 Uninflectable indefinite NPs 240

6.2.1.3	Sentential complements	241
6.2.1.4	Free relatives	242
6.2.1.5	Nominalization	244
6.2.1.6	Idioms	245
6.2.1.7	Reflexive pronouns	246
6.2.1.8	Inherent reflexive verbs	246
6.2.2	Syntactic differences between structural and oblique case	247
6.2.2.1	Word order	247
6.2.2.2	Binding	249
6.2.2.3	Middle constructions	250
6.2.2.4	Tough-movement	250
6.2.2.5	Passive and 'D.c.I.'	251
6.2.2.6	Free datives and multiple datives	252
6.2.2.7	Extraction	254
6.2.2.8	Coherent infinitives	254
6.2.2.9	Topic drop	255
6.2.2.10	Sentence processing	256
6.2.3	The syntax of dative objects	256
6.3	Conclusion	260

CHAPTER 7

Middle constructions revisited

7.1	Middle constructions and genericity	267
7.2	Adverbial modification in middle constructions	277
7.3	Adjunct middles	285

CHAPTER 8

Conclusion

References	309
------------	-----

Subject index	327
---------------	-----

Acknowledgments

Many friends and linguists inspired and supported my linguistic studies over the last years and helped me to scrutinize linguistic certainties and to look more carefully into the interaction between morphology, syntax, semantics, and pragmatics. I would like to thank not only for discussion, valuable information, and their patience Anatoli Strigin, André Meinunger, Artemis Alexiadou, Assinja Demjjanow, Daniel Büring, Damir Ćavar, Ellen Brandner, Emanuela de Luca, Gerhard Jäger, Günther Grewendorf, Heike Zinsmeister, Ilse Zimmermann, Ingrid Kaufmann, Jaklin Kornfilt, Jan-Wouter Zwart, Joachim Sabel, Joan Maling, Jörg Meibauer, Josef Bayer, Kai-Uwe Alter, Manfred Bierwisch, Marga Reis, Marie Christine Erb, Marcus Kracht, Paul Law, Reinhart Blutner, Renate Musan, Roland Pfau, Sten Vikner, Tine Mooshammer, Ursula Kleinhenz, Werner Abraham, Wolfgang Sternefeld and my colleagues and students and the secretarial staff and visitors at the Arbeitsgruppe Strukturelle Grammatik, Berlin, the Sonderforschungsbereich 340, Tübingen, and the German Department at the University of Mainz.

I would also like to thank Werner Abraham for his encouragement and his invaluable comments on the manuscript, Kees Vaes from John Benjamins for his friendly and professional way of leading me through the production process, and Juliane Möck, Andrea Woodburn, Jim Heller, Ruth Seibert, and Tine Erb for their help with proof-reading.

Hans-Martin Gärtner and Ralf Vogel are two friends that have to be mentioned separately. Very special thanks for their permanent cooperation (not only in linguistics) and their friendship.

Most of all, I thank Juliane Möck.

I am greatly indebted to the Max-Planck-Gesellschaft, Arbeitsgruppe Strukturelle Grammatik, who supported my scientific studies generously and (more importantly) very unbureaucratically.

Last but not least I want to thank my parents Renate and Siegfried Steinbach and my sister Elke (ICH VERSPRECH: JETZT ICH DGS LERNFLEISSIG). This book is dedicated to Clara.

List of abbreviations

SG	singular
A.c.I	accusativus cum infinitivo
ACC	accusative case
BWD	backward deletion
c-selection	categorial selection
D.c.I.	dativus cum infinitivo
DAT	dative case
ECM	exceptional case marking
ENHG	Early New High German
FWD	forward deletion
GCC	General Condition on A-Chains
GEN	genitive case
KP	case phrase
MF	middle formation
MG	Modern German
MHG	Middle High German
NOM	nominative case
OP	operator
PA	passive affix
PAS	passive auxiliary
PL	plural
RF	resultative formation
RP	reflexive pronoun
s-selection	semantic selection
S-topic	sentence-internal topic
TRS	transitive reflexive sentence
UTAH	Uniformity of Theta Assignment Hypothesis
V2	verb second

CHAPTER 1

Introduction

“Mit Flöten und Geigen und Tröten im Rücken
singt sich's leicht beim Blumenpflücken.
Mit Kuchen und Keksen und Kaffee im Magen
spricht sich's leicht von Sommertagen.”

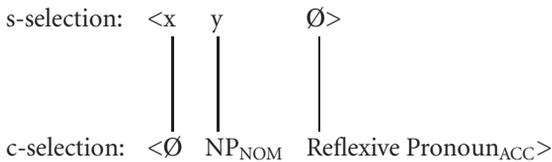
Aus *Schuhe* von Max Goldt und Stephan Winkler

This book investigates the syntax and semantics of various reflexive constructions in German, which are a particularly interesting case study for the correlation between semantic and categorial selection because they share interesting language-specific and universal morphosyntactic and semantic properties.¹ Consider middle constructions first. Like passives, middle constructions are the output of a systematic operation that manipulates the selectional properties of underlying basic predicates. Both constructions, the middle in (1) and the passive in (2), ‘demote’ the first semantic argument of the verb and ‘promote’ the second semantic argument to subject.² However, unlike passives, middle constructions do not change the morphological properties of the underlying predicate in German. The morphosyntactic form of the predicate in the middle construction in (1) does not differ from its ‘active’ counterpart in (3). In both sentences the verb appears in active morphology. Throughout this book case forms are abbreviated as follows: *NOM* = nominative, *ACC* = accusative, *DAT* = dative, and *GEN* = genitive. *PAS* stands for passive auxiliary.

- (1) (middle construction)
Dieses Buch liest sich leicht
This book-*NOM* reads reflexive-pronoun-*ACC* easily
‘This book reads easily’
- (2) Das Buch wird gelesen (passive)
The book-*NOM* *PAS* read
‘The book is being read’
- (3) Hans liest dieses Buch (active)
Hans-*NOM* reads this book-*ACC*
‘Hans is reading this book’

Moreover, middle constructions show an interesting divergence in their c-selectional and s-selectional properties. On the one hand, the first semantic argument of the verb is not linked to a syntactic constituent but only implicitly present. In the corresponding simple active sentence in (3), this implicit argument, the ‘logical subject’, is linked to the nominative NP in subject position. Instead of the verb’s first semantic argument, its second semantic argument is linked to the subject in the middle construction in (1). In the corresponding active counterpart in (3), it is linked to an NP assigned accusative case (i.e. the direct object).³ On the other hand, middle constructions in German always c-select an additional accusative reflexive pronoun in object position, which is not linked to a semantic argument of the verb. Middle constructions combine both an implicit semantic argument and an (obligatorily) c-selected constituent that is not linked to a (s-selected) semantic argument of the verb.⁴ Thus middle constructions include suppression of a semantic argument as well as addition of a syntactic argument. The selectional properties of middle constructions are illustrated in (4) – ‘ \emptyset ’ means that the corresponding element is not linked to a syntactic or semantic entity.

- (4) S- and c-selectional properties of middle constructions in German



(4) shows that the middle construction contains only one element that is both s-selected and c-selected but two elements that are not linked at all. We will see in Chapter 2 that so-called impersonal middle constructions actually contain no linked element at all.

Further interesting properties of middle constructions are adverbial modification, which seems to be required by most middle constructions, and the characteristic arbitrary or ‘generic’ interpretation of the implicit first argument. As opposed to this, the implicit argument in passives is usually interpreted existentially and adverbial modification is not obligatory as can be seen in example (2). Hence, we might wonder whether (predicates in) middle constructions idiosyncratically select some kind of adverbial expression and some arbitrary implicit argument, or whether these properties of middle constructions can be derived from independent principles of grammar. Chapter 2 will be concerned with the properties of middle constructions in greater detail. The middle construction in German have so far turned out to be a good candidate

for the study of non-trivial cases of argument linking. It will also turn out to be a good candidate for illustrating and discussing the differences between and the advantages of lexical, syntactic, and postsyntactic theories of argument linking.

Middle constructions in German become even more interesting as soon as we compare them with morphosyntactically identical constructions. We will argue that we gain deeper insight into the syntax and semantics of middle constructions if the study of middle constructions is examined in the more general context of transitive reflexive sentences. Morphosyntactically, German middle constructions are common transitive sentences that contain a verb in the active and an accusative reflexive pronoun in object position. However, the middle interpretation is not the only possible interpretation for transitive reflexive sentences. In addition to the middle interpretation, transitive reflexive sentences can also receive a reflexive, anticausative, and inherent reflexive interpretation.⁵ Examples for all four interpretations are given in (5).

- (5) a. Reflexive interpretation
 Herr Rossi rasiert sich
 Mr. Rossi-NOM shaves reflexive-pronoun-ACC
 ‘Mr. Rossi is shaving (himself)’
- b. Middle interpretation:
 Das Buch liest sich leicht
 The book-NOM reads reflexive-pronoun-ACC easily
 ‘The book reads easily’
- c. Anticausative interpretation
 Die Tür öffnet sich
 The door-NOM opens reflexive-pronoun-ACC
 ‘The door opens’
- d. Inherent reflexive interpretation
 Herr Rossi erkältet sich
 Mr. Rossi-NOM catches.a.cold reflexive-pronoun-ACC
 ‘Mr. Rossi catches a cold’

The reflexive interpretation in (5a) differs from the other three interpretations in one respect. Only in (5a) is the reflexive pronoun both c- and s-selected and therefore interpreted as a semantic argument of the verb, which is bound by and coreferent with the subject of the sentence. This means that both the subject and the accusative (or direct) object are each linked to a semantic argument variable of the verb. In (5b), (5c), and (5d), on the other hand, the reflexive pronoun is only c-selected but not s-selected and is therefore not interpreted as a semantic argument of the verb. The examples in (5) illustrate

that the accusative reflexive pronoun can but need not be linked to a semantic argument of the verb. We call the reflexive pronoun in (5a) *argument reflexive* and the one in (5b–d) *non-argument reflexive*.⁶ The non-argument reflexive indicates reduction of the first semantic argument of the verb, its logical subject, and promotion of the second semantic argument.

Beside this first ambiguity of the reflexive pronoun, another ambiguity is responsible for the interpretation of sentence (5b) on the one hand and sentence (5c) and (5d) on the other. This second ambiguity is due to the interpretation of the suppressed semantic argument. We have already seen that the first semantic argument of the verb (i.e. x in the Figure in (4)) is not linked to syntax if the non-argument interpretation of the reflexive pronoun is chosen. In this case the first semantic argument can either be saturated or reduced. The latter operation (argument reduction) completely removes the suppressed argument from the semantic representation. Argument reduction is responsible for the anticausative and inherent reflexive interpretations. Anticausatives like (5c) are one-place predicates that are systematically derived from underlying two-place predicates. Argument saturation, by contrast, means that the implicit argument is bound by a semantic quantifier/operator. The resulting interpretation of argument saturation is the middle interpretation. Simplified semantic representations of all four sentences are given in (6). ‘ x ’ is the implicit argument in MCs, which is bound by a generic operator GEN (cf. Chapter 7) and ‘ \emptyset ’ stands for the deleted first argument in anticausatives and inherent reflexives.

- (6) The ambiguity of transitive reflexive sentences in German
- | | | | | |
|----|------------------------|------------------------|--------------------|----------------------------|
| a. | $W < r, r >$ | $W = \text{waschen},$ | $r = \text{Rossi}$ | (reflexive interpretation) |
| b. | $L < \text{GEN}x, b >$ | $L = \text{lesen},$ | $b = \text{Buch}$ | (middle interpretation) |
| c. | $O < \emptyset, t >$ | $O = \text{öffnen},$ | $t = \text{Tür}$ | (anticausative interpr.) |
| d. | $E < \emptyset, r >$ | $E = \text{erkälten},$ | $r = \text{Rossi}$ | (inherent refl. interpr.) |

The ambiguity of reflexive constructions is a widespread phenomenon that can be observed in many Indo-European and non-Indo-European languages. All four interpretations in (5) come under the notion of *middle voice*. The middle interpretation in (6b) is thus only one possible interpretation of what we call the middle voice. In many Indo-European languages, middle and related constructions are reflexive. These languages also use a reflexive marker to encode a variety of related interpretations. However, most Indo-European languages differ from German at least in two respects. First, they always use a (morphologically) ‘weak’ element to indicate the middle voice, while German uses a rather ‘strong’ one. Unlike these languages, German does not have a special ver-

bal morphology for the middle voice but a free morpheme (i.e. the accusative reflexive pronoun) in a special syntactic position (i.e. in object position). The important distinction between weak and strong reflexive pronouns/markers will be discussed in Chapters 2 and 5. Second, German has two morphosyntactically different constructions for the passive and the middle interpretations. Unlike reflexive constructions in many Indo-European languages, their counterpart in German does not receive a passive interpretation.

This book deals with the ambiguity of the reflexive pronoun (the middle marker) in German and the interpretation of implicit arguments in transitive reflexive sentences. We are mainly interested in the following five questions:

- i. Why are middle and related constructions in German and many other languages reflexive?
- ii. Can we derive the linking of arguments in reflexive constructions from general linking-principles or do we need construction specific linking-principles?
- iii. Which (possibly universal) morphosyntactic properties distinguish (weak) reflexive pronouns from other pronominal elements?
- iv. Which language-specific properties distinguish the middle voice in German from the middle voice in other languages?
- v. Does the analysis of the middle voice provide evidence in favor of a lexical, a syntactic, or a (postsyntactic) semantic approach to argument linking?

As will be discussed at length in Chapter 3, nearly all recent approaches to middle constructions and anticausatives derive the s-selectional and c-selectional properties of these constructions in the lexicon and/or syntax. They are based on the assumption that the syntax of verbal arguments is completely determined by the selectional properties of a verb in cooperation with general linking-principles. Therefore, these analyses require some lexical and/or syntactic manipulation of the argument structure of the underlying basic verbs in (5b), (5c), and (5d). They must somehow prevent the linking of the first semantic argument to the syntactic subject, promote the second semantic argument, and add a reflexive pronoun, which does not correspond to a semantic argument of the verb.

By contrast, we argue for a new approach that takes the syntactic surface more seriously. We retain the minimal assumption that all transitive reflexive sentences are equal because we do not find any empirical (or conceptual) evidence for the assumption that the transitive reflexive sentences in (5) must be assigned different syntactic structures or that they contain lexically different kinds of verbs. This change in viewpoint enables us to develop a uniform

analysis that derives all four interpretations of transitive reflexive sentences illustrated in (5) from the same underlying syntactic representation. This makes the theory proposed in this book superior to lexical and syntactic approaches, neither of which offers a conclusive and uniform analysis of the ambiguity of transitive reflexive sentences in German. Moreover, both lexical and syntactic approaches require additional ad hoc stipulations, which are not necessary in the postsyntactic analysis developed in this book. The main results of this book can be summarized as follows:

- i. In this book we argue for a completely new analysis that derives the ambiguity of transitive reflexive sentences in German at the interface between syntax and semantics.
- ii. We show in detail that lexical and syntactic derivations of middle formation can account neither for the specific syntactic and semantic properties of middle constructions nor for the ambiguity of (weak) reflexive pronouns, which can be found in most Indo-European languages.
- iii. Our analysis offers a unified derivation of all four interpretations of transitive reflexive sentences in German (the middle voice). This analysis relies neither on special lexical and/or syntactic rules of middle and anticausative formation nor on the unmotivated distinction between two completely different kinds of reflexive pronouns (argument vs. non-argument reflexives).
- iv. This analysis is based on independently motivated universal and language-specific assumptions. The interaction of such morphological, syntactic, and semantic assumptions accounts for the argument and non-argument interpretation of reflexive pronouns in transitive reflexive sentences (i.e. the middle marker).
- v. We offer semantic and pragmatic explanations for various specific properties of middle constructions such as adverbial modification, generic and modal interpretation, ‘responsibility’ of the subject, and so-called adjunct middles.
- vi. Our analysis also reveals new insights into the general principles of argument linking.

We will argue in Chapter 5 that the Φ -features of (weak) reflexive pronouns are maximally underspecified. As a consequence, (weak) reflexive pronouns are not lexically specified for the morphosyntactic feature [R]. Elements that are not lexically specified for [R] can but need not be interpreted as semantic arguments. Therefore the linking of the syntactic subject can be mediated by a (weak) reflexive pronoun, if the former binds the latter. In this case, the syn-

tactic subject is not linked to the first but to the second semantic argument of the verb. Roughly speaking, the reflexive pronouns in (5b), (5c), and (5d) (i.e. the non-argument reflexives) function as a place-holder for the linking of the syntactic subject, which is thus linked to the second argument variable of the verb. Furthermore, we will argue in Chapter 5 that in German, non-argument reflexives must be assigned structural case. Only transitive reflexive sentences permit the syntactic subject to be linked to the second argument of the verb. Hence, our analysis is based on the following two assumptions:

- i. In German, non-argument reflexives must receive (structural) accusative case. This assumption seems to be language-specific. We do not think that all languages draw similar distinctions between structural and oblique case.
- ii. (Weak) reflexive pronouns are lexically underspecified for the feature [R]. This assumption seems to be valid cross-linguistically. (Weak) reflexive pronouns universally seem to be the less specified pronominal elements and various languages use (weak) reflexive pronouns to indicate valency reduction. Morphologically maximally underspecified pronominal elements need not be interpreted as (or linked to) semantic arguments.

Note, however, that (weak) reflexive pronouns have quite different morphosyntactic properties cross-linguistically, as will be shown in Chapter 2. Thus the postsyntactic analysis we develop for transitive reflexive sentences in German does not necessarily hold true for the middle voice in other languages. We will come back to this issue in the final chapter.

Let us add one more general remark. As a consequence of our analysis, syntactic arguments that are not specified for [R] need not be linked to a semantic argument of the verb themselves. Any other syntactic argument (i.e. personal pronouns, demonstratives, (in)definite NPs, or sentential complements) must correspond to a semantic argument of the verb. We will see that every syntactic argument must be linked to a semantic argument, except for non-argument reflexives and impersonal subjects. This is in principle in accordance with the first part of the theta-criterion (i.e. each argument bears one and only one theta-role). Note, however, that our account permits two strictly defined exceptions. Both exceptions are pronominal elements sharing certain morphological properties. These elements serve a specific grammatical purpose. The second part of the theta-criterion, on the other hand, is no longer a valid linking-principle, as we will argue throughout this book. We will see that the s-selectional properties are not a wellformedness condition for syntactic representations or, more generally, for the computational system, although they are an essential part of the meaning of a lexical item determining the semantic interpretation of

predicates. This shift towards the semantic interpretation of syntactic arguments allows for a uniform analysis of all four transitive reflexive sentences in (5). Moreover, we can account for the implicit argument in middle constructions and (the c-selection of) the reflexive pronoun in middle constructions, anticausatives, and inherent reflexives without additional stipulations. According to our analysis, the non-argument reflexive is not lexically selected by the verb. Instead, it is licensed by its grammatical function. Hence, our approach predicts that the categorial properties of syntactic arguments are not always and completely determined in the lexicon. Let us therefore take a brief look at a completely different kind of example that confirms this prediction: V2 complement clauses in German.

In German, the propositional argument of some verbs can be realized as a V2-clause. Therefore, we might claim that some verbs (so-called bridge verbs), as for example *glauben* ('believe') in (7), can c-select either a complementizer-initial verb-final clause (7a) or, alternatively, a V2 complement clause (7b). Verbs like *bedauern* ('regret'), on the other hand, can only c-select complementizer-initial verb-final clauses, as (8) illustrates. Embedded V2-clauses are ungrammatical with these verbs, as can be seen in (8b). See a.o. Grewendorf (1988), Reis (1995 and 2000a, b), Rohrbacher (1999), Steinbach (1999c), and Frank (2000).

- (7) a. Ich glaube, dass ein Sturm aufkommt
 I believe that a storm up.comes
 'I believe that a storm breaks'
- b. Ich glaube, ein Sturm kommt auf
 I believe a storm comes up
 'I believe that a storm breaks'
- (8) a. Ich bedaure, dass ein Sturm aufkommt
 I regret that a storm up.comes
 'I regret that a storm breaks'
- b. *Ich bedaure, ein Sturm kommt auf
 I regret a storm comes up
 'I regret that a storm breaks'

The story is, however, more complex. Consider the examples in (9) below. As soon as we add a negation or a dative object to the main clause in (7), the second example (7b) with the V2 complement clause becomes ungrammatical, whereas the first example (7a) with a verb-final complement clause is still grammatical. Hence, embedded V2-clauses cannot simply be lexically c-selected by some verbs s-selecting a propositional argument.

- (9) a. Ich glaube nicht, dass ein Sturm aufkommt
 I believe not that a storm up.comes
 ‘I do not believe that a storm breaks’
- b. *Ich glaube nicht, ein Sturm kommt auf
 I believe not a storm comes up
- c. Ich glaube dem Hans, dass ein Sturm aufkommt
 I believe the Hans-DAT that a storm up.comes
 ‘I believe Hans that a storm breaks’
- d. *Ich glaube dem Hans, ein Sturm kommt auf
 I believe the Hans-DAT a storm comes up

V2-clauses have, roughly speaking, specific semantic properties which restrict the contexts they can occur in. As opposed to complementizer-initial verb-final clauses, V2 complement clauses are always assertional (or [–presuppositional]). Therefore they cannot be interpreted immediately in the scope of the negation in (9b) or the negative predicate *bedauern* (‘regret’) in (8b). This would contradict their assertional character.⁷ As for dative objects, Vogel (1998:24) argues that the dative object *dem Hans* triggers the presupposition ‘Hans told me before that a storm breaks.’⁸ Hence, the proposition denoted by the complement clause in (9d) is [+presuppositional] and V2 complement clauses are correctly excluded. We conclude that the grammaticality of V2 complement clauses cannot be reduced to c-selectional properties of lexical items. We refer the reader to Vogel (1998), Gärtner (1996) and (2001), Steinbach (1999c), and Frank (2000) for more details.

We will see that our analysis of the middle voice in German provides another argument for a linguistic theory that treats the interaction between semantic and categorial selection (or more general: between syntax and (lexical) semantics) in a more liberal way. Hopefully, our analysis sheds new light on the understanding of the middle voice and more generally on the understanding of the principles of argument selection and argument linking.

This monograph is organized as follows. The next chapter introduces the different interpretations of transitive reflexive sentences in more detail. We will focus on those constructions that yield a ‘non-standard’ interpretation: middle constructions, anticausatives, and inherent reflexives. We have already seen that in all three constructions the reflexive pronoun is not interpreted as a semantic argument of the verb. In Section 2.1 we will start off with the discussion of middle constructions in German. On closer inspection many apparent properties of German middle constructions turn out to be partly misconceived. Section 2.2 continues with anticausatives and inherent reflexives. The last part of

Chapter 2 widens the perspective and takes further Indo-European languages into consideration. As opposed to most Indo-European languages, German is a *one-form* language (Kemmer 1993). This means that German has only one kind of reflexive pronoun, whereas many other languages make a distinction between weak and strong reflexive pronouns. The ambiguity of transitive reflexive sentences in German is, however, quite regular: Like German, many Indo-European languages use (weak) reflexive pronouns to indicate different but semantically related interpretations. In these languages the (weak) reflexive pronoun can be called a morphosyntactic *middle marker*. It is the reflexive pronoun in the position of the accusative object that we call a middle marker in German.

Chapter 3 discusses various lexical and syntactic analyses of middle constructions in English, Dutch, Italian, and German. We will focus primarily on middle constructions because they are less restricted than anticausatives and inherent reflexives. Moreover, the middle construction is the most controversial kind of transitive reflexive sentence. While most linguists agree that anticausatives should be derived in the lexicon, it is less clear whether middle constructions are to be derived in the lexicon or in the syntax. We will see that neither of these analyses provides a satisfactory derivation of middle constructions. Especially so-called impersonal middle constructions turn out to be a serious problem. Moreover, neither lexical nor syntactic approaches offer a uniform analysis of transitive reflexive sentences. For this reason we will argue for a different and (as far as we can see) new kind of analysis, which allows a unified treatment of all four interpretations of transitive reflexive sentences. The ambiguity of transitive reflexive sentences is derived at the interface between syntax and semantics.

One consequence of this assumption is that all transitive reflexive sentences share the same syntactic structure. The syntax and certain semantic aspects of transitive reflexive sentences are the topic of Chapter 4. The semantic aspects are related to focus semantics. The first part of this chapter deals with word order in the so-called ‘middle field’ of German clauses, that is, clause-internal positions to the right of COMP and to the left of the verbal cluster. We will see that the word order in the middle field is regulated to a considerable degree by ‘soft’, i.e. violable, principles. Both the argument and the non-argument reflexive pronoun always behave the same way irrespective of their semantic interpretation. The second part deals with semantic differences between the reflexive pronoun that is interpreted as an argument of the verb (*argument reflexive*) and the one that is not linked to an argument variable of the verb (*non-argument reflexive*). These differences concerning coordina-

tion, focus, and fronting have been taken as evidence for the assumption that the non-argument reflexive differs in syntax from the argument reflexive. We will show, however, that these differences do not follow from an analysis which draws a distinction between two different kinds of reflexive pronouns in syntax (e.g. argument vs. adjunct). Instead, these differences follow directly from the different semantics of the argument and non-argument reflexive. Only the argument reflexive is linked to an argument variable, which is a necessary condition on coordination, focus, and fronting of the accusative reflexive pronoun. Hence, there is no need to propose two syntactically different kinds of reflexive pronouns and two different syntactic representations for transitive reflexive sentences.

Chapter 5 will turn to the problem of argument linking in transitive reflexive sentences. In 5.1 to 5.4 we will briefly introduce the binding theories of Reinhart and Reuland (1993 and 1995) and Pollard and Sag (1994). Our analysis of the ambiguity of the reflexive pronoun in the position of the accusative object is based on a slightly modified version of these theories. We will develop our analysis of (non-)argument reflexives in two steps. First, we will distinguish syntactic arguments, i.e. A-elements, from A²-elements. Syntactic arguments are those NPs that are assigned structural case. In German only nominative and accusative cases are structural. In the remainder of this chapter, we will confine ourselves to syntactic arguments, i.e. to elements that bear structural case. Oblique case will be discussed in Section 6.2. Second, we will define the binding conditions for syntactic arguments. Syntactic arguments are subject to the *General Condition on A-Chains*, according to which every A-chain must be headed by exactly one [+R]-expression. Reflexive pronouns, which are not lexically specified for [R], can either be [-R] or [+R] depending on the syntactic context they occur in. In the former case, they must form an A-chain with another A-expression specified as [+R]. In the latter case, they can (and must) head their own A-chain. In Section 5.5 we will show that the argument and non-argument readings of the accusative reflexive pronoun in transitive reflexive sentences can be derived from these two specifications of the lexically underspecified reflexive pronoun. The reflexive pronoun specified as [+R] heads its own A-chain, which is linked to the second argument position of the verb, whereas the reflexive pronoun specified as [-R] is part of a complex A-chain headed by the syntactic subject, a [+R]-expression. Again, the head of the (complex) A-chain is linked to the second argument position of the verb. Hence, a complex A-chain maps the syntactic subject onto the second argument. According to this analysis, middle and anticausative formation is primarily an operation of argument suppression rather than of argument

promotion. Complex A-chain formation blocks the linking of the first semantic argument. The promotion of the second argument of a two-place predicate is a consequence of the suppression of the first semantic argument in subject-oriented languages such as German. In impersonal middle constructions argument promotion is impossible because one-place predicates do not select a second argument which can be promoted. Hence, impersonal middle constructions involve only suppression of the first semantic argument (cf. also Fagan 1992:243).

In Chapter 6 we will discuss the difference between middle constructions and anticausatives and we give further evidence for the distinction between structural and oblique case. In Subsection 6.1.1 we will argue that the difference between middle constructions and anticausatives results from the semantics of the implicit first argument (the logical subject) of the predicate: it can either be bound by a (generic) quantifier (middle interpretation) or deleted (anticausative interpretation). We call the former operation argument saturation and the latter argument reduction. In Subsection 6.1.2 we will deal with one-place verbs. We will show that our analysis provides an indirect argument against a syntactic distinction between unergatives and unaccusatives. The distinction between structural and oblique (or inherent) case, which requires additional motivation, is the topic of Section 6.2. We will discuss the differences between accusative and dative objects in German, and we will give several empirical arguments for a distinction between structural and oblique case. Dative case is oblique in German. By contrast, nominative and accusative are structural cases. Following Vogel and Steinbach (1995 and 1998) dative objects are analyzed as adjuncts in syntax. This analysis accounts for the empirical differences between accusative and dative objects and explains why dative reflexive pronouns are excluded from A-chain formation. As a consequence, dative objects cannot be promoted to subject in middle constructions and anticausatives.

In Chapter 7 we will turn to middle constructions again. Our analysis predicts that middle constructions are simple transitive reflexive sentences. Hence, there are no such entities as middle constructions or middle verbs in the lexicon, nor is there a special middle-syntax in German. Therefore, additional (semantic) properties of middle constructions should follow from their specific semantic interpretation. In the first part of Chapter 7 we will discuss the generic interpretation of middle constructions. We will argue that an implicit argument can either be bound by an existential quantifier or by a generic quantifier/operator. We will see that in middle constructions the implicit argument is bound by a generic quantifier. Existential quantification yields the passive

interpretation. Hence, German shows a division of labor between middle constructions and passives with respect to the interpretation of the implicit first argument. The second part of Chapter 7 argues that the quasi-obligatory adverbial modification can be derived from the following pragmatic licensing condition: an utterance must be informative to be pragmatically licensed. This approach enables us to explain why middle constructions without adverbials are not always felicitous or, to put it the other way round, why middle constructions usually involve some adverbial modification. Finally, we turn to adjunct middle constructions in German which are only grammatical in very specific contexts. Although adjunct middle constructions are interpreted on the basis of complex A-chains, they are licensed by non-configurational conditions.

Chapter 8 summarizes our analysis of transitive reflexive sentences in German and concludes with a short discussion of middle and related constructions in those languages which we already discussed in Chapters 2 and 3. Finally we briefly illustrate how to apply our analysis to corresponding constructions in English.

In the following chapters we will concentrate mainly on German, but the discussion also includes data from English, Dutch, Italian, Modern Greek, and Russian to illustrate the fundamental pattern of the middle voice. Above all, we will deal with binding theory and linking theory. We will focus on the thematic interpretation of reflexive pronouns and other syntactic arguments in German. The (traditional) distinction between structural and oblique (or inherent) case and the morphosyntactic properties of reflexive pronouns will turn out to be another important issue. In this context we will also consider the distinction between weak and strong reflexive pronouns. In addition, we will address further syntactic and semantic properties of middle constructions, anticausatives, and inherent reflexives and we will briefly turn to unaccusatives. Last but not least, the following topics will also be relevant at several points of the discussion: fronting and word order in German, the syntax and semantics of coordination, focus theory, and genericity. The syntactic analysis of transitive reflexive sentences is based mainly on Government and Binding Theory (Chomsky 1981) and its recent developments (Chomsky 1993 and 1995). Our binding theory is a modified version of the binding theories of Reinhart and Reuland (1993) and Pollard and Sag (1994). With respect to the interpretation of syntactic representations we essentially follow the standard assumptions of Montague Semantics and the focus theory developed in Rooth (1985 and 1992). Relevant theoretical notions and important modifications will be introduced in the course of the discussion.

Notes

1. In this introductory chapter we use the terms ‘semantic selection’ (s-selection) and ‘categorical selection’ (c-selection) without any theoretical implications. It will become clear in the course of this study that we do not think that the c-selectional properties of a lexical item can entirely be determined in the lexicon. Apart from that, we use the more neutral term argument linking instead of theta-role assignment because (i) we will argue that theta-roles are irrelevant for the linking of arguments in middle constructions and (ii) we follow Dowty (1991) in his criticism of the traditional concepts of thematic roles. We will deal with proto-roles and proto-role properties in Chapter 6.

2. Because of this functional similarity, it is no accident that in many languages the middle construction and the passive are morphosyntactically identical (cf. Chapter 2).

3. So-called adjunct middle constructions seem to be the only exception. We deal with adjunct middles in Chapter 2 and Chapter 7.

4. Recall that arguments which are only s-selected but not c-selected, and vice versa, can also be found in other contexts. In passives like (2) the first semantic argument of a predicate can optionally be realized as a by-phrase (cf. i-a). Likewise, many verbs have optionally c-selected objects. The second argument of these verbs can but need not be linked to a syntactic constituent, as can be seen in (i-b). On the other hand, not every syntactic argument is linked to a semantic argument variable. In example (i-c), the impersonal subject *es* (‘it’) does not correspond to a semantic argument of the one-place verb *frieren* (‘be-cold’). *Frieren* does not assign a semantic role to the subject of the sentence. In this respect the impersonal subject *es* equals the reflexive pronoun in middle constructions. We discuss impersonal subjects in Chapters 2, 4, and 5. For the analysis of implicit arguments in German see Jacobs (1994) and Rapp (1999).

- (i) a. Das Buch wurde (von Hans) gelesen
 The book-NOM was (by Hans) read
 ‘The book was read (by Hans)’
 b. Hans schreibt (ein Buch)
 Hans-NOM writes (a book-ACC)
 ‘Hans is writing (a book)’
 c. ... weil es mich friert
 ... because it-NOM me-ACC cold-is
 ‘... because I am cold’

5. Abraham (1995b) calls the anticausative interpretation ‘reflexive’ and the reflexive interpretation ‘thematic reflexive’. We will use the term ‘anticausative interpretation’ because it is well established in the linguistic literature. The term ‘reflexive interpretation’ is limited to examples like (5a).

6. The terminology is not important. We use the terms ‘argument reflexive’ and ‘non-argument reflexive’ basically to distinguish these two different interpretations of the reflexive pronoun in German. The argument reflexive is also called ‘echt reflexiv’, ‘reflexive *sich*’ or ‘anaphorical *sich*’ and the non-argument reflexive ‘unecht reflexiv’, ‘medial *sich*’, ‘lexical *sich*’, ‘non-thematic reflexive’, and ‘Füguungs-*sich*’ (cf. Reis 1981, Haider 1982, Fagan

1985, and Abraham 1995a). Fagan (1992) calls the argument reflexive ‘referential’ and the non-argument reflexive ‘nonreferential’. Her terminology is, however, somewhat misleading because reflexive pronouns are never referentially independent.

7. Gärtner (1998b and 2001) points out that V2 adverbial clauses like (i-b) and V2 ‘relative’ clauses like (ii-b) – Brandt (1990) calls sentences like (ii-b) syntactically dependent V2 clauses – are subject to the same restriction. Let us turn to adverbial clauses first. As opposed to the corresponding V-final adverbial clause in (i-a), the V2 adverbial clause in (i-b) cannot be interpreted in the scope of negation. Therefore, only sentence (i-a) is ambiguous between the following two interpretations: (i) she went to Frankfurt but the reason for this was not her being ill, and (ii) she did not go to Frankfurt and the reason for this is that she is ill. Sentence (i-b) can only mean that she is ill and therefore she did not go to Frankfurt (second interpretation).

- (i) a. Sie fuhr nicht nach Frankfurt, [weil sie krank ist] (verb final)
 She went not to Frankfurt because she ill is
 ‘She didn’t go to Frankfurt because she is ill’
 b. Sie fuhr nicht nach Frankfurt, [weil sie ist krank] (verb second)
 She went not to Frankfurt because she is ill a

The phenomenon of V2 ‘relative’ clauses is more complex and requires a few additional remarks. Syntactically, the second sentence in (ii-b) might be analyzed as an independent clause with a demonstrative pronoun in subject position. But semantically, the second clause is interpreted as a restrictive relative clause. Hence, the second sentence constitutes a single information unit together with the first sentence and both sentences are assigned only one main accent – the intonational integration of the second clause is indicated by ‘(/)’. This is illustrated in (ii-b). The example is more acceptable if a bridge accent (hat contour) spans the first and the second clause. The second clause functions as a restrictive modifier like the corresponding verb-final restrictive relative clause in (ii-a). The matrix clause in (ii-b) would be semantically odd in isolation because a sheet of paper always has two sides. The same holds true for the examples in (iii). Note that in German, the classes of demonstrative and relative pronouns overlap. D-pronouns like *die* in (ii) and (iii) can be interpreted as either demonstrative or relative pronouns. For further discussion of V2 relative clauses see Gärtner (1998b and 2001). All examples except (v) are from this paper.

- (ii) a. Das Blatt hat eine Seite, [die ganz schwarz ist] (verb final)
 The sheet has one side that completely black is
 ‘The sheet has one side that is completely black’
 b. Das Blatt hat eine Seite, (/) [die ist ganz schwarz] (verb second)
 The sheet has one side that is completely black
- (iii) (verb second)
 a. Unter den Büchern sind welche, (/) [die gehören mir nicht]
 Among the books are some, that belong.to me not
 ‘Among the books are some, that do not belong to me’
 b. Ich kenne sogar Leute, (/) [die lesen Chomskys Bücher] (verb second)
 I know even people who read Chomsky’s books
 ‘I even know people who read Chomsky’s books’

Like V2 complement clauses and V2 adverbial clauses, V2 relative clauses are always assertional. Again the V2 ‘relative’ clause cannot be interpreted in the scope of negation (iv) and negative predicates (v) and it is only licensed in presentational contexts (vi). Note finally that certain kinds of parentheticals are also subject to these restrictions (cf. Reis 1995, 2000a, and 2000b, Steinbach 1999c, and Frank 2000 for further discussion).

(iv) Ich kenne keine Linguisten, ...

I know no linguists

a. die über Toba Batak gearbeitet haben (verb final)

who on Toba Batak worked have

b. *die haben über Toba Batak gearbeitet (verb second)

who have on Toba Batak worked

‘I do not know any linguists who worked on Toba Batak’

(v) Ich bedaure einen Linguisten, ...

I feel.sorry.for a linguist

a. der über Toba Batak arbeiten muss (verb final)

who on Toba Batak work must

b. *der muss über Toba Batak arbeiten (verb second)

who must on Toba Batak work

‘I feel sorry for a linguist who must work on Toba Batak’

(vi) Ich kenne die/alle Linguisten, ...

I know the/all linguists

a. die über Toba Batak gearbeitet haben (verb final)

who on Toba Batak worked have

b. *die haben über Toba Batak gearbeitet (verb second)

who have on Toba Batak worked

‘I know the/all linguists who have worked on Toba Batak’

8. Note that dative objects do not always trigger presuppositions as can be seen in (i). This depends on the semantic interpretation of the dative object. In example (9d) the dative object is the source of his belief. In contrast to this, the dative object in (i) is the goal of my speech (cf. Gärtner 1998b).

(i) Ich sage dem Hans, dass ein Sturm aufkommt

I say the Hans-DAT that a storm up.comes

‘I said to Hans that a storm breaks’

Middle constructions and middle voice

What does a middle look like?

Transitive reflexive sentences in German can be related to major topics like diathesis, *genus verbi* or grammatical voice, valency reduction, or argument structure alternations. Argument structure alternations systematically change the selectional properties of verbs. That is, they can change the categorial properties of arguments, they can add or delete syntactic and/or semantic arguments and they can add secondary predicates. They can also change the meaning and the morphosyntactic form of the underlying verb e.g. by adding an affix or a separable verbal particle to the verbal stem. Middle constructions do not significantly change the underlying basic meaning of the verb. In the middle construction in (1) the verb *schneiden* ('cut') still denotes a two-place relation between a cutting person (the implicit argument) and something (the bread) that is cut ('RP' stands for reflexive pronoun).¹

- (1) Das Brot schneidet sich leicht
 The bread-NOM cuts RP-ACC easily
 'The bread cuts easily'

However, the middle construction changes the selectional properties of the underlying verb. The syntactic subject in (1), the nominative NP *das Brot*, is not linked to the first (or external) but to the second (or internal) semantic argument of the verb *schneiden* – i.e. *das Brot* is the thing that is cut. The first (or external) argument of the verb, the cutter, is not linked to a syntactic argument. This semantic argument is only implicitly present in the semantic representation of the sentence. In German middle constructions, the suppression of the first semantic argument is indicated by the accusative reflexive pronoun. Hence, the accusative reflexive pronoun in (1) can be analyzed as a morphosyntactic middle marker, i.e. an indicator of valency reduction. Note, however, that it is not a verbal affix or clitic but an independent word. In this respect, the German middle marker differs from middle markers in most Indo-European

languages. We will discuss this issue in greater detail in Section 2.3 and Chapter 4 below.

German has a second construction beside the middle that also involves suppression of the first semantic argument, the passive. Passives and middle constructions have one thing in common: in both the middle construction in (1) and the passive in (2) the first or external semantic argument of the verb is not linked to the subject ('PAS' stands for the passive auxiliary).

- (2) Das Brot wird geschnitten
The bread-NOM PAS cut
'The bread is being cut'

Both the passive in (2) and the middle construction in (1) correspond to the active counterpart in (3), in which both semantic arguments of the two-place predicate are linked to syntactic arguments. The active voice is the unmarked case of argument linking.² In (3), the second semantic argument, which is linked to the nominative subject in the middle construction and the passive, is now linked to the accusative object and the suppressed implicit semantic argument of the middle construction and the passive is now linked to the nominative subject.³ The non-argument reflexive is not present in the active counterpart in (3).⁴

- (3) Der Bäcker schneidet das Brot
The baker-NOM cuts the bread-ACC
'The baker is cutting the bread'

By 'active' we mean the grammatical voice and not the morphological form of the verb ('verbal voice'). Both middle constructions and the corresponding sentences in active voice contain morphologically unmarked 'active' forms of the verb (cf. also Abraham 1995b). Moreover, middle constructions, like the corresponding active sentence in (3), are syntactically transitive as opposed to passives. Passives do not require an accusative reflexive pronoun. More general, passives (or passive verbs) do not assign accusative case.⁵ A further difference between middle constructions and passives is that passives can refer to particular events, whereas middle constructions involve generic quantification. German shows a division of labor with respect to the interpretation of the implicit first argument. Unlike many Indo-European languages, German has two morphosyntactically different constructions for the passive and the middle interpretation. Passives are responsible for existential quantification, and middle constructions for generic quantification. We discuss this issue in greater detail in Sections 2.1.4 and 2.4 and Chapter 7.

In addition to the middle interpretation in (1), transitive reflexive sentences have yet another interpretation. Both the subject and the reflexive pronoun can be linked to the first and second semantic argument respectively, as can be seen in example (4). In this case the reflexive pronoun does not indicate valency reduction. We call this ‘active’ interpretation of transitive reflexive sentences, which corresponds to the interpretation of (3), *reflexive interpretation*.⁶

- (4) Peter wäscht sich schnell
 Peter-NOM washes RP-ACC quickly
 ‘Peter is washing himself quickly’

A third interpretation for transitive reflexive sentences like (1) and (4) is illustrated in (5). The anticausative variant of verbs like *öffnen* (‘open’) is also reflexive. Hence, in German the accusative reflexive pronoun indicates valency reduction not only in middle constructions, but also in anticausatives like (5). But unlike middle constructions, anticausatives do not include an implicit semantic argument. Sentence (5) does not imply that someone or something is opening the door. Besides, anticausatives, unlike middle constructions, are not inherently generic statements. The sentence in (5) describes a particular situation in which a door opens.

- (5) Die Tür öffnet sich
 The door-NOM opens RP-ACC
 ‘The door opens’

In Chapter 1 we called the reflexive pronoun that triggers the reflexive interpretation in (4) *argument reflexive* and the one that triggers the middle interpretation in (1) and the anticausative interpretation in (5) *non-argument reflexive* (cf. also Footnote 6, Chapter 1). Many Indo-European and non-Indo-European languages use (weak) reflexive pronouns/markers for more or less identical purposes. In this chapter we present a descriptive survey of reflexive constructions in some Indo-European languages. We will concentrate mainly on reflexive constructions indicating valency reduction, such as the middle construction in (1) or the anticausative in (5). Moreover, we will show that in these reflexive constructions the reflexive pronoun/marker is always ambiguous between an argument and a non-argument interpretation. Thus in all languages under discussion (weak) reflexive pronouns/markers also receive the reflexive interpretation illustrated in (4). That is, some reflexive constructions are systematically ambiguous in many languages. We start off small and enlarge the picture of the middle step by step. In Section 2.1 we will briefly illustrate the syntactic and semantic properties of middle constructions in German. In

Section 2.2 we will discuss anticausatives and inherent reflexives. Section 2.3 turns to further Indo-European languages in order to show that the correlation between valency reduction and reflexivity that we observe in German is not accidental. We will argue that there is good cross-linguistic evidence to subsume the analysis of transitive reflexive sentences in German under the major phenomenon of middle voice.

In this chapter we do not intend to make any theoretical claims about whether we prefer a lexical, syntactic, or (postsyntactic) semantic analysis of middle and related constructions. Nevertheless, every description of facts partly depends on underlying theoretical concepts and their specific terminology.⁷ We must therefore be very discerning as to which terminology we choose to employ. In the following presentation it is necessary to distinguish between the syntactic and semantic properties of a sentence. Hence, we must also distinguish between syntactic and semantic terminology. (In-)transitivity, (nominative) subject, accusative object and dative object will be used here as descriptive syntactic terms.⁸ On the semantic side, we will use one-place predicate, two-place predicate, semantic argument (variable), and external and internal semantic argument as descriptive semantic terms. The valency (or argument structure) of a predicate will be simply represented as an ordered set of one, two, or three argument variables. One-place predicates can be further subdivided in unergatives and unaccusatives. The only semantic argument of unergatives is usually called the external argument, while the only semantic argument of unaccusatives is called the internal argument. The first semantic argument of two-place predicates is often called the 'logical subject' and the second one the 'logical object' of the verb. However, we do not use the terms 'logical subject' and 'logical object' because the terms 'subject' and 'object' belong to the syntactic realm. Likewise, we avoid the term argument in syntax. Instead of arguments, we usually talk about subjects and accusative, dative, or prepositional objects. Note, however, that we will give a definition of the term 'syntactic argument' in Chapter 5, which will be a modified version of Reinhart and Reuland's (1993) original definition of this term.

Finally, a comment on grammaticality judgements seems to be necessary. We have already seen that transitive sentences with a reflexive pronoun in the position of the accusative (or direct) object are multiply ambiguous between a middle, anticausative, inherent reflexive or reflexive interpretation. Note that sometimes the middle reading is hard to figure out. This might be due to the following two observations which seem to be relevant for the interpretation of semantically ambiguous sentences.

- i. Semantic representations which do not require valency change seem to be the unmarked case. Hence, the preferred interpretation for a transitive reflexive sentence seems to be as follows: the verb is interpreted as a two-place predicate and both the syntactic subject and the syntactic object are linked to one of the verb's semantic arguments. Especially with subjects that refer to animate entities, the reflexive interpretation is preferred because they are very likely to be interpreted as proto-agents.
- ii. Semantic representations without implicit arguments seem to be the unmarked case. According to this observation, the anticausative interpretation of transitive reflexive sentences is preferred over the middle interpretation.

Besides, reflexives and anticausatives, like passives, usually refer to specific events, whereas the middle interpretation involves generic quantification. This might additionally hinder the discourse linking of middle constructions. Hence, the middle interpretation is often the least preferred option for a transitive reflexive sentence. Sometimes it takes some time to grasp the middle reading. Furthermore, middle constructions usually require an additional adverbial (cf. Section 2.1.4 and Chapter 7). Therefore, especially middle constructions without any adverbial modification need an appropriate context to be licensed. Last but not least, middle constructions in German are semantically closely related to three further constructions. *Lassen*-middles like (6a) and tough-movement construction like (6b) are semantically nearly identical to common middle constructions (cf. e.g. Fagan 1992:210f. and Kunze 1996 for *lassen*-middles). The 'active' sentence with the indefinite ('generic') subject pronouns *man* ('one') or *du* ('you') and the modal *können* ('can') in (6c) is also a close paraphrase of the middle construction in (1). Note that (6c), unlike (1), does not involve valency reduction.

- (6) a. Das Brot lässt sich gut schneiden (lassen-middle)
 The bread lets_{RP} well cut
 'The bread cuts easily'
- b. Das Brot ist gut zu schneiden (tough-movement)
 The bread is good to cut
 'The bread can be cut well'
- c. Man/du kann(st) das Brot gut schneiden
 One/you can the bread easily cut
 'One/you can cut the bread easily' (indefinite pronoun)

2.1. The middle construction in German

Before we turn to the plot of the middle-story we must introduce the protagonists. Although a lot has been written about middle constructions in German and related languages (cf. above all the detailed overviews in Wagner 1977, Fagan 1992, and Abraham 1995b) the following survey is necessary for four reasons. Firstly, under further inspection, many of the restrictions suggested for middle constructions in German turn out to be more complex. Secondly, constructions like adjunct middles have not yet been identified in German. Thirdly, most analyses do not put middle constructions into the context of transitive reflexive sentences. And fourthly, the argumentation in the following chapters will make use of the examples introduced in this section.⁹ In 2.1.1 we will focus on verbs in middle constructions. In 2.1.2 we turn to the syntactic subject of middle constructions. Section 2.1.3 deals with the reflexive pronoun, and in 2.1.4 we discuss adverbs and further (semantic) issues.

2.1.1 Verbs in the middle construction

In (7) we see further examples of typical ‘personal’ or ‘transitive’ middle constructions that correspond to transitive sentences in the active voice. All examples contain verbs that select two semantic arguments. In the following we mention the (in-)transitivity of the corresponding active sentences in parenthesis in each case. A few examples have glosses only. They always receive the typical middle or anticausative interpretation (cf. also Footnote 1). Example (7a) is taken from Bernhard Schlink, *Der Vorleser*, and (7c) is from Harry Rowohlt, *Pooh’s Corner*.¹⁰

- (7) Two-place predicates (transitive)
- a. Aber richtig war, dass der Bericht sich anders las
But correct was, that the report RP differently read
(Präteritum)
‘However, it was correct that the report read differently’
 - b. Das Buch wird sich wie ein Kriminalroman lesen
The book will RP like a crime.story read
(Future Tense)
‘You will be able to read the book like a crime story’
 - c. ... ‘frierend’ schreibt sich irgendwie besser hin
... being.cold writes RP somehow better PARTICLE
(Present Tense)
‘The words ‘being cold’ are somehow better to write down’

- d. Die Sonate hat sich leicht gespielt (Perfekt)
 The sonata has RP easily played
 'The sonata was easy to play'

Middle constructions are grammatical in present, past (*Präteritum*) and future tense and with perfect aspect (*Perfekt* and *Plusquamperfekt*). We have already mentioned that the middle construction does not change the morphological form of the verb. Middle constructions, like their corresponding active counterparts, contain morphologically unmarked 'active' verbs. Furthermore, middle constructions in German are syntactically transitive. They always contain a nominative subject and an accusative object, the reflexive pronoun. This issue will be discussed in detail in Chapter 4.

In addition to personal middle constructions, German has also so-called impersonal or 'intransitive' middle constructions (cf. Fagan 1992:44), which correspond to intransitive active sentences. Impersonal middle constructions have a pleonastic nonreferential element (the third person neuter pronoun *es*) in the position of the grammatical subject.¹¹ The sole argument of the one-place verb is suppressed and there is no argument left that can be linked to the subject position.¹² In (8) are a few examples with typical intransitive unergative verbs like *wohnen* ('live/reside'), *schlafen* ('sleep') or *jodeln* ('yodel'). The first example is taken from Franz Hessel, *Ein Flaneur in Berlin* (new edition of *Spazieren in Berlin*, Berlin 1927), the second example is from Waltraut Lewin, *Louise, Hinterhof Nord*, the third one is from Fagan (1992:243), the fourth one is from the *Frankfurter Allgemeine Zeitung*, 11.9.2000, and the last example is from *Tatort – Kressin und die Frau des Malers*, BRD 1972.

(8) One-place predicates (intransitive-unergative)

- a. Hier wohnt sich's altertümlicher und heimlicher als in den
 Here lives RP.it more.ancient and hidden than in the
 belebten Straßen am südlichen Tiergartenrand
 busy streets at.the southern edge.of.the.Tiergarten
 'Here people live in a more ancient and hidden way than in the busy
 streets at the southern edge of the 'Tiergarten'
- b. Nun schläft es sich doch ein bisschen besser
 Now sleeps it RP PARTICLE a little better
 'One can sleep a little bit better now'
- c. Mit der Heimat im Herzen jodelt es sich überall gut
 With the home in.the heart yodels it RP everywhere well
 'With home in your heart, you can yodel well everywhere'

- d. Mit blauen Augen flirtet es sich leichter
With blue eyes flirts it RP more.easily
'With blue eyes, flirting is easy'
- e. In der Sonne draußen wartet sich's bequemer
In the sun outside waits RP.it more.comfortably
'In the sunshine, waiting is more comfortable'

Besides unergative one-place predicates, unaccusative/ergative predicates are also grammatical in middle constructions. German has two classes of one-place verbs that differ in many respects: unergatives and unaccusatives/ergatives. Unaccusatives select an argument with typical proto-patient properties as opposed to unergatives, which select an argument with typical proto-agent properties (cf. Dowty 1991). We refer the reader to Perlmutter (1978), Burzio (1986), Levin and Rappaport Hovav (1995), Grewendorf (1989b), Fagan (1992), and Abraham (2000) for a detailed discussion of ergativity and the distinction between unergative and unaccusative predicates.

Among other differences, unaccusative/ergative verbs select the auxiliary *sein* ('be'),¹³ and their subject or first semantic argument can be attributively modified by the past participle and the present participle. Unergatives, on the other hand, select *haben* ('have'), and their subject cannot be modified by the past participle but only by the present participle.¹⁴ According to these two tests, the verbs in (9a), (9b), and (9c) are clear examples for ergative or unaccusative verbs: they select *sein* and their past participle can modify the subject. One-place verbs of movement like *reisen* ('travel') in (9d) or *fahren* ('drive') in (9e) have less proto-patient properties for their sole argument than *sterben*, *einschlafen*, or *fallen*. Nevertheless, they also select *sein* and modification of the subject by the past participle is also possible if we add an adverb or a directional PP, e.g. *ein weit gereister Künstler* ('an artist who travelled far') or *der nach Hamburg gefahrene Zug* ('the train that goes to Hamburg'). Such examples show that unaccusativity is closely related to the aspectual properties of the events denoted by one-place predicates (cf. Abraham 2000 for a detailed discussion of the correlation between unaccusativity and aspectuality).¹⁵ Example (9a) is from the *Berliner Zeitung*, 22./23.11.97, example (9c) from Grimm (1905: 712), example (9d) from Fagan (1992: 243), and (9e) from the *Tagesspiegel*, 31.7.01.

- (9) One-place predicates (intransitive–unaccusative)
- a. Gesundheitsstudie: In welchem Bezirk stirbt es sich am
Study.on.health: In which district dies it RP at.the
frühesten
earliest
'Study on health: In which district do people die most early'
 - b. Bei hellem Licht schläft sich's nicht so gut ein
With bright light fall.asleep RP.it not that well PARTICLE
'It is hard to fall asleep with bright light'
 - c. So steht sich's wie ein Ritter, so fällt sich's wie ein Held
So stands RP.it like a knight so falls RP.it like a hero
'So you can stand like a knight, so you can fall like a hero'
 - d. Dann ... reist es sich besser
Then ... travel it RP better
'Then travelling is better'
 - e. Woanders fährt sich's billiger
Somewhere.else travels RP.it cheaper
'You can travel more cheaply somewhere else'

The analysis of unaccusativity is an interesting issue of its own, which lies beyond the scope of this study. However, we will argue in Chapter 6 that our analysis of middle constructions provides an argument against a syntactic analysis of unaccusativity. Unergative and unaccusative verbs differ in their semantic properties, but they share the same syntactic representation.

From a lexical point of view, middle formation can be described as a function that takes as input a predicate with at least one argument and 'demotes' the first semantic argument of the verb. This argument need not be external.¹⁶ Consequently, verbs like *regnen* ('rain') or *tauen* ('thaw') in (10a), which do not select a semantic argument, are ungrammatical in middle constructions. This is illustrated in (10b).¹⁷

- (10) a. Im Frühjahr taut es in Berlin sehr schnell
In spring thaws it in Berlin very quickly
'In spring it thaws very quickly in Berlin'
- b. *Im Frühjahr taut es sich in Berlin sehr schnell
In spring thaws it RP in Berlin very quickly
(impersonal m...c.)

The middle construction itself is unergative. Personal and impersonal middle constructions select *haben* ('have') as their auxiliary, as can be seen in (11a). Moreover, example (11b) illustrates that the past participle *gelesene* ('read')

cannot attributively modify the subject. Instead, we have to use the present participle *lesende* ('reading'). See Ackema and Schoorlemmer (1994:61f.) for the same observation in Dutch.

- (11) a. Unter den Linden hat es sich schon immer gut flaniert
 'Unter den Linden' has it_{RP} always well strolled
 'You could always stroll well 'Unter den Linden''
 b. Das sich gut lesende Buch vs. *Das sich gut gelesene Buch
 The_{RP} well reading book The_{RP} well read book

(12) and (13) are further examples for personal middle constructions. (12a)–(12c) are middle constructions derived from three-place predicates. It is again the accusative object of the active counterpart that corresponds to the subject of the middle construction (DAT stands for dative case).

- (12) Three-place predicates (ditransitive)
 a. Die Fahrräder laden sich jetzt leichter auf unseren Wagen
 The bikes load_{RP} now more.easily on our car
 'The bikes load more easily on our car now'
 b. ... weil sich süßer Hustensaft kleinen Kindern besser
 ...because_{RP} sweet cough.syrup small children-DAT better
 einflößt
 pour.down.their.throat
 '... because you can give small children sweet cough syrup better'
 c. Dieses Buch verkauft sich (den Nonnen/an Nonnen)
 This book sells_{RP} (the nuns-DAT/to nuns)
 hervorragend
 excellently
 'This book sells excellently (to nuns)'

In addition to three-place predicates, we also find resultatives in middle constructions in German. Adverbial (13a) and prepositional (13b and c) secondary predicates are both grammatical.

- (13) Resultatives
 a. Warmes Metall hämmert sich einfacher flach
 Warm metal hammers_{RP} more.easily flat
 'Warm metal can more easily be hammered flat'
 b. Diese Füllspachtel quetscht sich sehr gut in die Fugen
 This filling.compound squeezes_{RP} very well into the gaps
 'This filling compound can be squeezed into the gaps very well'

- c. Kleine Menschen trinken sich schnell unter den Tisch
 Small people drink RP fast under the table
 ‘Small people can quickly be drunk under the table’

We conclude that all kinds of predicates that select at least one semantic argument (i.e. one-place unergatives and unaccusatives, two-place and three-place predicates, and resultatives) are generally perfectly grammatical in middle constructions and that middle constructions are not restricted to present tense. Apart from that, there is a second restriction on middle formation: individual-level predicates like *wissen* (‘know’) in (14a), *können* (‘be able’, ‘know’) in (14b), *heißen* (‘be called’) in (14c), or *abstammen* (‘be descended’) in (14d) cannot undergo middle formation at all. We will argue in Chapter 7 that middle constructions are characterizing or habitual sentences which involve generic quantification over the first semantic argument and the event (or situation) variable. Hence, individual-level predicates, which do not select an event or situation variable, are excluded from middle formation.

- (14) a. *Diese Antwort weiß sich leicht
 This answer knows RP easily
 b. *Spanisch kann sich einfach
 Spanish knows RP easily
 c. *So wie mein Vater heißt es sich nicht so leicht
 Like my father names it RP not that easily
 d. *Vom Gorilla stammt es sich nicht so leicht
 From.the Gorilla be.descended it RP not that easily
 ab
 PARTICLE

Individual-level predicates can be subsumed under Vendler’s (1967) class of states (see Dowty 1979 and Fagan 1992:89f.). Note, however, that only individual-level predicates are excluded from middle formation. (15) would be an example of a middle construction with a stative stage-level predicate provided that we classify a verb like *sitzen* (‘sit’) as a state (instead of an activity).

- (15) Auf diesem Stuhl sitzt es sich weitaus bequemer
 On this chair sits it RP far.more comfortably
 ‘On this chair you sit much more comfortably’

In sum, middle formation is only possible with stage-level predicates. We find all kinds of stage-level predicates in middle constructions.¹⁸ A clear example of an achievement is *etwas ausschalten* (‘switch something off’) in (16a). (16b) is

an example for a middle construction with an activity verb and (16c) with an accomplishment.

- (16) a. Der Fernseher schaltet sich schnell aus
 The TV switches RP quickly off
 ‘The TV can be switched off quickly’
- b. In dieser Ecke des Sees schwimmt es sich am besten
 In this corner of.the lake swims it RP best
 ‘This part of the lake is the best place to swim’
- c. Große Wände bemalen sich nicht so leicht
 Big walls paint RP not that easily
 ‘Big walls are not easy to paint’

Let us conclude that so far there are only two fundamental restrictions on the predicates that are grammatical in middle constructions: they must provide at least one semantic argument and they must not belong to the class of individual-level predicates.

2.1.2 The subject of middle constructions

The syntactic subject of the middle construction usually corresponds to the accusative object of the active counterpart. Impersonal middle constructions are derived from one-place verbs and correspond to intransitive active sentences without an accusative object. They have an pleonastic or impersonal subject (the third person neuter pronoun *es*), which is not linked to a semantic argument of the verb. Impersonal middle constructions differ in this respect from impersonal passives, which have no subject at all. In impersonal passives the third person neuter pronoun *es* is only grammatical in the sentence-initial position of matrix-clauses. The pronoun in (17a) is called *Vorfeld-es* (cf. Grewendorf 1988).¹⁹ As opposed to the pronoun in impersonal passives, the pronoun in impersonal middle constructions is a genuine (impersonal or pleonastic) subject that can also occur in the middle field.

- (17) a. Es wird hier getanzt (impersonal passive)
 It PAS here danced
 ‘People are dancing here’
- b. Hier wird (*es) getanzt
 Here PAS it danced
- c. ... weil (*es) hier getanzt wird
 ...because it here danced PAS

- (18) a. Es tanzt sich gut hier (impersonal middle construction)
 It dances RP well here
 ‘Here you can dance well’
 b. Hier tanzt *(es) sich gut
 Here dances it RP well
 c. ... weil *(es) sich hier gut tanzt
 ... because it RP here well dances

This contrast between impersonal passives and impersonal middle constructions is yet another argument for an analysis that treats middle constructions as simple transitive sentences that are morphosyntactically ‘active’. We will come back to this issue in Chapters 3 and 4.

We have seen so far that the syntactic subject in personal middle constructions corresponds to the accusative object of the active counterpart. Hoekstra and Roberts (1993) and Ackema and Schoorlemmer (1994) discuss another interesting kind of middle construction in Dutch which they call adjunct middles. Adjunct middles are the only exception to the correspondence between the middle-subject and the accusative object of the active counterpart. The subject of the adjunct middles in (19a), (20a), and (21a) corresponds to the PP-adjunct in the impersonal middle constructions in (19b), (20b), and (21b) or in their active counterparts in (19c), (20c), and (21c). Adjunct middles are quite productive in Dutch. In German they are much more restricted.²⁰ Abraham (1995b:19) even claims that German cannot promote “the N within the PP to derived subject status.” Although adjunct middles may sometimes be judged less grammatical, we found many native-speakers of German who accept adjunct middles in general. We will show in Chapter 7 that adjunct middle constructions are also interpreted on the basis of complex A-chains, but they are licensed by additional non-configurational conditions. Therefore, adjunct middles in German are only licensed in highly restricted contexts. Without these contexts they are hardly acceptable.

- (19) a. [?]Diese Schuhe laufen sich nicht sehr bequem
 These shoes walk RP not very comfortably
 b. In diesen Schuhen läuft es sich nicht sehr bequem
 In these shoes walks it RP not very comfortably
 c. In diesen Schuhen läuft man nicht sehr bequem
 In these shoes walks one not very comfortably
 ‘In these shoes you cannot walk very comfortably’
 (20) a. [?]Mein neuer Füller schreibt sich gut
 My new pen writes RP well

- b. Mit meinem neuen Füller schreibt es sich gut
With my new pen writes it RP well
- c. Mit meinem neuen Füller schreibt man gut
With my new pen writes one well
'With my new pen you can write well'
- (21) a. [?]Diese Wolle strickt sich sehr angenehm
This wool knits RP very comfortably
- b. Mit dieser Wolle strickt es sich sehr angenehm
With this wool knits it RP very comfortably
- c. Mit dieser Wolle strickt man sehr angenehm
With this wool knits one very comfortably
'With this wool you can knit very comfortably'

Because adjunct middle formation is subject to additional constraints that restrict the kind of adjuncts that can undergo middle formation, not every adjunct can undergo middle formation. (22a) and (22b) are two examples for adjunct middles that are not acceptable in German.

- (22) a. *Diese Lampe liest sich besser
This lamp reads RP better
- a'. Mit/unter dieser Lampe liest es sich besser
With/under this lamp reads it RP better
'With this lamp you can read better'
- b. *Verstand schreibt sich leichter
Intellect writes RP more.easily
- b'. Mit Verstand schreibt es sich leichter
With intellect writes it RP more.easily
'Using one's intellect makes writing easier'

Hence, for some adjuncts German has two alternative middle constructions: the adjunct middle and the impersonal middle construction. The subject NP of the adjunct middle is still contained in the adjunct-PP in the corresponding impersonal middle construction. In the latter case the subject position is again occupied by the impersonal subject *es*. Note, however, that the meaning of the adjunct middles in (19a), (20a), and (21a) is not entirely identical to the meaning of the corresponding impersonal middle constructions in (19b), (20b), and, (21b). We will discuss adjunct middles in greater detail in Chapter 7.

Another important restriction on the subject of German middle constructions is that it cannot correspond to dative objects in the active counterpart (cf.

also Fagan 1992 and Abraham 1993 and 1995). Hence, dative objects cannot be ‘promoted’ to subject in middle constructions. Middle formation with arguments that are linked to a dative object in the active voice is ungrammatical in general. Sentence (23b) is either ungrammatical if the reflexive pronoun is assigned accusative case or it does not yield a middle interpretation if the reflexive pronoun bears dative case because dative reflexive pronouns cannot indicate valency reduction in German. (23b) can only receive a reflexive interpretation. A verb selecting a dative object can, however, appear in impersonal middle constructions, as (23c) illustrates. In impersonal middle constructions, the dative object preserves its case and the accusative reflexive pronoun once again indicates valency reduction. Therefore verbs selecting a dative object are not excluded from middle formation in principle. Example (23d) is from Grimm (1905:712).²¹

(23) Active non-reflexive sentence

- a. Wir helfen einem Obdachlosen
 We-NOM help a homeless.person-DAT
 ‘We are helping a homeless person’

Active reflexive sentence; only reflexive interpretation possible

- b. Ein Obdachloser hilft sich leicht
 A homeless.person-NOM helps RP-^{*}ACC/DAT easily
 ‘A homeless person helps himself easily’ (RP=DAT: reflexive interpr.)
 ‘You can help a homeless person easily’ (RP=ACC: ^{}middle interpr.)

Impersonal middle construction; only middle interpretation possible

- c. Einem Obdachlosen hilft es sich leicht
 A homeless.person-DAT helps it-NOM RP-ACC easily
 ‘You can help a homeless person easily’
- d. Es hört sich ihm gut zu
 It-NOM listen RP-ACC him-DAT well PARTICLE
 ‘He is a good storyteller’

We conclude that dative reflexive pronouns cannot indicate valency reduction. Consequently dative objects cannot be promoted to subject in middle constructions. In German the relevant restriction on middle formation does not rely on thematic roles but on case (for a thematic analysis see Maling 1998 and 2001). Unfortunately, it is the dative that is to blame in this case. We will argue in Chapter 6 that oblique (or lexical) dative differs in various respects from structural accusative.

Van Oosten (1977), Hale and Keyser (1987), Fagan (1992: 76f.), and Greenspon (1996) observe a further restriction on the subject of middle constructions, which can be outlined as follows. Some property of the subject must be ‘responsible’ for the event described by the verb. This property of the subject is called (primary) responsibility. Fagan’s observation that there exists a contrast between *buy* and *sell* as well as between the corresponding German verbs *kaufen* and *verkaufen* illustrates this condition nicely. While *sell* and *verkaufen* form acceptable middle constructions, *buy* and *kaufen* sound odd.

- (24) a. *These books buy well
 a'. *Diese Bücher kaufen sich gut
 b. These books sell well
 b'. Diese Bücher verkaufen sich gut

The properties of the object for sale may influence the act of selling. A best-seller can be sold more easily than a shelf-warmer. A parallel situation is hard to imagine for *buy*. However, a person’s selling abilities or the availability of an entity can have a positive or negative effect on the act of buying. In this context sentence (24a’) gets much better.²²

- (25) a. Bei fachlich geschultem Personal kauft sich die richtige
 With qualified personnel buys RP the right
 Software letztlich doch schneller als im Discounter
 software in.the.end PARTICLE faster than in.a discount.store
 ‘In the end the right software buys faster with qualified
 personnel than in the discount store’
 b. Standardgrößen kaufen sich leichter als Sondergrößen
 Standard.size buys RP more.easily than extra.size
 ‘Standard size is easier to buy than extra size’

The significance of some property of the promoted second semantic argument (i.e. the subject of the middle construction) for the event described by the verb affects the acceptability of middle constructions (cf. Lakoff 1977 and Greenspon 1996). Again, (primary) responsibility seems to be a typical property of the ‘subjects’ of active sentences. As opposed to subjects in middle constructions, subjects in passives are not subject to this restriction. Impersonal middle constructions usually contain another constituent (e.g. a prepositional phrase as in (26a)) that is ‘responsible’ for the event. This can be seen in example (26a). The quality of a bed can be very important for the way we sleep. In (26b) it is the adverbial phrase *grundlos* (‘without reason’) that is responsible for the event. Note that this additional constituent is not necessary for the grammati-

cality of impersonal middle constructions, as is illustrated in (26c). In Sections 7.1 and 7.2 we will return to this issue and argue that the ‘responsibility’ can be derived from more general semantic properties of middle constructions. Example (26b) is from the *Berliner Zeitung*, 5.5.2001 and example (26c) is from the Austrian movie *Ohne Krimi geht die Mimi nie ins Bett*.

- (26) a. In diesem Bett schläft es sich hervorragend
 In this bed sleeps it RP excellently
 ‘In this bed you can sleep wonderful’
 b. Grundlos lacht es sich am besten
 Without.reason laughs it RP best
 ‘Without reason you can laugh best’
 c. Wie liegen Sie? Es liegt sich wunderbar
 How lie you? It lies RP wonderful
 ‘... One lies wonderful’

It has often been claimed that only verbs with ‘affected’ internal arguments may undergo middle formation (cf. Roberts 1987, Hale and Keyser 1987, Hoekstra and Roberts 1993, or Rapoport 1993). Fagan (1992:64f.) argues that this restriction is much too strong. Verbs without ‘affected’ internal arguments are also grammatical in middle constructions. This is illustrated by the following sentences (cf. also Sections 3.1.1, 3.2.1, and 6.2). The first two examples are taken from Fagan (1992:65). The corresponding German examples are also grammatical. Example (27e) is from the *Schwäbische Tagblatt*, 27.11.1999.

- (27) a. This book reads easily/Dieses Buch liest sich leicht
 b. She photographs well/Sie fotografiert sich gut
 c. Diese Geschichte vergisst sich nicht so leicht
 This story forgets RP not that easily
 ‘This story is hard to forget’
 d. Von hier aus sieht sich das gegnerische Tor viel besser
 From here sees RP the opponent’s goal much better
 ‘You can see the opponent’s goal much better from here’
 e. Im Schaufenster sieht sich Weihnachten noch schöner
 In.the.display.window look.at RP Christmas even nicer
 an als in der Wirklichkeit
 PARTICLE than in the reality
 ‘Christmas is even nicer in the display window than in reality’

2.1.3 The reflexive pronoun

Unlike middle constructions in English and Dutch, which do not allow a reflexive pronoun in object position, personal and impersonal middle constructions in German are ungrammatical without the accusative reflexive pronoun. The reflexive pronoun is always bound in syntax by the subject of the sentence (cf. also Abraham 1995b:14f.). In impersonal middle constructions it is the expletive subject *es* that binds the reflexive pronoun. Example (28b) is from Abraham (1995) and example (28c) from Reis (1981).

- (28) a. Ich₁ schreibe mich₁ mit 'st'
 I-1SG write RP-1SG with 'st'
 'My name is spelled with 'st'
- b. Ich₁ unterhalte mich₁ ganz einfach
 I-1SG entertain RP-1SG very easily
 'I am easy to entertain'
- c. Du₁ verkaufst dich₁ gut - ich meine, dein Buch₂
 You-2SG sell RP-2SG well - I mean, your book-3SG
 verkauft sich₂ gut
 sells RP-3SG well
 'You sell well – I mean your book sells well'
- d. Auf dieser Party tanzt es₁ sich₁ prima
 At this party dances it-3SG RP-3SG fantastically
 'At this party you can dance fantastically'

(29) illustrates that in the first and second person, reflexive pronouns cannot be distinguished from personal pronouns. Furthermore, accusative and dative forms can only be distinguished from each other in first and second person singular. Hence, we can tell accusative from dative pronouns in the first and second singular slots and reflexive pronouns from personal pronouns in the third person singular and plural slots.²³

- (29) Accusative and dative personal and reflexive pronouns in German

	1st person	2nd person	3rd person	1st person	2nd person	3rd person
	accusative			dative		
singular						
reflexive pronoun	mich	dich	sich	mir	dir	sich
personal pronoun	mich	dich	sie/ihn/es	mir	dir	ihr/ihm
plural						
reflexive pronoun	uns	euch	sich	uns	euch	sich
personal pronoun	uns	euch	sie	uns	euch	ihnen

One might either assume that personal pronouns and reflexive pronouns in German are homonymous in the first and second person or that German does not distinguish reflexive pronouns from personal pronouns in the first and second person. The formal identity of first and second person, which can be found in many Indo-European languages, might be due to the fact that the antecedent is always clearly identifiable in the discourse (cf. Eisenberg 1994: 189f.). Hence, it makes no difference whether the pronoun is locally bound (principle A) or locally free (principle B). Burzio (1989a, b) argues that a personal pronoun can be locally bound if the paradigm has no corresponding reflexive pronoun (or anaphor in his terminology) or, to put it the other way round, that it is always the least specified element in a pronominal paradigm that can be locally bound. According to Burzio's morphological economy, an NP that is locally bound must be maximally underspecified. Reflexive pronouns generally have fewer specified Φ -features than personal pronouns. Therefore, reflexive pronouns are preferred to personal pronouns in local contexts. Locally bound personal pronouns are grammatical only if a language does not distinguish reflexive pronouns from personal pronouns. According to Burzio's reformulation of Chomsky's binding theory, principle B turns out to be an elsewhere principle (cf. also the discussion of Burzio's theory in Gärtner 1991). In Section 2.4 we present data from Middle High German which provide further evidence for Burzio's theory. His theory of morphological economy will be crucial for the definition of the term middle marker which will be developed in Chapter 5.

2.1.4 Adverbs, genericity, and the implicit argument

It has often been claimed that middle constructions in German and English require some additional adverbial (cf. e.g. Fagan 1992, Haider 1982, Hoekstra and Roberts 1983, or Bierwisch 1997). Iwata (1999) calls the behavior of adverbials in middle constructions the 'adverbial effect'. However, this seems to be an overgeneralization because we also find middle constructions without any adverbial modification, as can be seen in (30) (cf. also Ackema and Schoorlemmer 1994 and Iwata 1999). Example (30d) is from Fagan (1992: 43), example (30e) from Theodor Fontane, *Irrungen, Wirrungen*, example (30f) from *Der Spiegel* 28/1999, example (30g) from an interview with a fisherman, ARD, 25.3.2001, and example (30h) from Jakob Arjouni, *Happy birthday, Türkei*.²⁴

- (30) a. Welche Tür öffnet sich?
 Which door opens RP
 'Which door can be opened?'

- b. Nimm diese Tür da. Die öffnet sich!
Take that door over.there. It opens RP
'Take that one. It can be opened'
- c. Nur keine Angst. Dein Ohrring wird sich finden
'Don't worry'. Your earring will RP find
'Don't worry. We will find your earring'
- d. Dieses Kleid hat keinen Reißverschluss. Es knöpft sich zu
This dress has no zipper. It buttons RP PARTICLE
'This dress has no zipper. It buttons'
- e. Jetzt ist es schwer, aber es vergisst sich alles
Now is it hard, but it forgets RP everything
'It is hard now, but you will forget everything'
- f. 'When asking what Americans consider to be crucial criteria for
accepting a manuskript you always get the same simple answer:'
Dass es uns gefällt und dass es sich verkauft
That it us pleases and that it RP sells
'That we like it and that it sells'
- g. Hier lebt es sich, sagt der Zander
Here lives it RP, says the pikeperch
'The pikeperch says this is a nice place to be'
- h. So, es hat sich ausgeplaudert
Well, it has RP PARTICLE.chatted
'Well, chatting is over'

We will argue in Chapter 7 that the observation that middle constructions usually require some kind of adverbial follows from the generic interpretation of middle constructions in German and certain conditions on assertions to be pragmatically licensed. Take, for example, the middle construction in (30f), which is not informative in most situations because we know that a book normally can be sold. Therefore, we are usually interested in whether or not a book sells well. Nevertheless, in a very specific context, i.e. in a situation in which we are actually interested in whether or not a book is a shelf-warmer, the middle construction in (30g) makes sense. Hence, middle constructions without an additional adverb cannot be excluded in principle. In Sections 3.2.2 and 7.2 we will argue that the adverbial modification is not crucial for the grammaticality of middle constructions because it "is not so much a matter of syntactic sub-categorization requirements as one of informativeness" (Iwata 1999:528) and we will explain why middle constructions usually license some adverbial expression. See also Ackema and Schoorlemmer (1994) and Iwata (1999) for the same observation with respect to English (and Dutch) middle constructions.

Other examples without adverbial modification are middle constructions with negation and modal auxiliaries in the subjunctive. Example (31a) is attested by Marie Christine Erb (p.c.) and (31b) is from Fellbaum (1986).

- (31) a. ... und Tabellen, die sich nicht drucken
 ... and tables, that RP not print
 '... and tables, that do not print'
 b. This meat doesn't cut
 c. Diese Tür könnte sich öffnen
 This door might RP open
 'This door might open'

As opposed to middle constructions in German, middle constructions in French and Italian are perfectly grammatical without any adverbial (cf. Fagan 1992 and Abraham 1995). This correlates with the observation that French and Italian middle constructions can receive an eventive (passive-like) reading, while German middle constructions receive a generic reading (cf. below and Footnotes 27 and 45). We will discuss this correlation in detail in Chapter 7.

Typical adverbials in middle constructions are manner adverbials such as *gut* ('well') or *leicht* ('easily').²⁵ Subject-oriented adverbs like *absichtlich* ('on purpose') in (32a) are ungrammatical. In this respect middle constructions differ from passives such as (32b). Comparative adverbs and complex adverbial phrases like *wie warme Butter* ('like warm Butter') are also possible in middle constructions, as is illustrated in (33) below. Reference to the suppressed first argument in (33e) is again ungrammatical.

- (32) a. *Das Brot schneidet sich absichtlich
 The bread cuts RP on.purpose
 b. Das Brot wurde absichtlich geschnitten
 The bread PAS on.purpose cut
 'The bread was cut deliberately'
 c. Dieser Rasen mäht sich schnell
 This lawn mows RP quickly
 'This lawn mows quickly'

Manner adverbs in middle constructions predicate over the whole activity or event. This can be seen, for example, in sentence (32c), which means that the whole event of mowing the lawn usually does not take much time (i.e. an event in which someone mows the lawn is very likely to be an event in which this person mows this lawn quickly). In Chapter 3 we will argue that the adverb *schnell* ('quickly') is adjoined to VP and in Chapter 5 we will show that the

subject *dieser Rasen* is interpreted in the VP-internal complement position. As a consequence, *schnell* modifies the whole event of mowing the lawn. The same holds true for sentence (33c) below. This sentence does not mean that people usually drive this car as they would drive a Porsche, but that the event in which someone drives this car is very likely to be like an event in which this person drives a Porsche. Note that the corresponding passive in (33d) only receives the former interpretation, which is not available in the middle construction.

- (33) a. Frisches Brot schneidet sich wie warme Butter
 Fresh bread cuts RP like warm butter
- b. Das Buch liest sich besser als du denkst
 The book reads RP better than you think
- c. Das Auto fährt sich wie ein Porsche
 The car drives RP like a Porsche
- d. Das Auto wurde wie ein Porsche gefahren
 The car PAS like a Porsche driven
- e. *Das Auto fährt sich wie Niki Lauda
 The car drives RP like Niki Lauda
 (cf. Sie fährt das Auto wie N. L.)
 (cf. She drives the car like N. L.)

It has often been claimed in the literature (cf. a.o. Pitz 1988, Fagan 1992, and Abraham 1995) that the adverb modifies the subject or some other constituent in impersonal middle constructions. Recall that middle constructions attribute some property to their subject or to an NP contained in a PP. We will argue in Chapter 7 that this observation can be derived from the generic interpretation middle constructions typically receive.

A further common assumption, which has already been mentioned, is either that middle constructions are ‘generic sentences’ or that ‘middle-verbs’ are individual-level predicates. (34a) illustrates that middle constructions, unlike anticausatives, do not refer to particular events (cf. Abraham 1995a: 13). Sentence (34a) only receives an anticausative interpretation. According to the first assumption middle constructions are characterizing sentences in the sense of Carlson and Pelletier (1995), which involve ‘generic’ quantification over the implicit argument and the event/situation variable. The second assumption predicts that a lexical rule of middle formation transforms a stage-level predicate into an individual-level predicate. A related issue is modality. Middle constructions normally involve some modal interpretation including ability, possibility, and sometimes necessity (cf. Fagan 1992). The middle construction in

(34b) is true if a situation in which someone reads this love story is very likely to be a situation in which this love story is good to read for this person.

- (34) a. Die Tür öffnete sich leicht, als er aufblickte
 The door opened RP easily/a bit when he looked.up
 *‘The door opened easily, when he looked up’ (middle interpretation)
 ‘The door was opening a bit, when he looked up’
 (anticausative interpr.)
- b. Diese Liebesgeschichte liest sich gut
 This love.story RP reads well
 ‘This love story reads well’

We will argue in Chapters 3 and 7 that middle constructions, unlike passives, trigger generic quantification.²⁶ They are characterizing sentences. The generic quantifier binds the implicit argument and the situation variable.²⁷ As a consequence, ‘middle verbs’ are not individual-level predicates, contrary to Fagan (1992) and Ackema and Schoorlemmer (1995). We will argue that basic properties of middle constructions such as the adverbial modification, the modal interpretation, the ‘responsibility’ of the subject, and the arbitrary interpretation of the implicit argument follow from the generic interpretation. Moreover, we correctly predict that individual-level predicates are excluded from middle formation. Note finally that generic quantification in middle constructions can be restricted to specific periods of time, as can be seen in (35). These issues will be discussed in detail in Sections 7.1 and 7.2. Thanks to Hans-Martin Gärtner for example (35).

- (35) Der Bach hat sich gestern Abend ausnahmsweise mal
 The Bach has RP yesterday evening exceptionally PARTICLE
 ganz gut gespielt
 quite well played
 ‘Exceptionally, this piece by Bach played well last night’

A third general assumption concerns the suppressed external argument. It is widely accepted that, unlike in passives, in middle constructions the suppressed argument cannot be realized in overt syntax. In the passive in (36a) the external argument can be syntactically expressed by a *von-* (‘by-’) phrase, which is ungrammatical in the middle construction in (36b).

- (36) a. Castorp wurde von der russischen Patientin verführt
 Castorp PAS by the Russian patient seduced
 ‘Castorp was seduced by the Russian patient’

- b. *Dieses Buch verkauft sich von Hans ohne Probleme
 This book sells RP by Hans without problems

Von- ('by-') PPs cannot be linked to the suppressed argument in (36b). Note, however, that in middle constructions this job can sometimes be done by *für-* ('for-') PPs (cf. also Stroik 1992 and Zribi-Hertz 1993 for English and Conдоравди 1989 for Greek). In (37a) the generic statement that people in general can easily read these books holds also true for small children. Small children can (also) read these books well. Thus, the middle construction in (37a) is true if a situation in which small children read these books is very likely to be a situation in which these books are (also) easy to read for them. *Für-*PPs with specific reference are excluded, as (38) illustrates. The *für-*PP might only restrict the range of the generic operator to a subset of the arbitrarily chosen set of entities, but it might not set an explicit limit on this set because in middle constructions the implicit argument is always bound by the generic operator. We discuss the interpretation of the implicit argument in Section 7.1. Example (37b) is from Abraham (1995a).

- (37) a. Ich finde, dass sich diese Bücher auch für kleine Kinder leicht
 I think that RP these books also for small children easily
 lesen
 read
 'I think that these books are also easy to read for small children'
- b. Almosen geben sich Armen für Reiche leichter als für
 Alms give RP poor-DAT for rich more.easily than for
 Arme
 poor
 'Rich people give alms to poor people more easily than poor people'
- (38)???Ich finde, dass sich dieses Buch für Maria leicht liest
 I think that RP this book for Maria easily read

Our final remark concerns the thematic interpretation of the suppressed argument. We have already seen that it need not be the external argument. Recall that unaccusative verbs form grammatical middle constructions. The subject of unaccusative verbs has typical patient properties (cf. Dowty 1991). Hence, the suppressed argument need not be the actor or agent of the verb or event. Other examples that confirm this observation are two-place verbs like *verlieren* ('lose'), *vergessen* ('forget'), *finden* ('find'), or *welken* ('wilt'). They do not assign the thematic role agent or actor to their external or first argument. Nevertheless, they form perfectly grammatical middle constructions. The second

example (39b) is from Stefan Zweig, *Joseph Fouché*, the third example (39c) from the *Frankfurter Rundschau*, 27.9.97, and the fourth and fifth example is from Abraham (1995:9). Note that example (39e) is an idiom meaning ‘to fall for someone’.

- (39) a. Diese neuen kleinen Münzen verlieren sich aber sehr einfach
 These new small coins lose RP really very easily
 ‘These new small coins can be lost very easily’
- b. Solche Erinnerungen vergessen sich nicht
 Such memories forget RP not
 ‘You do not forget memories like that’
- c. ... ein Telefonbuch fand sich nicht
 ... a phonebook found RP not
 ‘... a phonebook could not be found’
- d. Diese Nelken sind nicht mehr schön.
 These carnations are no longer nice.
 Es welkt sich eben schnell bei dieser Hitze
 It wilts RP PARTICLE quickly at this heat
 ‘... Everything wilts quickly in this heat’
- e. Feuer fängt sich leicht bei dieser Frau
 fire catches RP easily from this woman
 ‘One is easily inflamed by this woman’

The following figure summarizes the presentation of middle constructions in German. The syntactic elements that belong to a middle construction are given in the first line. The corresponding conditions discussed in this section are listed below the respective elements.

(40) Properties of middle constructions in German

NP ^I _{NOMINATIVE}	Verb	RP ^I _{ACCUSATIVE}	(Adverbial)
A. the subject is either i. <i>es</i> (impersonal m.c.) or ii. referential NP (personal m.c.)	at least one argument generic interpretation *individual-level predicate The suppressed argument can sometimes be realized by a <i>für</i> -PP and it does not have to be an external argument, agent, or actor.	bound by the subject not linked to a semantic argument (non-argument reflexive)	not obligatory manner adverb comparative adv. *subject oriented
B. if (ii), then the corresponding ‘active’ constituent can be: – accusative object (standard middle construction) – complement of a preposition (adjunct m.c.) – *dative object – *genitive object			
C. ‘responsibility’ (impersonal middle constructions usually contain another element, e.g. a prepositional phrase).			

2.2. Anticausatives and inherent reflexives

Besides middle constructions, anticausatives also systematically use the accusative reflexive pronoun to indicate valency reduction. The anticausative variant of verbs like *biegen* (‘bend’) in (41b) must be formed with a reflexive pronoun, similar to the middle construction. In (41c) we list more reflexive anticausative verbs.

- (41) a. Hans-Georg biegt den Stock
 Hans-Georg bends the stick
 ‘Hans-Georg bends the stick’
 b. Der Stock biegt *(sich)
 The stick bends RP-ACC
 ‘The stick bends’

- c. further examples of class I verbs: öffnen ('open'), schließen ('close'), füllen ('fill'), leeren ('empty'), aufwärmen ('warm up'), aufklären ('solve'), falten ('fold'), glätten ('smooth'), erhellen ('light up'), verdunkeln ('darken'), vergrößern ('enlarge'), verkleinern ('reduce'), stabilisieren ('stabilize'), beruhigen ('calm down'), drehen ('turn'), ...

In addition to this class of 'reflexive-anticausative' verbs, German has yet another class of verbs the anticausative variant of which is formed without an accusative reflexive pronoun. They equal anticausatives in English. As opposed to the reflexive-anticausatives in (41) the non-reflexive-anticausatives in (42) are unaccusative (cf. Section 2.1.1 above).

- (42) a. Hans-Georg bricht den Stock
 Hans-Georg breaks the stick
 'Hans-Georg breaks the stick'
- b. Der Stock bricht (*sich)
 The stick breaks RP-ACC
 'The stick breaks'
- c. further examples of class II verbs: rollen ('roll'), fliegen ('fly'), trocknen ('dry'), zerbrechen ('smash'), zerknittern ('crumple'), abbrechen ('break off'), einfrieren ('freeze'), auftauen ('thaw'), ...

In (41) the reflexive pronoun again indicates valency reduction. The verbs of the first class are two-place predicates, which undergo valency reduction. The anticausative in (41b) is derived from the underlying two-place verb in (41a). Both middle formation and anticausative formation with 'reflexive-anticausative' verbs involve valency reduction indicated by an accusative reflexive pronoun. As for the second class, the situation appears to be the opposite. In this case one could argue that the unaccusative one-place predicate in (42b) is the underlying form and the causative variant in (42a) is derived from the one-place verb by adding a first or external argument (cf. Wunderlich 1993).

There is, however, one crucial difference between reflexive anticausatives and middle constructions: the former, unlike the latter, have no implicit semantic argument. The first semantic argument is not only suppressed but also completely removed from the semantic representation. It is part of our knowledge about the world that there must be some cause for events (a human being, a physical force, a natural force, ...), but in contrast to middle constructions, the causing entity (which corresponds to the first or external argument) is not implied in anticausatives, possibly because it cannot be perceived or it is irrelevant to the event described by the verb. Sentence (43a), for example, does not imply that someone is rolling the ball. It simply describes a situation where

a ball is rolling down the hill. The same holds true for (43b). Peter might be the person who opens the door, but this is again not implied. It might also be possible that the door opens automatically or that it is opened by a servant. Therefore, only anticausatives can be modified by *von selbst* ('by itself'). The examples in (44) illustrate this (cf. also Fagan 1992:20 and Iwata 1999:545f.).²⁸

- (43) a. Der Ball rollt den Berg hinunter
 The ball rolls the hill down
 'The ball is rolling down the hill'
- b. Die Tür öffnete sich und herein kam Peter
 The door opened RP-ACC and in came Peter
 'The door opened and Peter came in'
- (44) a. Die Tür öffnete sich von selbst (anticausative)
 The door opened RP-ACC by itself
 'The door opened by itself'
- b. *Das Brot schneidet sich (gut) von selbst
 The bread cuts RP-ACC (well) by itself
 (middle construction)

(45a–c) are further examples that illustrate the deletion of the first or external argument of the causative counterpart in anticausatives. Of course, there are reasons for the global warming, the widening of the fjord, or the filling of the bath. But all three examples only describe a change of state without implying an implicit cause or actor that is responsible for these events.²⁹

- (45) a. Die Atmosphäre hat sich in den letzten Jahren etwas
 The atmosphere has RP-ACC in the last years a.little
 aufgewärmt
 warmed.up
 'In the last years the atmosphere has warmed up a little'
- b. Der Fjord verbreitert sich wieder
 The fjord widens RP-ACC again
 'The fjord widens again'
- c. Das Bad füllt sich mit Wasser
 The bath fills RP-ACC with water
 'The bath is filling with water'

Finally, we want to mention a second class of verbs that is related to the issue under discussion. German has so-called inherent reflexive verbs (*absolut* or *echt reflexive Verben*) that are also ungrammatical without an accusative reflexive pronoun in object position. Unlike reflexive anticausatives, inherent re-

flexives have no corresponding causative counterpart. The verb *schämen* ('be ashamed') is the prototypical example.³⁰

- (46) a. Carlo schämt *(sich)
 Carlo is.ashamed RP-ACC
 'Carlo is ashamed'
- b. Further examples: *irren* ('be wrong'), *verirren* ('lose one's way'), *sehnen* ('long for'), *gedulden* ('be patient'), *beeilen* ('hurry'), *erholen* ('recover'), *erkälten* ('catch a cold'), *auskennen* ('know all about'), ...

Like middle constructions or anticausatives, inherent reflexives are transitive in syntax. Again, the reflexive pronoun is not linked to a semantic argument of the verb. Inherent reflexive verbs seem to be 'reflexive-anticausative' verbs that do not have an underlying causative form, i.e. a corresponding two-place predicate. Note finally that inherent reflexives can be inserted into impersonal middle constructions.

- (47) a. Im dunklen Wald verirrt sich's schnell
 In.the dark forest loses.the.way RP-ACC.it quickly
 'In a dark forest you lose your way quickly'
- b. Nackt im Schnee erkältet es sich leicht
 Naked in.the snow catches.a.cold it RP-ACC easily
 'If you walk naked in the snow you easily catch a cold'
- c. Großer Geldmengen bemächtigt sich's nicht
 Big amounts.of.money take.possession.of RP-ACC.it not
 so einfach
 that easily
 'One cannot take possession of big amounts of money that easily'

So far we have seen that the accusative reflexive pronoun in object position has various functions in German. It can either be linked to the internal or second argument of the verb or it can be a morphosyntactic 'marker' for valency reduction. The second interpretation, which we call the 'non-argument reflexive', is the one we have discussed in this section. Non-argument reflexives can be found in middle constructions, anticausatives, and inherent reflexives. The correlation between reflexivity and valency reduction we have observed in German is not unique and can be found cross-linguistically in many languages. In the next section we present examples from other Indo-European languages to illustrate this point. And in the final section of this chapter we will argue that transitive reflexive sentences in German are part of a major phenomenon: the diathesis of the middle voice.

2.3. The interpretation of weak reflexive pronouns in Indo-European languages

In this section we will confine ourselves to morphosyntactically and semantically related constructions in other modern Indo-European languages. We will see that the ambiguity of the reflexive pronoun observed in German is a widespread phenomenon that can be found in many Indo-European (as well as non-Indo-European) languages. Cross-linguistically, the ambiguity of transitive reflexive sentences will turn out to be quite regular.³¹ Furthermore, we are exclusively interested in the correlation between reflexivity and valency reduction we have discussed in German. Therefore, we look only at middle constructions, anticausatives, reflexives, and passives, and we ignore further specific morphosyntactic and semantic properties these constructions have in various languages. We will note only in passing whether a language has impersonal middle constructions, whether it permits optional adverbial expressions, whether the suppressed argument in middle constructions can be syntactically realized, and whether the reflexive constructions obligatorily receive a ‘generic’ interpretation. Both reflexivity and reduction of the first argument have been subsumed under the notion of middle voice. A discussion of all phenomena that are related to this complex notion is far beyond the scope of the present study. Our main concern is the systematic ambiguity of (weak) reflexive pronouns in many languages. In the first part we give a brief description of the term middle voice (cf. e.g. Hermodsson 1952:25f., Geniušienė 1987, Kemmer 1993, or Abraham 1995b for further discussion). Data from five modern Indo-European languages are presented in the second part. And in the final Section 2.4, we argue that the accusative reflexive pronoun in object position is a morphosyntactic ‘middle marker’ in German.

Benveniste (1972) argues that the threefold distinction between active, passive and middle voice can be attributed to the historically basic dichotomy of active voice and middle voice. The passive voice is a variety of and has developed diachronically from the middle voice. Bosch (1983:52) states, that “reflexive pronouns, just like reciprocals, are relatively new features in Indo-European languages. Both reflexivity and reciprocity used to be expressed by the medium inflection in the finite verb. (Reflexive pronoun forms only arise in Ancient Greek).” In some modern Indo-European languages middle voice and passive voice are morphosyntactically still indistinguishable.³² The familiar distinction between active and passive is a result of modern linguistic theory. We have already seen that this distinction is not sufficient to describe all the phenomena we have illustrated for German.

According to Benveniste, Indo-European languages are generally subject oriented. They do not have object agreement. The diathesis of the verb (or the genus verbi) indicates the attitude of the subject to the event described by the verb. He roughly outlines the opposition active-middle from the perspective of the syntactic subject as follows (see also Lyons 1968, Kemmer 1993, or Klaiman 1991).³³ The active voice describes an action that proceeds from the (syntactic) subject and does not include it, while the middle voice describes an action that takes the (syntactic) subject as its center, i.e. the subject is included in the action. This specification is of course very general.³⁴ We are mainly interested in the interpretations introduced in the preceding discussion of transitive reflexive sentences in German. In the following we compare five modern Indo-European languages (Modern Greek, Russian, Italian, French, and English), which equal German at least in one respect. Middle constructions, anticausatives, and reflexives can be expressed by the same morphosyntactic form. Before we turn to the discussion of the relevant examples we would like to mention two general points:

- i. Many languages distinguish weak from strong reflexive forms. Kemmer (1993) calls them *two-form* languages. In Russian, for example, the weak form is a verbal affix (i.e. *-sja*) and the strong form a pronominal NP (i.e. *sebjja*). In Dutch both forms are pronominal NPs but the weak reflexive marker (i.e. *zich*) is a simple and the strong reflexive marker (i.e. *zichzelf*) a complex word.³⁵ In two-form languages the reflexive interpretation of the weak form is restricted to certain kinds of verbs such as verbs of grooming and verbs of change in body posture. The crucial observation is that the middle marker of a language must always be the weak reflexive form (i.e. it is associated with less phonological and morphological substance). We will see in Chapter 4 and especially in Chapter 5 that German is a *one-form* language, which does not distinguish between weak and strong reflexive pronouns (cf. also Ágel 1997). German has only one form for reflexive and middle marking that is a free morpheme (recall Section 2.1.3). In Chapter 5 we discuss this distinction between weak and strong reflexive markers in greater detail.
- ii. Indo-European languages use quite varied morphosyntactic strategies to indicate the diathesis of middle voice. Some languages use bound morphemes, i.e. they have a special verbal inflection (Ancient and Modern Greek), a verbal affix (Russian), or clitics as middle markers (Italian or French) (cf. Geniušienė 1987 and Kemmer 1993). Further options are free morphemes and zero-marking (no formal code). The middle marker in

German is an example for a free morpheme. German does not have a special verbal morphology (bound morpheme) for the middle voice but an independent word in a specific syntactic position, i.e. the reflexive pronoun in the position of the accusative object. English has no morphosyntactic middle marker at all, i.e. no formal code for middle voice (cf. also Kemmer 1993 and Abraham 1995b). Therefore, we use the term morphosyntactic middle marker in a very liberal way in the following presentation. A middle marker can be a verbal affix, a verbal clitic, an independent word or morphologically zero. (48) summarizes the different kinds of middle markers and the possible interpretations of middle markers to which the following discussion is limited. Further interpretations of middle markers are discussed e.g. in Geniušienė (1987) and Kemmer (1993:Chapter 2). The amount of possible interpretations seems to correlate with the degree of grammaticalization.³⁶

(48) Middle markers and their interpretation

- | | |
|---|-----------------------------|
| a. Possible middle markers | b. Possible interpretations |
| – verbal inflection (Modern Greek) | – passive |
| – verbal affix (Russian) | – inherent reflexive |
| – verbal clitic (Italian) | – anticausative |
| – weak reflexive pronoun (Dutch) | – middle |
| – accusative reflexive pronoun (German) | – reflexive |
| – zero-marking (English) | – ... |

In Modern Greek the middle marker is a verbal affix that indicates the reflexive, passive, middle, and anticausative interpretation among others, as can be seen in (49).³⁷ Modern Greek has also a ‘strong’ form to indicate the reflexive interpretation (cf. Footnote 35 above). The middle marker is the ‘weak’ reflexive element. The examples (49a, b, and d) are taken from Tsimpli (1989) and example (49c) is from Sioupi (1997).³⁸ ‘PA’ means passive affix (cf. Tsimpli 1989). Under the perspective outlined above we can also call it mediopassive affix or middle (voice) marker.

- (49) a. Afto to vivlio dhiavas-ti-ke xtes (passive)
 this book-NOM read-PA-3SG yesterday
 ‘This book was read yesterday’
- b. Afto to vivlio dhiavas-ti-ke epharista (middle construction)
 this book-NOM read-PA-3SG with.pleasure
 ‘This book reads with pleasure’

- c. To plio vithiz-et-e (anticausative)
 The ship-NOM sink-PA-3SG
 'The ship sinks'
- d. I Maria xteniz-et-e kathe mera (reflexive)
 Maria-NOM comb-PA-3SG every day
 'Maria combs herself every day'

Modern Greek has yet another device of middle and anticausative formation. Beside the mediopassive affix, an alternative option exists: some verbs form middle constructions and anticausatives in the active voice, i.e. without the middle marker (Tsimpli's passive affix 'PA') (cf. Condoravdi 1989). The verb *anigo* ('open') in (50) is one example for verbs that are morphologically active in middle constructions and anticausatives. The affiliation of a verb with one of these two classes seems to depend on the lexical meaning of the respective verb.³⁹

- (50) a. Afti i porta anigi
 this door-NOM opens
- b. Afti i porta den anigi kala
 this door-NOM does.not open well

Russian equals Modern Greek in the middle voice. Russian, like Modern Greek, uses a bound morpheme, the verbal affix *-sja* (-s' after a vowel), for the passive interpretation in (51a), the middle interpretation in (51b), the reflexive interpretation in (51c), and the anticausative interpretation in (51b) (cf. Jung-hanns 1996).^{40,41} Sentence (51b) is ambiguous between the anticausative and the middle reading. It is quite similar to its German counterpart, which is in the same way ambiguous as the Russian example.⁴²

- (51) a. Dom stroitsja (plotnikami) (passive)
 house build- SJA (by the carpenters)
 'The house is being built (by the carpenters)'
- b. Dver' (legko) otkrylas' (middle constr./anticausative)
 Door-NOM (easily) opened-SJA
 'the door opened (easily)'
- c. Ivan moetsja (reflexive)
 Ivan-NOM washes-SJA
 'Ivan is washing himself'

As already mentioned, Russian also has a second way of indicating reflexivity. In addition to the middle marker (i.e. the weak reflexive marker) there is a

historically related strong reflexive marker, the reflexive pronoun *sebja*. Again, these two forms are not always interchangeable.

Italian and French share some properties with both Russian and German. On the one hand, the weak reflexive pronoun in Italian and French is a verbal clitic in syntax and equals the Russian *-sja*, which has been analyzed either as a verbal affix or as a pronominal clitic.⁴³ As opposed to Russian, the pronominal clitic in Romance maintains the person-bound form and need not be adjacent to the main verb.⁴⁴ The Russian middle marker *-sja* has only one form for first, second, and third person singular and plural. On the other hand, a weak reflexive pronoun is usually used in middle constructions and anticausatives to indicate valency reduction but not in passives. Both French and Italian have a periphrastic passive form.⁴⁵ Additionally, we find both reflexive and non-reflexive anticausatives. In (52) we give some examples from French.⁴⁶

- (52) a. un veston de laine se lave facilement (middle construction)
 a jacket of wool RP washes easily
 'A cardigan washes easily'
- b. la branche s'est cassé (anticausative)
 the branch RP.has broken
 'The branch broke'
- c. Pierre se rase (reflexive)
 Pierre RP shaves
 'Pierre is shaving (himself)'

At first glance, a language like English has quite a different means of middle, passive, and anticausative formation (note, however, that some verbs in Modern Greek make use of the 'English' means of middle and anticausative formation). English does not mark middle voice morphosyntactically. In contrast to their counterparts in other Indo-European languages, the sentences in (53a and b) are morphologically active without an overt middle marker. Middle constructions and anticausatives in English do not contain a reflexive pronoun. Nevertheless we find the same semantic effects of the diathesis of middle voice outlined above. Furthermore, in English verbs of grooming and verbs of change in body posture also permit a reflexive interpretation without a reflexive pronoun (53c and d).⁴⁷ In this respect, English corresponds to two-from languages like Modern Greek, Russian, French or Italian (cf. Kemmer 1993). We find the same distinction between weak and strong reflexive forms.⁴⁸ Hence, in English simple intransitive sentences can yield various interpretations, some of which can be subsumed under the notion of middle voice. The middle marker or weak reflexive pronoun is morphologically empty in English. Besides, En-

glish (like German, French, and Italian) uses periphrastic passives, as is illustrated in (53e).

- (53) a. This book reads easily (middle construction)
 b. The door opens (anticausative)
 c. Peter is washing himself (reflexive – ‘strong’ form)
 d. Peter is shaving (reflexive – ‘weak’ form)
 e. Hans is being shaved by Martin (passive)

Dutch resembles English as well as German. With respect to anticausative formation Dutch is the same as German.⁴⁹ Dutch middle constructions, however, correspond to English middle constructions. Unlike their German counterparts, middle constructions in Standard Dutch are not reflexive (cf. Ackema and Schoorlemmer 1994 and 1995 and Chapter 3).⁵⁰

(54) below summarizes the observations made so far. It gives a brief survey of the correlations between the middle markers and their (potential) interpretations and integrates the observations on German we made above into the larger context of further Indo-European languages. Again, we confine ourselves to passive, middle, anticausative, and reflexive interpretations. Table (54) is therefore anything but complete. So far we have only considered five Indo-European languages, some of which permit exceptions or alternative forms for some of these interpretations. These alternatives depend on the lexical meaning of the verb and sometimes on additional semantic conditions. Last but not least, although the arrangement in (54) looks quite systematic, we do not intend to make any hypothesis about the synchronic and diachronic correlation between reflexivity and middle voice. We do not claim that languages like English and Modern Greek are the extremes on a scale of middle marking-languages (we refer the reader again to Geniušienė 1987 and Kemmer 1993 for detailed cross-linguistic studies of this issue).⁵¹

(54) Possible interpretations for an overt (weak) reflexive marker

Interpretation	English	Dutch	German	French	Modern Greek	Russian
Passive	–	–	–	±	+	+
Middle	–	–	+	+	+	+
Anticausative	–	+	+	+	+	+
Reflexive	–	+	+	+	+	+

Let us summarize the results of this section. First, we have seen that the ambiguity of transitive reflexive sentences in German is not accidental and that it can be subsumed under the notion of middle voice. Indo-European languages use

the middle voice for quite varied (but semantically related) functions. Reflexivity and valency reduction are main functions. Second, Indo-European languages have different kinds of morphosyntactic middle markers, but there is always a strong correlation between weak reflexive markers and middle markers. Note that some Indo-European languages like Russian and Old Norse have developed a 'neo-middle construction' from weak reflexive pronouns that have been reduced to verbal affixes. Third, German, unlike Modern Greek or Russian, has no verbal middle inflection. Verbs in middle constructions, reflexives, and anticausatives and inherent reflexive verbs are always morphologically active. Nevertheless, German has also a morphosyntactic middle marker: the accusative reflexive pronoun in object position. Fourth, German is a one-form language that does not distinguish weak from strong reflexive pronouns/forms. In this respect it differs from most Indo-European languages. We also saw that the passive voice must be distinguished from middle voice in many modern languages like e.g. Italian, French, English, Dutch, and German. Hence, German has a threefold distinction between active, passive, and middle voice. And finally, we must also distinguish between reflexivity and middle voice. One possible interpretation for the middle marker is the reflexive interpretation. However, reflexivity cannot be reduced to middle voice. Likewise middle voice cannot be reduced to reflexivity or, to put it the other way round, not every reflexive marker is also a middle marker (at least in the languages listed in (54)). The following section discusses this issue in greater detail.

2.4. The middle voice marker in German

As opposed to the middle markers in Modern Greek, Russian, Italian, and French the middle marker in German has some very specific properties. It is not a verbal affix or a verbal clitic but a free morpheme, a reflexive pronoun in object position (cf. also Abraham 1995a:5). Moreover, the reflexive pronoun in German can only be called a middle marker when it occupies the position of the accusative (or direct) object. This is summarized in (55).

- (55) In German only a reflexive pronoun in the position of the accusative (or direct) object is ambiguous between an argument and a non-argument interpretation

In addition, the middle marker in German only triggers a reflexive, middle, anticausative, and inherent reflexive interpretation. Further interpretations of the middle voice such as, for example, passive, modal-deagentive, causative,

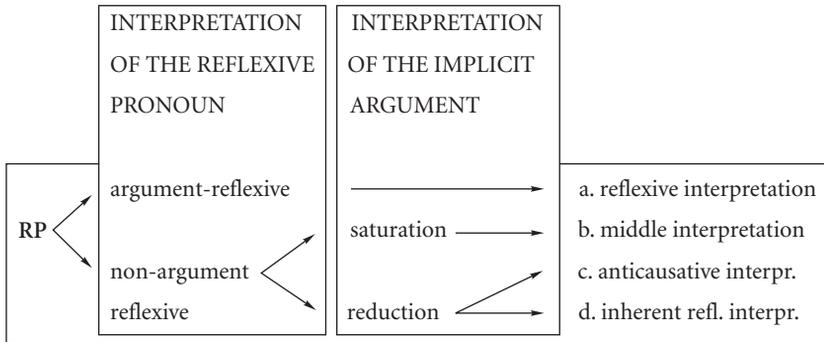
or impersonal subject interpretations (cf. Geniušienė 1987) are not available in German. Hence, transitive reflexive sentences are systematically ambiguous between four different interpretations in German. The crucial examples are repeated in (56) (cf. Chapter 1, example (5)).

- (56) a. Herr Rossi rasiert sich (reflexive interpretation)
 Mr. Rossi-NOM shaves RP-ACC
 ‘Mr. Rossi is shaving (himself)’
- b. Das Buch liest sich leicht (middle interpretation)
 The book-NOM reads RP-ACC easily
 ‘The book reads easily’
- c. Die Tür öffnet sich (anticausative interpretation)
 The door-NOM opens RP-ACC
 ‘The door opens’
- d. Herr Rossi erkältet sich
 Mr. Rossi-NOM catches.a.cold RP-ACC
 ‘Mr. Rossi catches a cold’ (inherent reflexive interpretation)

All four interpretations are indistinguishable in syntax as we will argue in Chapter 4. We will illustrate that the argument and the non-argument reflexive have exactly the same syntactic properties. Certain differences between the argument and the non-argument reflexive concerning coordination, focus, and fronting follow directly from their semantics. Only the argument reflexive in (56a) is linked to a semantic argument variable, which is a necessary condition on coordination, focus, and fronting. We also argue in Chapters 3 and 4 that syntactic analyses that assume two syntactically different kinds of reflexive pronouns cannot account for these differences. Hence, there is neither any evidence nor any necessity to assume two different kinds of accusative reflexive pronouns.

Semantically, a transitive reflexive sentence of the form *subject + verb + accusative reflexive pronoun* can in principle receive four different interpretations in German. The first ambiguity is due to the reflexive pronoun, which can either be interpreted as argument or as non-argument reflexive. The second ambiguity results from two different semantic operations on the implicit argument. The implicit argument can either be bound by a generic operator (saturation) or deleted (reduction). The ambiguity of transitive reflexive sentences is systematically illustrated in Figure (57).

- (57) The interpretation of the reflexive pronoun and the implicit argument in transitive reflexive sentences



As opposed to the reflexive pronoun in transitive reflexive sentences, the dative reflexive pronoun in (58a) and the reflexive pronouns contained in PPs in (58b) and (58c) cannot indicate valency reduction. They only yield the reflexive interpretation and cannot be called a middle marker. Thus not every reflexive marker is automatically also a middle marker.

- (58) a. Peter widersprach sich
Peter contradicted himself-DAT
'Peter contradicted himself'
- b. Peter ist außer sich gewesen
Peter is beside himself-DAT been
'Peter was beside himself'
- c. Er achtet nur auf sich
He takes.care only of himself-ACC
'He takes only care of himself'

Middle High German provides further evidence for a distinction between reflexive markers and middle markers and for the very special status of the accusative reflexive pronoun. As opposed to the accusative reflexive pronoun, the dative reflexive pronoun has developed very late. It is not until the beginning of the 18th century that the modern usage of the dative reflexive pronoun seems to have been established.⁵² At earlier stages German does not morphologically distinguish dative personal pronouns from dative reflexive pronouns. This still holds true for some dialects in German (cf. a.o. Behagel 1923:297f. and Grimm 1905:709). The personal pronoun was used for local binding (principle A of Chomsky's 1981 binding theory) and for non-local binding (principle B). This is illustrated in (59a–d) for Middle High German (MHG) and in (59e

and f) for Early New High German (ENHG). In all examples it is the dative personal pronoun which is locally bound (principle A). Local binding was often indicated by the adnominal intensifier *selbst* ('him-/her-/itself') (cf. Section 4.2.2.6 for a detailed discussion of *selbst*) as can be seen in (59a, b, and d).⁵³ For further discussion see Dal (1966:73f.), Paul (1917), Moser et al. (1988:171f.), Grimm (1905), and Behagel (1923:295f.) for Middle High German and Early New High German and Braune (1975:237f.) for Old High German. The following examples in (59), (60), (62), and (63) are from Grimm (1877) and (1905), Behagel (1923), Paul (1989), and *Parzival*.⁵⁴

- (59) a. so musz der schadenfro₁ ihm₁ selbst ein henker sein
 so must the gloating-NOM him-DAT SELBST a executioner be
 'The gloating person must be an executioner of himself'
 (MHG, Grimm)
- b. andern hat er₁ geholfen und kann im₁ selber nicht helfen
 others has he helped and can him-DAT self not help
 'He helped others but he can not help himself' (MHG, Grimm)
- c. so groz manheit her₁ an im₁ hat
 so big bravery he-NOM at him-DAT has
 'He has big bravery in him' (MHG, Grimm)
- d. ... daz si₁ ir₁ selber hat bereit kumer, not
 ... that she-NOM her-DAT SELBST has caused grief poverty
 und arebeit
 and tribulation
 '... that she caused herself grief, poverty, and tribulation'
 (MHG, Grimm)
- e. sie₁ würde es ihr₁ selbst zu danken haben
 she-NOM would it her-DAT SELBST to thank have
 'She would have got herself to thank for that' (ENHG, Grimm)
- f. ... als die ihr₁ selbst gelassene vernunft₁ des redners
 ... than the her-DAT SELBST left reason of.the speaker
 '... than the reason of the speaker, which has been left to itself'
 (ENHG, Grimm)

Unlike the dative reflexive pronoun the use of the accusative reflexive pronoun is stated for very early stages of German. (60) and (62a and b) are examples from Middle High German. In addition, sentence (60a) illustrates that inherent reflexive verbs can already be found in Middle High German. Hence, non-argument reflexives are also stated for early stages.

- (60) a. do vaffende sich aspiran (MHG, Grimm)
 The weaponed-NOM RP-ACC came.close
 ‘The weaponed came close’
- b. uf rihte sich der degen wert (MHG, Parzival)
 up straightens RP-ACC the hero-NOM noble
 ‘The noble hero straightens up’
- c. so si sich erkennent beide (MHG, Behagel)
 So they-NOM RP-ACC recognize both
 ‘So they recognized each other’

(61) exemplifies the difference between accusative and dative personal and reflexive pronouns in Middle High German (cf. Paul 1989: 222f.).

(61) Accusative and dative personal and reflexive pronouns in MHG

third person	accusative			dative		
	fem.	neuter	masc.	fem.	neuter	masc.
singular						
reflexive pronoun	sich	sich	sich	ir(e)	im(e)	im(e)
personal pronoun	sie, sî, si(u)	ëz	in (inen)	ir(e)	im(e)	im(e)
plural						
reflexive pronoun		sich			in	
personal pronoun		sie, sî, si(u)			in	

Furthermore, early stages of German allow embedded accusative reflexive pronouns to be bound only by the syntactic subject of the clause, whereas in Modern German (MG) the reflexive pronoun can only be bound by the syntactic object. Embedded infinitives illustrate this difference in (62) and (63).

- (62) a. ir gast₂ si₁ sich_{1/*2} kuessen bat (MHG, Paul)
 her guest-ACC she-NOM RP-ACC kiss ask
 ‘She asked her guest to kiss her’
- b. bat er₁ sih_{1/*2} ketrencan daz wip₂ (MHG, Behagel)
 ask he-NOM RP-ACC offer.a.drink the women-ACC
 ‘He asked the woman to offer him some drink’
- (63) a. Der Herr₁ befahl dem Diener₂ sich_{*1/2} anzukleiden
 The master-NOM ordered the servant-ACC RP-ACC to dress
 ‘The master ordered the servant to dress himself’ (MG)
- b. Der Herr₁ befahl dem Diener₂ ihn_{1/*2} anzukleiden
 The master-NOM ordered the servant-ACC him-ACC to dress
 ‘The master ordered the servant to dress him’ (MG)

These observations (no dative reflexive pronouns and strict subject orientation in MHG) are in line with an analysis that only treats the accusative reflexive pronoun in object position as a middle marker in German. Note finally that the reflexive pronoun in Modern German is an independent word/constituent in syntax. Gärtner and Steinbach (1996 and 2000) argue at length that German has no *special* or syntactic clitics.⁵⁵ We turn to the syntax of the accusative reflexive pronoun in Chapter 4.

So far, we have argued that the accusative reflexive pronoun in Modern German is not a pure middle marker and that reflexivity cannot be reduced to middle voice. Nevertheless, we have seen that in Indo-European languages there is a strong correlation between reflexive markers and middle markers or, more generally, between reflexivity and middle voice. In German we can call the accusative reflexive pronoun a middle marker only if it is the accusative object of the sentence. In this sense we follow Kemmer (1993) and conclude that German is a middle marking language. In contrast to Modern Greek or Russian, German uses a syntactically independent word as middle marker, not a verbal affix. It is not a bound morpheme (verbal inflection or a verbal affix) that indicates the middle voice in German, but a free morpheme. Furthermore, the accusative reflexive pronoun is a middle marker only in a very specific syntactic context, i.e. in transitive reflexive sentences. In further syntactic contexts the accusative reflexive pronoun can only be used as reflexive marker. And finally, dative reflexive pronouns cannot indicate middle voice at all. These observations are summarized in the following figure. ‘P’ stands for preposition and ‘P+ACC–RP’ for a accusative reflexive pronoun which is contained in a PP.

(64) Middle marker and reflexive marker in German

middle marker		
inherent reflexive anticausative middle construction		
reflexive	reflexive	reflexive marker
ACC–RP	P+ACC–RP, DAT–RP, P+DAT–RP	MORPHEME

In the following chapters we will argue that our analysis of the middle voice/middle marker in German is based on independently motivated universal and language-specific assumptions. The following investigation focuses on the middle marker in German and its possible interpretations, i.e. the left column in Figure (64). Nevertheless, we are of the opinion that our results might also be relevant for the analysis of corresponding phenomena in other languages. English, for example, differs from German in having no (overt) morphosyn-

tactic middle marker. The weak reflexive form is morphologically empty. The middle voice is therefore morphosyntactically unmarked in English. We have already noted that, from a semantic point of view, English also distinguishes between active and middle voice. However, because of these morphosyntactic differences, transitive and intransitive sentences in English and German are not equally ambiguous. This is illustrated in (65). In German transitive reflexive sentences and intransitive sentences are equally ambiguous, while in English the intransitive sentence in (65II) is the most ambiguous construction (cf. also Abraham 1995a for these differences between English and German). Note finally that English, unlike German, has two means of encoding the reflexive interpretation. This is due to the fact that English is a two-form language, which distinguishes between weak and strong reflexive forms. Recall that the weak reflexive is morphologically zero in English. We will come back to intransitive sentences in English in Chapter 8. The next five chapters will deal mainly with transitive reflexive sentences in German.^{56,57}

- (65) Possible interpretations for intransitive and transitive reflexive sentences in English and German

Syntax	Semantics	
	English	German
I. Transitive		
subject + verb + RP _{ACC}		1. V < Ø < y >> anticausative/inherent reflexive
		2. V < (x) < y >> middle construction
	1. V < x < x >>	3. V < x < x >> reflexive
II. Intransitive		
subject + verb	1. V < x >	1. V < x > unergative
	2. V << y >>	2. V << y >> unaccusative
	3. V < x < (y) >>	3. V < x < (y) >> implicit internal argument
	4. V < Ø < y >>	anticausative
	5. V < (x) < y >>	middle construction
	6. V < x < x >>	reflexive

2.5. Conclusion

In this chapter we argued that German is a middle marking language. First, we provided a descriptive survey of transitive reflexive sentences in German that

involve valency reduction. We began with the middle construction and the restrictions for each of its individual parts: the verb, the syntactic subject and second semantic argument, the reflexive pronoun, the implicit first semantic argument, and the adverbial modification. In addition, we discussed further semantic restrictions on middle constructions. Second, we turned to related constructions in German: anticausatives and inherent reflexives. Finally, we argued on the basis of other Indo-European languages that transitive reflexive sentences in German belong to the diathesis of middle voice. We are aware of the fact that broader diachronic and synchronic studies are necessary. These studies lie, however, beyond the scope of this book.

In the following we will concentrate mainly on the middle voice in German. The next chapter discusses several lexical and syntactic analyses of middle constructions and criticizes their shortcomings. We essentially restrict the discussion to middle constructions because they are most controversial. Moreover, middle constructions are more productive than anticausatives and inherent reflexives, which also contain a non-argument reflexive. The middle construction turns out to be a good example to illustrate the shortcomings of the lexical and syntactic analyses. In Chapters 4, 5, and 6 we will develop an alternative proposal for the syntax and semantics of transitive reflexive sentences in German that offers a unified treatment of all four interpretations of these sentences. Hence, we propose an explanation of the middle voice in German.

Notes

1. In the following presentation, some examples have glosses only. These examples are always interpreted like middle constructions in English and other languages. The morphosyntactic realization of the middle construction differs from language to language (cf. 2.3 below), but their semantics is quite homogeneous across the Indo-European languages. All middle constructions have the thematic interpretation outlined in the brief introduction of this chapter. Throughout this study we use the term reflexive pronoun (which is more specific) instead of anaphor, but nothing hinges on this.
2. In most languages the active voice is the morphologically or syntactically unmarked form (cf. Benveniste 1972, Kemmer 1993, Klaiman 1991, or Beekes 1995).
3. Adjunct middles are the only exception to this correspondence between the subject of the middle construction and the object of the active counterpart. Here the middle-subject corresponds to an NP included in a PP. We come back to these examples immediately. They are discussed in more detail in Chapter 7.
4. Note that middle constructions usually induce an additional modality effect, which will be discussed below.

5. The only exception might be passivized reflexive sentences like (i). In this case, the reflexive pronoun cannot be promoted to subject because German does not have nominative reflexive pronouns (cf. Chapter 5).

- (i) Jetzt wird sich gewaschen
Now PAS RP-ACC washed
'Everybody is going to wash him- and herself now'

6. The attentive reader may have noticed that example (4) is ambiguous between the (active) reflexive interpretation 'Peter is washing himself quickly' and a middle interpretation 'Peter washes quickly'. Because both the middle interpretation and the reflexive interpretation are two possible readings of transitive sentences with an accusative reflexive pronoun in object position, such sentences are ambiguous if both interpretations make sense. The same also holds true for the anticausative in (5).

7. The terminology is mainly influenced by lexical and syntactic theories of middle formation. Lexical theories postulate some lexical manipulation of the argument structure (i.e. a lexical rule of argument suppression or a middle template). Syntactic theories derive middle constructions like passives by case movement: a deep structure object is moved to subject position at surface structure. We discuss these theories and their shortcomings at length in Chapter 3. For the time being we aim to describe the properties of middle and related constructions as neutrally as possible.

8. We refrain from using the terms 'direct' and 'indirect' objects because German distinguishes objects on the basis of case. For example, the second argument of two-place verbs can be assigned either accusative, dative or genitive case (and it can also be linked to a prepositional phrase). For a discussion of the theoretical relevance of grammatical functions in German see e.g. Reis (1986) and Sternefeld (1985).

9. Some data in the following presentation are from Fagan's book on middle constructions. Most of the other examples are taken from German newspapers or books. It will become clear in Chapter 3 that we disagree in several respects with Fagan's description of the relevant properties of middle constructions in German. Furthermore, she does not mention adjunct middles in German. Our disagreement with Fagan and other authors concerns among other things the constraints on *Aktionsarten*, aspectuality, adverbial modification, the implicit subject, and the so-called 'static' interpretation middle constructions are supposed to have. We will discuss these shortcomings in detail in Chapters 3 and 7.

10. The valency of many verbs varies. Extreme examples are polyvalent verbs like e.g. *rollen* ('roll') or *schlagen* ('hit') (cf. Vogel 1998). By two-place predicate, for instance, we mean that the respective verb is interpreted as a two-place predicate in this context. The same holds true for many terms used in this chapter like 'achievement', 'accomplishment' or 'activity' (cf. also Footnote 18 below).

11. The term 'intransitive' middle construction is somewhat misleading because middle constructions are always transitive. Impersonal or 'intransitive' middle constructions only correspond to intransitive active sentences.

12. Abraham (1995b) mentions another kind of impersonal middle construction. In this case the verb agrees with the impersonal subject *es* (third person singular), although the

middle construction is derived from a two-place predicate. The second argument (the plural NP *solche Beamte*) is not linked to the syntactic subject of the sentence but receives accusative case. This construction equals the impersonal *si*-construction in Italian (cf. 3.1.2).

- (i) a. ???...weil es sich solche Autos gut fährt
 ... because it-SG RP such cars-ACC-PL well drives-SG
 b. ???...weil es sich die Karotten gut isst
 ... because it-SG RP the carrots-ACC-PL well eats-SG
 c. ???... weil es sich diese Bücher gut liest
 ... because it-SG RP these books-ACC-PL well reads-SG
 d. ???...weil es sich einen solchen Beamten leicht besticht
 ... because it-SG RP such an official-ACC-PL easily bribes-SG

Most native speakers we asked find these impersonal constructions hardly acceptable. Nevertheless, we share Abraham's judgements and think that these sentences are not totally ungrammatical. Note, however, that all three sentences in (i) sound old-fashioned and stilted, and they are very uncommon in Modern German. This kind of impersonal middle construction lies beyond the scope of all the analyses of middle constructions we discuss in Chapter 3. In any case additional principles seem necessary to explain this specific impersonal construction. We neglect examples like (i) in the following discussion.

13. German also has few two-place verbs that select *sein* ('be') instead of *haben* ('have').

- (i) Ich bin die ganze Stadt abgelaufen
 I BE-1SG the whole city down.walked
 'I walked the whole city down'

Van Riemsdijk (1978) argues that examples like (i) involve postposition incorporation. The head of the postpositional phrase *die ganze Stadt ab* incorporates into the unaccusative/ergative verb *laufen* and behaves like a separable particle (cf. also Fagan 1992 and Ackema and Schoorlemmer 1995).

14. The examples in (i) illustrate the BE/HAVE selection with perfect tense in German. Unaccusative verbs like *arrive* (i-a) select BE while unergative verbs like *sleep* (i-b) select HAVE.

- (i) a. Peter ist auf der Autobahn gefahren
 Peter BE-3.P.SG on the highway driven
 'Peter drove on the highway'
 b. Peter hat im Bett geschlafen
 Peter HAVE-3.P.SG in.the bed slept
 'Peter slept in the bed'

Example (ii) illustrates that past participles can be used only to modify the accusative object of a transitive sentence (i.e. the second or internal argument of the verb) (ii-b), whereas present participles modify the subject of the sentence (i.e. the first or external argument) (ii-c).

- (ii) a. Der Mann trinkt ein Bier
The man-NOM drinks a beer-ACC
- b. das getrunkene/*trinkende Bier
The PAST-PART./PRESENT-PART. beer
- c. Der *getrunkene/trinkende Mann
The PAST-PART./PRESENT-PART. man

The crucial difference between unaccusatives and unergatives is illustrated in (iii): the subject of unaccusatives can be modified by both the past participle and the present participle. The subject of unergatives, like the subject of the transitive sentence in (ii), can only be modified by the present participle.

- (iii) a. Der gestorbene/sterbende Mann
The PAST-PART./PRESENT-PART. man
- b. Der *geschlafene/schlafende Mann
The PAST-PART./PRESENT-PART. man

15. Further tests are *-er*-nominalization, VP-topicalization, impersonal passives, and stress assignment. Note that these tests do not always give a clear classification and that they do not provide compelling evidence for a syntactic representation of unaccusativity. Besides, further aspects have to be taken into account: for example, aspectuality in the context of auxiliary selection. The verb *tanzen* ('dance'), for example, selects the auxiliary *haben* ('have') whenever it refers to an atelic event as in (i-a) but it selects the auxiliary *sein* ('be') whenever it refers to a telic, directional event as in (i-b). We return to unaccusatives in Chapter 6.

- (i) a. Ralf hat getanzt
Ralf HAVE-3.P.SG danced
'Ralf danced'
- b. Ralf ist in das Zimmer getanzt
Ralf BE-3.P.SG into the room danced
'Ralf danced into the room'

16. Perlmutter (1978), Burzio (1986), and Grimshaw (1990) among others argue that unaccusative verbs select an internal argument. The syntactic subject of a sentence with an unaccusative verb is linked to the internal argument of this verb. This linking configuration can also be found in the causative alternation. It is the syntactic subject of the unaccusative anticausative verb *break/zerbrechen* in (i-a) and (ii-a) that is realized as object of the corresponding causative variant in (i-b) and (ii-b). In both examples, the NP *the vase/die Vase* is linked to the same semantic argument (cf. also Levin and Rappaport 1995).

- (i) a. The vase broke
- b. His mother-in-law broke the vase
- (ii) a. Die Vase zerbricht
- b. Seine Schwiegermutter zerbricht die Vase

17. Most of these zero-place verbs can be also used with a semantic argument.

- (i) a. Es regnet and b. Blätter regnen auf das Dach
It rains Leafs rain on the roof
- (ii) a. Es taut and b. Der Schnee taut
It thaws The snow thaws

Under our perspective these verbs can be input to middle formation if they yield the interpretation in (i-b) and (ii-b). In fact, sentence (10b) can receive a middle interpretation. In this case the verb must be interpreted as an one-place predicate with an implicit argument. This interpretation resembles the interpretation of unaccusatives in middle constructions and is of course absurd. But imagine a fairytale with two snowflakes talking to each other. The topic of the conversation is their experience of thawing in different cities. In this context one of the snowflakes can actually utter sentence (10b). But for this we must interpret the verb as one-place predicate.

18. The so-called aspectual properties of verbs (*Aktionsarten*) are not (necessarily) inherent lexical properties of single verbs but very often result from the interpretation of more complex structures including especially the verb, the accusative object, and a directional complement (cf. Dowty 1991, Tenny 1994, Steinbach and Vogel 1994: Chapter 3, or Rapp 1999 among many others for further discussion of this issue).

19. The third person neuter pronoun *es* fulfills quite different functions: referential personal pronoun, expletive for complement clauses, impersonal subject, and *Vorfeld-es*. An example for the *Vorfeld-es* in a simple active sentence is given in (i).

- (i) a. Es ging ein Mann durch den Wald und ...
It went a man through the woods and ...
'A man was walking through the woods and ...'
- b. Durch den Wald ging (*es) ein Mann und ...
- c. ... weil (*es) ein Mann durch den Wald ging und ...

Like the reflexive pronoun in transitive reflexive sentences *es* can but need not be interpreted as an argument of the verb. It need not be referential. Therefore, the third person neuter pronoun, unlike other personal pronouns, can also be used for certain grammatical functions. For further differences between *es* and all the other personal pronouns see Cardinaletti and Starke (1994) and Gärtner and Steinbach (1996 and 2000) and Chapter 5.

20. Miller (1993:183) notes that middle formation from an underlying PP is possible in English as well. In this case the preposition seems to incorporate into the verb:

- (i) a. ?That tree climbs up quickly
b. *That tree climbs quickly up
- (ii) That stove melts over quickly

21. The same holds true for the rare cases of genitive objects ((ii) is an impersonal middle construction):

- (i) a. *Diese Gewohnheit enträt sich leicht
This habit-NOM do.without RP easily
- b. Dieser Gewohnheit enträt es sich leicht
This habit-GEN do.without it RP easily

22. Sentence (25b) is due to Manfred Bierwisch.

23. Note that the politeness forms *Sie* of the second person accusative and *Ihnen* of the second person dative are morphologically identical with the third person plural/female singular accusative pronoun *sie* and the third person plural dative pronoun *ihnen* respectively. The politeness form is totally regular. The corresponding reflexive pronoun is the third person reflexive pronoun *sich*:

- (i) Ich sah Sie *Sie/ sich waschen
I saw you-ACC you-ACC/ RP wash
'I saw you washing yourself'

24. See Fagan (1992:157) for a similar example in English.

25. We also find strange adverbial modifications like example (i). In this example the adverbs describe a property not of the reading event but of the subject itself.

- (i) Seine Geschichten aus dem Bürgertum (Süd-)Europas lesen sich gebildet,
His stories situated in.the middle.class of (Southern-)Europe read RP educated,
lebens- und redegewandt, kosmopolitisch (Die Zeit, 22.1.98)
streetwise and articulated, cosmopolitan
'His stories, which are situated in the middle class of (Southern) Europe, can be read
in an educated, streetwise, articulated, and cosmopolitan way'

26. Older stages of German and some German dialects also seem to have eventive middle constructions, which are not grammatical in Modern Standard German. The following examples are from Grimm (1905:712).

- (i) heut tanzt si' nicks
today dances RP not
'There is no dancing today'
- (ii) Kartlt si' nicks?
card.plays RP not
'Is there no card-playing?'
- (iii) da hat sichs gnug getanzt
there has RP.it enough danced
'People stopped dancing'

27. Fagan (1992:159) points out that middle constructions in French can be eventive, i.e. sometimes they can receive a passive interpretation. In this sense they resemble our German example in (35). French middle constructions (as well as Italian middle constructions, cf. Sections 2.3 and 3.1.2 below) can, however, refer more freely to particular events. Most of these French (and Italian) examples would be ungrammatical in German. This might be due to the morphosyntactic difference between the German and the French/Italian middle marker: whereas the reflexive pronoun in German is an independent word in syntax, it is a verbal clitic in French/Italian. There seems to be a correlation between the passive interpretation of reflexive constructions and the degree of 'grammaticalization' of the reflexive

element. Note that in languages like Modern Greek and Russian reflexive constructions also receive a passive interpretation (cf. Section 2.3 and Chapter 7).

- (i) La question s'est discutée hier dans la salle du conseil
'The issue was discussed yesterday at the council hall'
- (ii) Les vivres se distribueront tout à l'heure au premier étage
'The food will be distributed in a while on the first floor'

Furthermore, middle constructions in English can sometimes be used in progressive form to refer to a specific event (cf. Iwata 1999:532f.).

- (iii) a. The wall is painting easily
- b. These chickens are killing easily
- c. Yesterday afternoon your new book was selling like hell

Besides, Fagan (p. 59) observes that French middle constructions – in contrast to English and German middle constructions – are not necessarily associated with the notion of modality. See also Fellbaum and Zribi-Hertz (1989) for middle constructions in French.

28. Sometimes middle constructions can be modified by *von selbst*. But these sentences do not literally mean that the described event takes place all by itself. Instead we observe some additional pragmatic effect. Sentence (i) means that it is obvious which representative team must be put together. (ii) means that the answer to this question is so obvious that everybody must know it or that something happened or will happen that answers the question. In (iii) the original poem must have been so stimulating that a counterpoem can be written without any (intellectual) effort. See also Greenspon (1996) for similar examples in English. Example (iv) is from the novel *Geschwister Tanner* by Robert Walser.

- (i) Die Auswahl, der Ribbeck seine Premiere als Teamchef anvertraut,
The representative-team, to which Ribbeck his premiere as coach entrust,
hat sich fast von selbst aufgestellt (Berliner Zeitung)
has RP nearly all by itself nominated
- (ii) Die Frage beantwortet sich von selbst (Alan Isler, Der Prinz der West End Avenue)
This question answers RP all by itself
- (iii) Da schreibt sich das Gegengedicht fast von selbst (Robert Gernhardt)
Then writes RP the counterpoem nearly all by itself
- (iv) Man hatte nicht nötig, irgend etwas zu begreifen, es begriff sich nie und wieder *begriff es sich ganz von selbst*, indem es sich in das Horchen nach einem Klang auflöste, oder in das Sehen in die Ferne hinein, [...]

29. Because no implicit first argument is present at all, only the second, internal argument, i.e. the only semantic argument of the anticausative, can control the PRO subject of an infinitive clause. However, this would result in nonsense, as can be seen in (i). In contrast to this, the suppressed argument of the passive in (iii) and middle construction in (iv) can control the PRO subject of the infinitive clause (cf. Chapter 3 for further discussion of this issue):

- | | | |
|-------|---|-------------------------------|
| (i) | *Das Glas füllt sich [um Maria zu ärgern] | (anticausative) |
| | The glass fills RP in order Maria to annoy | The glass annoys Maria |
| (ii) | Peter füllt das Glas [um Maria zu ärgern] | (active/causative) |
| | Peter fills the glass in order Maria to annoy | Peter annoys Maria |
| (iii) | Das Glas wurde (von Peter) gefüllt [um Maria zu ärgern] | (passive) |
| | The glass was (by Peter) filled in order Maria to annoy | 'Impl.arg./Peter annoys Maria |
| (iv) | Das Buch liest sich nur gut [um einzuschlafen] | (middle construction) |
| | The book reads RP only well in order to fall asleep | 'Impl.arg.' falls asleep |

30. German has a subclass of inherent reflexive verbs that can yield a reciprocal interpretation with plural subjects. They differ from the verbs under (46) in being relational, i.e. they establish a relation between two entities, while verbs like *schämen* ('be ashamed') express a property of only one entity. One example is the verb *verkrachen* ('fall out') which is inherently reflexive:

- (i) Peter hat sich mit Maria verkracht
 Peter has RP with Maria fall.out
 'Peter has fallen out with Maria'

The corresponding sentence with a plural subject can either mean that we fall out with someone else (ii) or that we fall out with each other (iii):

- (ii) Wir haben uns gestern mit Maria verkracht
 We have RP yesterday with Maria fell.out
 'Yesterday we have fallen out with Maria'
- (iii) Wir beide haben uns gestern verkracht
 We two have RP yesterday fell.out
 'Yesterday we have fallen out with each other'

Further examples are: *anfreunden* ('become friends'), *einigen* ('agree'), *überwerfen* ('fall out'), *verbrüdern* ('fraternize').

31. We limit the following discussion to Indo-European languages, the family of languages German belongs to. For the middle voice in non-Indo-European languages see Geniušienė (1987), Kemmer (1993), Miller (1993), and Klaiman (1991).

32. These forms are often called mediopassive in the literature. Russian, which we briefly discuss below, is one example. In Ancient Greek passive and middle voice are also almost identical. They differ only in future tense and aorist (Leggiewie 1981, cf. also Klaiman 1991: 82f., or Beekes 1995). But a split in passive and middle voice never occurred in Greek. Modern Greek equals the Russian 'mediopassive': middle and passive are formally indistinguishable. In Latin-Romance the weak reflexive pronoun takes over some of the major functions of the 'old' Latin middle morphology (a verbal affix). This process leads to a morphosyntactic differentiation of middle and passive voice (for the last two points see Miller 1993: 224f.).

33. Klaiman distinguishes three different meanings of the term *grammatical voice*:

- (i) alternations in the verb's argument structure

- (ii) alternations in the subject's participant status
- (iii) alternations in clause-level pragmatic salience

(i) is the most general use of the term grammatical voice for all kinds of argument structure/linking alternations. (ii) corresponds to the way we use this term in the following presentation. Pragmatic voice in (iii) is a distinct type of voice which is relevant to languages where verbal morphemes signal a special pragmatic salience of some constituent. This type of voice will be irrelevant for the present discussion of German and further Indo-European languages.

34. The middle voice in Ancient Greek is semantically very complex and yields a variety of different interpretations. The following examples illustrate only a few interpretations. The examples are from Benveniste (1972) (a = active voice, m = middle voice).

causative:	ορχεομαι (m)	–	ορχεω (a)
	‘I dance’		‘I make someone else dance’
reflexive:	νομουστιθεναι (a)	–	νομουστιθεσθαι (m)
	‘lay down laws’		‘lay down laws for oneself’
‘indirect reflexive’/possessive:	λυειτονιππον (a)	–	λυεταιτονιππον (m)
	‘untie the horse’		‘untie the horse of one’s own’
‘exchange’:	μισθουν (a)	–	μισθουσθαι (m)
	‘let’		‘rent’

35. Another example is Modern Greek, which has two additional strong forms of reflexive markers: apart from the weak reflexive form, i.e. the middle marker, Modern Greek has (a) a reflexive prefix *afto-* which can occur in addition to the middle marker (cf. Tsimpli 1989) and (b) a reflexive NP of the form *ton eafto + possessive pronoun* which can be translated as: ‘the self + possessive pronoun’ (‘the self mine’, ‘the self his/her/its’, ...) (cf. also Chapter 5, Footnote 27). In Modern Greek, like in Ancient Greek, the strong reflexive pronoun can occur together with the weak mediopassive affix (cf. Papakyriacou 1997):

- (i) Peripiithike mono ton eafto tis
care-PA-3SG only the self her
‘She cares only for herself’

The strong form is usually used in coordination, with focus or modification (see Chapter 4 for semantic restrictions on coordination of and focus on reflexive pronouns). Furthermore, in two-form languages the weak reflexive pronoun (i.e. the middle marker) yields a reflexive interpretation only in ‘body part reflexives’, i.e. verbs of personal grooming like *comb*, *wash*, *anoint*, *dress*, ... and verbs of change in body posture. These verbs describe actions that are very likely to be reflexive. In this case one could argue that the reflexive interpretation is salient. With other verbs (e.g. *hear oneself*, *love oneself*, *kill oneself*, ...) the strong form is obligatory to express reflexivity (cf. Kemmer 1993, Klaiman 1991:82f., and Miller 1993). A similar difference can be found in English. Some verbs can express reflexivity without a reflexive pronoun. Other verbs must have an overt reflexive pronoun to yield a reflexive interpretation. The respective verbs are very similar to the corresponding verbs with either weak or strong reflexive forms in Greek and Russian. Therefore, one could argue that English

is also a two-form language. The strong form is the complex word *him-/her-/itself* and the weak form is morphologically empty. We come back to the English and German examples below (cf. also Kemmer 1993).

Note that in many Indo-European languages reciprocal interpretations with plural subjects can also be indicated by weak forms. This also holds true for German Sign Language (DGS), which does not morphologically mark the reciprocal interpretation with plain verbs like SCHLAG ('hit') or MÖG ('like').

- (ii) $_1$ WIR-BEIDE $_2$ SCHLAG
 We.two hit
 'We hit each other'

36. Kemmer (1993) argues that the middle marker has developed from the reflexive marker. This grammaticalization process can be observed in the languages discussed in this section. There seems to be a correlation between loss of phonological and morphological substance and the loss of semantic substance. Content words (or free lexical morphemes) are less grammaticalized than grammatical words, which are less grammaticalized than clitics. Inflectional affixes are the typical grammatical form, i.e. the most grammaticalized items. As opposed to the bound grammatical morphemes in Greek and Russian, the free lexical morpheme in German does not trigger a passive interpretation. The free grammatical morphemes in Italian and French, which are less grammaticalized than their Greek and Russian counterparts but more grammaticalized than the German one, can trigger a passive interpretation, which is, however, less common than the Russian and Greek 'mediopassive'. This observation will be crucial for the analysis of adverbial modification in middle constructions, to which we will return in Chapter 7.

37. Causativity is another possible interpretation of the mediopassive affix:

- (i) O Markos xirizete sto kurio tis gitonias tu
 The Markos shave-PA-3SG at the hairdresser's shop the residential quarter his
 'Markos has his hair cut at the hairdresser's shop in his neighborhood'

38. Thanks to Artemis Alexiadou and Androulla Papakyriacou.

39. Concerning middle formation verbs like *anigo* ('open'), *girizo* ('turn'), *ligizo* ('bend') are class 1 verbs (active) and verbs like *kovo* ('cut'), *diashizo* ('cross'), *gializo* ('polish, shine') belong to class 2 (mediopassive).

40. In the literature the morpheme -SJA has been analysed either as a pronominal clitic or as an affix. Both analyses involve some problems, which do not concern us here. For further discussion see Junghanns (1996) and Schoorlemmer (1996).

The morpheme -SJA seems to have developed from the former accusative singular reflexive pronoun. Klaiman (1991) notes that some modern Indo-European languages have developed a 'neo-middle construction', which is derived from an originally reflexive marker (a pronoun or affix). In Russian the middle marker -SJA seems to result from the grammaticalization of a reflexive pronominal clitic that has been added to the verb in active voice. For a similar observation in Old Norse see Miller (1993:205f.). A similar process might take place in Romance languages like Italian and French (cf. below).

41. The examples are from Junghanns (1996). Special thanks to Assinja Demjjanow for her help with the Russian data. Further interpretations are ‘detransitive’ (i.e. sentences with an implicit internal argument) and causative (like in Modern Greek).

- | | | | |
|------|-------------------------------|----|-------------------|
| (i) | Otec rugaetsja | or | sobaka kusajetsja |
| | father scold-SJA | | dogs bite-SJA |
| | ‘The father is scolding’ | | ‘Dogs bite’ |
| (ii) | Ja strigus’ v parikmayerskoj | | |
| | I hair.cut-SJA at hairdresser | | |

42. In the perfective aspect Russian has a second, periphrastic way of passive formation. This periphrastic form consists of the auxiliary ‘be’ and the passive participle: *dver’ byla zakryta nami*, ‘the door was closed by us’ (cf. Miller 1993:238).

43. The French and Italian *se-/si-*construction seems to lie between the Russian *-sja* and the German *sich-*construction with respect to the degree of grammaticalization. There is diachronic evidence that a weak reflexive element that has become a verbal clitic can be further reduced to a verbal affix. This might be due to a principle which states ‘that it is simpler to have a unified derivation of a given formative’ (Miller 1993:220), i.e. that a formative comes to encode a variety of parallel functions – in this case middle and passive (cf. Miller 1993:205f. on the process of reflexive incorporation in Scandinavian languages and in Russian). In this respect the French and Italian middle construction differs from the German middle construction. Besides, we already mentioned that German, unlike French and Italian, is a one-form language. Furthermore, there is no evidence that the accusative reflexive pronoun in German is a syntactic clitic. In syntax the reflexive pronoun is an independent pronominal object (cf. Fagan 1992, Gärtner and Steinbach 1997 and 2000, and Chapters 3 and 4).

44. Cinque notes, however, that middle constructions in Italian are possible only with the third person singular clitic *si*. (iii) illustrates that other forms are ungrammatical. This does neither hold true for unaccusatives/ergatives or inherent reflexives nor for French middle constructions, which are possible in the first and second person as well (cf. Grimshaw 1982 and Fagan 1992).

- | | | |
|-------|-----------------------------|-----------------------|
| (i) | Io mi avvicino | (ergative) |
| | I RP am going near | |
| (ii) | Io mi ammalo | (inherent reflexive) |
| | I RP get ill | |
| (iii) | *Io mi trasporto facilmente | (middle construction) |
| | I RP transport easily | |

For a discussion of colloquial Toscan, a North-Italian dialect, and the differences between Italian and German middle voice see Abraham (1995b) and the references cited there.

45. According to Cinque (1988), middle constructions in Italian and French need not receive a ‘generic’ interpretation (cf. also Footnote 27 above). Middle constructions can describe particular events and they can be modified by e.g. agentive adverbs. With this ‘eventive’ reading the interpretation of middle constructions in Italian and French does not differ from the interpretation of (periphrastic) passives. Fagan (1992:58) points out that a *by*-phrase is possible in earlier stages of French with middle constructions describing a partic-

ular event and Cinque (1988:Footnote 11) notes that ‘in more rhetorical styles of Italian, *by*-phrases are found to cooccur with *si*’. In some Italian dialects middle constructions can yield a generic reading only.

46. The examples are from Miller (1993). For a more detailed survey of French middle constructions see Grimshaw (1982), Fagan (1992), and Dobrovi-Sorin (1998). The corresponding strong forms are ‘*elle-même* (herself), *lui-même* (himself), ...’.

47. German has only a few corresponding examples: *duschen* (‘take a shower’) and *baden* (‘take a bath’) can be used with or without a reflexive pronoun. The unmarked interpretation of (i) without the reflexive pronoun is: I am taking a shower. The transitive sentence in (ii) means that I give someone (i.e. the dog) a shower.

- (i) Ich dusche (mich)
I take.a.shower (RP-ACC)
‘I take a shower’
- (ii) Ich dusche den Hund
I give.a.shower the dog-ACC
‘I give the dog a shower’

48. We mentioned above that in two-form languages the weak reflexive marker (i.e. the middle marker) yields the reflexive interpretation only with a limited class of verbs usually describing actions that are mainly reflexive (or reciprocal). These verbs are to some extent identical to the English verbs that can express reflexivity without a reflexive pronoun. Hence, English also seems to be a two-form language, which distinguishes weak from strong reflexive forms.

This is by no means the case in German. While the preferred interpretation for the intransitive English sentence in (i) is the reflexive interpretation (i.e. coreference of the subject and the implicit object), the corresponding German sentence in (ii) cannot receive a reflexive interpretation. You might utter sentence (ii) without the reflexive pronoun only if shaving is your profession.

- (i) I am shaving (I am shaving myself)
- (ii) Ich rasiere (I am shaving someone)

The same contrast between English and German can be found with many verbs, e.g. *hide* or *meet* and their German equivalents *verstecken* or *treffen*. This might be due to the fact that German, as opposed to English, has no weak reflexive pronouns. In German we cannot tell the weak from the strong form of the reflexive pronoun (cf. also Footnote 53 below).

However, unexpected differences in the interpretation of intransitive sentences can be found even within one language. Semantically related verbs like *dress* and *cloth* can differ with respect to reflexivity (cf. Jackendoff 1987).

- (iii) I dressed
- (iv) *I clothed

Furthermore, Miller (1993:193) notes that the unmarked interpretation of (v) ‘would involve laundry’, while sentence (vi) is ambiguous between the interpretation we get for sentence (v) and the reflexive interpretation.

(v) John washed all day long

(vi) John is washing (He is washing himself/his laundry)

The interpretation of reflexive constructions seems to depend at least on the respective pronominal paradigms of languages and possibly on further semantic and contextual/pragmatic factors.

49. We mentioned above that German has two kinds of anticausatives. Most verbs that undergo the causative-anticausative alternation belong to one and the same class. As opposed to this, Dutch has some verbs that can be found in both classes simultaneously (cf. Everaert 1986).

(i) De suiker lost op
The sugar dissolves up

(ii) De suiker lost zich op in het water
The sugar dissolves *RP* up in the water

50. Cornips (1996) notes that some southern dialects of Dutch have reflexive middle constructions. Not surprisingly these dialects are spoken in an area close to the German border.

51. English has no morphosyntactic middle marker at all. The reflexive interpretation is expressed either by a (strong) reflexive pronoun or without a pronoun (cf. Footnote 48 above). But we already mentioned that English can also be analyzed as a two-form language, which distinguishes weak from strong reflexive pronouns. The weak form is morphologically empty and the corresponding sentences are simply intransitive in syntax (cf. Figure (65) below). According to this assumption, English would correspond to French and Italian.

52. In MHG, the dative personal pronoun receives a reflexive interpretation in object position and in prepositional phrases.

(i) ein herr het mancherlei luit under im (MHD, Grimm 1877:2047)
a master has various persons under him-DAT
'A master is in charge of many people'

"Im allgemeinen kann man sagen, daß, von präpositionalen Verbindungen abgesehen, das reflexivische *ihm, ihr, ihnen* sich behauptet bis zum Ausgang des 17. Jahrh.; erst mit dem 18. Jahrh. ist die Herrschaft des Dativs *sich* bis auf Reste entschieden." (Behagel 1923:299). The reflexive pronoun *sich* first superseded the dative personal pronoun in prepositional phrases. Early examples for this are attested in Old High German (Grimm 1905:709f. and Moser et al. 1988:171f.). Example (ii) is from Swiss German (Grimm 1905:709).

(ii) er läpt ganz für inn
he lives completely for him-DAT

53. Old English, on the other hand, does not have reflexive pronouns at all. The personal pronouns (*him, her, it, ...*), like the dative pronouns in German, are used for principles A and B. The reflexive pronouns (*himself, herself, itself, ...*) in Modern English have developed from the personal pronouns and the adnominal focus particle *-self*. Therefore, English never had 'pure' reflexive pronouns that unambiguously mark the middle voice. Note that in

Middle High German locally bound dative personal pronouns (principle A) are often supported by the adnominal intensifier *selbst* ('self'). However, unlike English, German does not develop a corresponding reflexive form (i.e. *ihmselbst* 'himself, itself', *ihrselbst* 'herself') because the simple reflexive form *sich* supersedes the locally bound personal pronoun. See Gelderen (2000) and Section 4.2.2.6 for more details.

54. Many thanks to Marie Christine Erb for making me aware of this point (cf. also Andersen 1993 and Hermodsson 1952: 30f.).

55. Besides, in most German dialects the reflexive pronoun, unlike most personal pronouns, cannot even be prosodically reduced. Most personal pronouns can phonologically cliticize to an adjacent foot or syllable in phonology (e.g. *ich habe ihn gesehen* vs. *ich hab'n gesehen*, i.e. 'I have seen him') (cf. Hall 1998: 107, Gärtner and Steinbach 1996 and 2000, and also Section 4.1).

56. In ergative languages the corresponding construction is sometimes called 'antipassive'. In such languages the suppression of the internal argument (and the 'promotion' of the external argument) is morphologically marked by an extra anticausative verbal affix (cf. Miller 1993: 150f. for more details). The middle marker in Russian can also receive an antipassive interpretation (cf. Footnote 41 above).

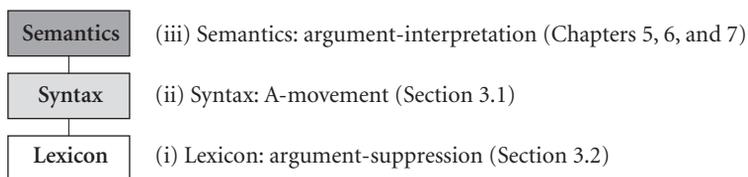
57. In Section 2.2 we illustrated that German has two kinds of anticausative constructions, one of which is transitive and reflexive. The second one is simply intransitive. In Chapter 5 we will argue that the second kind is not anticausative but basically unaccusative. In this case, the causative variant is derived from the 'anticausative' unaccusative one by argument addition. As a consequence, intransitive sentences in German do not yield an anticausative reading.

Lexical and syntactic approaches to middle formation

This chapter is concerned with recent analyses of middle constructions. Besides, we also discuss anticausative formation in Sections 3.1.3 and 3.2. Almost all theories prefer a syntactic or lexical (presyntactic) solution: middle constructions are derived either in the lexicon by a lexical rule of middle formation or in the syntax by means of A-movement. Thus, all syntactic or lexical analyses somehow manipulate the selectional properties of the verb or the linking of the verb's arguments.

Besides these two analyses, a conceivable third approach, which derives the thematic interpretation of middle constructions at the interface between syntax and semantics, has never been worked out in detail. We will argue that this postsyntactic analysis, which takes the surface syntactic structure of middle constructions more seriously, permits a unified analysis of the German middle voice that we introduced in Section 2.4 (i.e. of transitive sentences with an accusative reflexive pronoun). In a postsyntactic approach, no lexical or syntactic manipulation of the verb's argument structure and no additional ad hoc linking-principles are necessary. The middle construction is one possible interpretation of transitive reflexive sentences in German. The semantic ambiguity of transitive reflexive sentences can be reduced to a morphosyntactic ambiguity of the accusative reflexive pronoun in object position or, to be more specific, to the binding relation between the subject and the accusative object. This postsyntactic analysis predicts that middle constructions do not raise any theoretically important issues in terms of syntax or the lexicon. In the following chapters we develop a postsyntactic analysis of the middle voice in German. This chapter deals with the shortcomings of traditional lexical and syntactic analyses of middle constructions. The three possible analyses of middle constructions are illustrated in Figure (1).

(1) Possible analyses of middle constructions



The first two analyses (i) and (ii) are related to the common perspective on the interface between the lexicon and the syntax. Every analysis that assumes a one-to-one relation between semantic and syntactic arguments of a verb (as is claimed e.g. in the theta-criterion) must manipulate the selectional properties of a verb somehow to make them compatible with the ‘argument structure’ of the middle construction. Two possibilities immediately come to mind: we can derive middle constructions, like passives, in syntax by means of A-movement of a deep structure object to the subject position, or we can derive a compatible argument structure presyntactically in the lexicon by means of argument suppression and argument promotion. Discussions of English, Dutch, Italian, and German middle constructions illustrate these two ways of analyzing middle formation. Ironically, analyses of reflexive middle constructions in many languages have been influenced by the analysis of their non-reflexive counterparts in English and Dutch.

The analyses of Stroik (1992, 1995, and 1999) and Hoekstra and Roberts (1993), for example, are inspired by syntactic analyses of passives. They analyze middle formation as a syntactic operation. All semantic arguments of a verb are obligatorily linked to syntax. The external theta-role is assigned to an empty pronominal element and the internal theta-role is regularly assigned to the deep structure object, which moves to the external subject position for case reasons. This kind of analysis is compatible with Baker’s (1988) *Uniformity of Theta Assignment Hypothesis* (UTAH). Syntactic derivations of middle constructions can mainly be found in the discussion of English and Dutch. This is not surprising. Recall from Section 2.3 that English and Dutch middle constructions are morphosyntactically unmarked intransitive sentences. In contrast to Italian and German, middle constructions in Dutch and English do not select an additional reflexive pronoun. Hence, middle formation in these two languages could, in principle, be analyzed as a kind of morphosyntactically unmarked passive. Hale and Keyser (1987), Fagan (1988 and 1992), and Ackema and Schoorlemmer (1994 and 1995) are advocates of a lexical explanation of middle constructions in English and Dutch. They derive middle

constructions on a presyntactic level of semantic representation (the Lexical-Conceptual Structure). Ackema and Schoorlemmer (1994), for example, assume a lexical rule of middle formation (MF): *Actor* = *ARB*. Arguments that are *ARB* must not be projected syntactically and receive an arbitrary interpretation. Hence, the second argument on the thematic hierarchy is linked to the subject position.

In the following subsections we discuss the shortcomings of lexical and syntactic analyses of middle constructions. This chapter is organized as follows. In the next section we criticize syntactic analyses of English, Dutch, Italian, and German middle constructions. Section 3.2 deals with the shortcomings of lexical (or presyntactic) approaches to middle constructions in English, Dutch, French, and German. A greater part of the literature deals with English (and Dutch) middle constructions. Therefore, we always begin with a discussion of English and Dutch. Our criticism of these analyses is twofold. First, we discuss the conceptual and empirical shortcomings of analyses of English and Dutch middle constructions. Then we check whether these analyses can be applied to German. In a second step we discuss analyses of Italian *si*- and French *se*-constructions. In contrast to their English and Dutch counterparts, Romance middle constructions are reflexive and resemble therefore the German middle construction, which is our primary interest. Finally, we turn to syntactic and lexical analyses that have been proposed for middle constructions and anti-causatives in German. We will see that all lexical and syntactic analyses of middle formation make several empirical predictions that turn out to be incorrect, at least for German. At best, additional stipulations are necessary to explain the data in German. Furthermore, neither lexical nor syntactic theories can state any theoretically relevant generalization about middle constructions in German. And finally, these analyses do not offer an explanation of the ambiguity of transitive reflexive sentences in German and more general of (weak) reflexive pronouns. Therefore, we will argue for an alternative explanation of middle constructions in German, which is illustrated in (iii) in Figure (1) above. So far, Condoravdi (1989) and partly also Zwart (1998), to our knowledge, seem to be the only advocates of a postsyntactic solution.¹

3.1. Syntactic theories

Let us begin with the discussion of the syntactic derivation of English and Dutch middle constructions (3.1.1), which has influenced the analysis of middle constructions in various languages. Advocates of a syntactic analysis em-

phasize the similarity between passives and middle constructions with respect to argument linking (cf. Chapters 1 and 2). Furthermore, they tacitly start from the assumption that a syntactic analysis of passives is generally accepted. Therefore, their basic assumption is that the semantic interpretation of syntactic arguments in middle constructions can be derived in syntax by means of A-movement. The syntactic subject of a middle construction is base-generated in object position at deep structure (i.e. the complement position of V°). In this position it receives the theta-role of the internal or second argument (usually theme or patient). For case reasons the deep structure object moves into the subject position (IP,Spec). Hence, A-movement creates a chain that receives nominative case and the internal theta-role. We will begin with a discussion of the shortcomings of syntactic analyses of English and Dutch middle constructions. Then we will prove whether this idea would work in languages with reflexive middle constructions. We are mainly interested in the licensing conditions for the reflexive pronoun. In Subsection 3.1.2 we will deal with the syntactic derivation of Italian middle constructions and in 3.1.3 we will turn to syntactic analyses of German middle constructions.

3.1.1 English and Dutch

Stroik (1992, 1995, and 1998), Hoekstra and Roberts (1993) – henceforth H&R –, and den Dikken (1997) analyze middle formation in English and Dutch as a syntactic process. The external theta-role is assigned in syntax to either *pro* in VP,Spec (H&R 1993), as is illustrated in (2a), or *PRO* adjoined to VP (Stroik 1992), as is illustrated in (2b). The subject of the middle construction is base-generated in the complement position of the verb, where it receives the internal theta-role in the D-structure object position (t_i in (2)). Then it moves to the IP,Spec position for reasons of case (cf. Ackema and Schoorlemmer 1995: 174). Hence, both Stroik and H&R assume “that the lexicosemantic structure of a middle verb is the same as that of its active counterpart.” (Stroik 1999: 120)

- (2) a. [_{IP} walls_i [_{I'} [_{VP} *pro* [_{V'} paint t_i easily]]]] (H&R 1993)
 b. [_{IP} walls_i [_{I'} [_{VP} [_{VP} paint t_i easily]] *PRO*]] (Stroik 1992)

Ackema and Schoorlemmer (1995) criticize three main shortcomings of Stroik (1992) and H&R (1993), which we briefly discuss.² First, none of the arguments in favor of the syntactic presence of an empty pronominal element is convincing. Second, the same is true of the licensing conditions for the implicit argument.³ Third, a movement analysis of middle constructions overgenerates: middle formation is more restricted than passive formation. Additionally, we

discuss the shortcomings of den Dikken (1997), who proposes a slightly modified version of H&R (1993). And finally, we argue that this kind of movement analysis cannot be applied to middle formation in German.

Consider H&R's analysis first. They argue that middle constructions in English and Dutch have a base-generated *pro* in the position of VP,Spec, which receives the external theta-role of the verb. At the same time the D-structure object moves into the subject position at S-structure to receive nominative case.⁴ The VP-internal *pro* is licensed by an extra condition H&R call 'arb licensing' (cf. H&R 1993:190).

- (3) A, a lexical head, assigns the index arb to *pro* in its Θ -assignment domain (sister of A). This index may be identified by a modifier or by some morphological element.

H&R propose a special licensing condition for *pro* in middle constructions, which is not morphologically licensed but only 'arb licensed' and, therefore, (by stipulation) syntactically inactive. H&R "introduce a syntactic element that does not manifest itself" (Ackema and Schoorlemmer 1995:176). It seems impossible to find empirical evidence for a syntactically inactive non-overt element. A syntactically inactive *pro* can neither bind a reflexive pronoun nor control PRO in adjunct clauses. However, this contradicts Stroik's analysis, which considers binding and control data to be clear empirical evidence for the presence of a (syntactically active) implicit external argument (cf. below). As opposed to claims by H&R, anaphor-binding and PRO-control by the implicit first argument are not ungrammatical in middle constructions. Nevertheless, we will see shortly that neither binding nor control provide a compelling argument for the presence of *pro*/PRO in syntax.

Although definition (3) states that the 'arb-index' may be identified by a modifier, H&R assume that the 'arb-index' must be identified by some adverb in middle constructions. According to H&R, adverbs like *easily* in (2) select an experiencer role, which 'identifies' *pro* in middle constructions via 'theta-identification' (cf. Higginbotham 1985). The adverb's experiencer role is identified with the verb's external theta-role and the resulting 'complex' theta-role is assigned to *pro* in VP,Spec to somehow 'identify' *pro* (cf. also Pitz 1988 and Abraham 1995 for a similar idea). This is illustrated in (4) – *i*-subscripting marks Θ -binding of the (dependent) event role, *k*-superscripting marks Θ -identification of the external Θ -role (cf. also den Dikken's 1997 modification of H&R's analysis, which will be discussed below).⁵

- (4) [_{VP} pro [_{V'} [_{V'} V < Θ^k, Θ, E_i > NP] Adv < Θ^k, Θ_i >]]



As a consequence, all adverbs modifying middle constructions must select an experiencer role. This assumption is ad hoc and semantically unmotivated.⁶ Moreover, we saw in Chapter 2 that adverbial modification is not obligatory in middle constructions in German. The same holds true for English and Dutch (cf. Ackema and Schoorlemmer 1995:179). We will argue in Chapter 7 that in the appropriate context middle constructions are grammatical without adverbial modification. For these examples H&R have to assume an empty adverb to provide the decisive experiencer role to identify the pro-*arb*. In addition to theta-identification, the adverb also ‘binds’ the event-role of the verb. One consequence of this event-binding is that middle constructions are non-eventive sentences. But then we expect all sentences containing a typical ‘middle-adverbial’ to be non-eventive because the adverb always ‘binds’ the verb’s event-role. A prediction that is obviously too strong. Moreover, the verb’s event-role should not be available for event-modifying adverbs like *always* or *usually* even though they are grammatical in middle constructions (cf. below).⁷ According to H&R’s approach, middle formation is limited to verbs selecting an external theta-role. Stroik (1999) predicts that the implicit argument in middle constructions must receive the theta-role agent.⁸ As mentioned in Section 2.1.1, both restrictions do not hold true for German. Unaccusative verbs, as well as non-agentive verbs like *verlieren* (‘lose’) in (5a) or *finden* (‘find’) in (5b) that do not select an agent argument, are perfectly grammatical in middle constructions. Middle formation with unaccusative and non-agentive verbs seems to be possible in Dutch as well, as the examples in (5c–e) illustrate – example (5b) is taken from Bernhard Schlink, *Der Vorleser*.⁹

- (5) a. Sowas verliert sich schnell
 Something.like.that loses RP quickly
 ‘You lose such things quickly’
- b. Der Abdruck [der Adresse] fand sich lesbar auf
 The impression [of.the address] found RP readable on
 [dem] Papier
 [the] paper
 ‘A readable impression of the address could be found on the paper’
- c. ?In je eigen bed sterft het een stuk prettiger
 In the own bed dies IT a bit more.agreeable

- dan in een bejaardenhuis
 than in the old.people's.home
 'Dying in one's own bed is more comforting than dying in an old
 people's home'
- d. Op/via de snelweg rijdt het een stuk lekkerder
 On/via the highway drives IT a bit more.comfortably
 naar Berlijn
 to Berlin
 'On the highway you can drive a bit more comfortably to Berlin'
- e. Kleinen munten raken gemakkelijk kwijt
 Small coins lose easily PARTICLE
 'Small coins can be lost easily'

These shortcomings lead den Dikken (1997) to modify H&R's analysis. Den Dikken agrees with H&R that the event-role of the middle construction must be bound, but unlike H&R, he does not assume that the external theta-role is assigned in syntax. Den Dikken claims that the event-role can be bound not only by an adverb, but also by an operator. He assumes that 'base transitive' verbs have a dependent event-role that must be bound via theta-binding or (parasitic) operator binding. In transitive sentences, the verb's event-role is bound by a second event-role, which is introduced by the light verb *v*, as can be seen in (6a). This second event-role E^1 is by stipulation independent and must not be bound. Den Dikken assumes that middle constructions consist of only the basic VP as (6b) illustrates. In this case, the event-role of the verb cannot be bound by E^1 . Therefore, it must be bound by an adverb or by some operator.

- (6) a. $[_{VP} NP [_{V'} [V < \Theta, E^1_i >] [_{VP} [_{V'} [V < \Theta, E^2_i >] NP]]]]$
 b. $[_{VP} [_{V'} [V < \Theta, E^2_i >] NP]]$

Various operators are supposed to bind the event-role of middle constructions in syntax: negation, WH, or focus. We shall not discuss the syntactic and semantic consequences of 'parasitic' event-binding in questions and sentences with negation. Instead, we will confine ourselves to a few remarks on focus. First, recent theories of focus assume that focus is a syntactic feature assigned to a constituent that triggers a specific semantic (and phonological) interpretation. Moreover, in semantics, the focus of a sentence is bound by a focus sensitive or illocutionary operator (cf. Chapter 4 for more details). We are not clear about the syntactic status of den Dikken's focus operator and about the syntax and semantics of parasitic focus binding. Second, a syntactic focus operator (or a focus projection/designated focus position) cannot be empirically motivated for languages like Dutch and German (cf. Gärtner and Steinbach 2000).

Third, den Dikken assumes that only focus on the verb can bind its event-role because narrow focus on the subject would have no ‘access’ to the verb’s event-role. However, bare middle constructions with focus on the subject like (7) are as grammatical as middle constructions with narrow focus on the verb.

- (7) a. Which door opens? Take the second one. THAT door opens
 b. Die HOSEN verkaufen sich aber die MÄNTEL da drüben sind
 The pants sell RP but the coats over there are
 ein Ladenhüter
 a shelf.warmer

Anticausatives pose yet another problem. Den Dikken assumes that anticausatives, like middle constructions, only consist of one VP. The external argument, which is introduced by v (in VP,Spec), is again not present in syntax (and in this case it is also absent in semantics, cf. Section 2.2 above). Therefore, the dependent event-role of V is not theta-bound by the independent event-role of v , and contrary to fact, anticausatives are expected to be non-eventive, too. As illustrated in Section 2.2, anticausatives usually describe particular events. The same problem arises for ergatives/unaccusatives in general.¹⁰

Let us turn now to Stroik’s (1992) analysis of middle constructions. As opposed to H&R (1993), Stroik assumes that the external theta-role, which is assigned to PRO in syntax, is syntactically active. Stroik gives empirical motivation for the syntactic presence of PRO. He shows that the external argument is able to bind a reflexive pronoun and to control the PRO subject of an embedded infinitive. Furthermore, it can be overtly realized as a *for*-PP.¹¹ Let us discuss binding first. Stroik argues that the reflexive pronoun contained in the subject NP in (8) must be bound within its governing category in syntax because of principle A of binding theory. Therefore, *oneself* in (8) must be coindexed with a nonovert NP argument that c-commands it at some syntactic level. (8) illustrates that PRO c-commands the anaphor/reflexive pronoun *oneself* at D-structure.

- (8) [[Books about oneself]_i]_j never read t_j poorly] PRO_i]

Pollard and Sag (1994) and Reinhart and Reuland (1993), however, argue that reflexive pronouns that are contained in so-called picture-noun-phrases like *books about oneself* in (8) are best treated as logophors (see also Zribi-Hertz 1989). According to Pollard and Sag (1994) and Reinhart and Reuland (1993) – henceforth R&R –, the application of binding conditions should be restricted to co-arguments of the same predicate. Therefore, not all occurrences of reflexive pronouns are subject to binding theory. R&R’s reformulation of the binding

principles is given in (9). We give only the relevant conditions. In Chapter 5 we come back to R&R's and Pollard and Sag's binding theories.

- (9) Binding theory of R&R (1993:678):

Definitions

...

- c. A predicate is *reflexive* iff two of its arguments are co-indexed.
- d. A predicate is *reflexive-marked* iff either P is lexically reflexive or one of P's arguments is a SELF anaphor.

Conditions

- A: A reflexive-marked syntactic predicate is reflexive.
- B: A reflexive semantic predicate is reflexive-marked.

Reflexive pronouns that have no co-argument are exempt from binding condition A and B and are therefore not bound in syntax. The binding conditions as defined in (9) do not say anything about logophoric or exempt anaphors. Reflexive pronouns that are exempt from condition A are subject to non-syntactic binding constraints like e.g. point of view (cf. Chapter 5 for more discussion). That logophors need not be bound at all in syntax is independently motivated by the examples in (10). The reflexive pronoun, which is embedded in the subject NP, has either no antecedent at all, as can be seen in (10a and b), or its antecedent does not c-command the reflexive pronoun, as is illustrated in (10c).¹² It follows that example (8) can be explained without assuming that the external theta-role is assigned in syntax (cf. also Zribi-Hertz 1993 and Ackema and Schoorlemmer 1995 for the same line of argumentation).

- (10) a. Physicists like yourself are a godsend
 b. Books about oneself can bring much grief
 c. The picture of himself that John saw in the post office was ugly

Besides, Stroik himself argues in his (1999) article that the external (agent) argument in middle constructions, which can optionally be linked to a *for*-PP, is bound by the syntactic subject and not vice versa. Hence, the reflexive pronoun in (8) cannot be bound by the implicit argument. We return to this issue below.

Stroik's second argument in favor of a nonovert pronominal subject in middle constructions is based on PRO-control in infinitives. It is the implicit PRO argument of the middle construction that controls the subject PRO of an embedded infinitive in sentences like (11).

- (11) Potatoes usually peel easily PRO_k [after PRO_k boiling them]

Stroik himself remarks that not all cases of PRO-control can be explained syntactically. Ackema and Schoorlemmer (1994) cite Koster (1987), who distinguishes ‘anaphoric control’ from ‘nonanaphoric control’. Koster argues that only the former (anaphoric control) is syntactic and relies on c-command. Nonanaphoric control, on the other hand, need not be syntactic. In many cases, the controller of the embedded PRO must be inferred pragmatically, regardless of whether the matrix clause is a middle construction or not.

- (12) a. Potatoes are tastier [after PRO boiling them]
 b. We found plans to kill the Ayatollah
 c. We have plans to kill the Ayatollah Koster (1987)

In (12a) the adverbial clause containing the PRO subject does not differ from the one in (11), but in this case the matrix clause does not contain an implicit argument to control the embedded PRO subject. Nevertheless, this sentence is not ungrammatical. The PRO subject in (12a) is (pragmatically) controlled. (12b and c) are two more examples that involve ‘nonanaphoric control’. In both examples “the controller is an implicit argument of *plans* (someone’s plans, our plans), the nature of which is again determined pragmatically.” (Koster 1987: 116) Lasnik (1988) gives a further interesting example which shows that PRO need not be controlled by a (non-)overt syntactic element. Consider example (13a) first. In this case, the overtly realized agent *the navy* seems to be the (anaphoric) controller of the embedded PRO subject. In (13b), on the other hand, the agent-role is not overtly realized. One might argue that the implicit agent-role in passives is assigned to some nonovert element in syntax, which controls the PRO subject of the embedded clause. So far this is in line with Stroik’s analysis of middle constructions. But now consider sentence (13c). The external theta-role (in this case instrument) of the subject of the corresponding active sentence is assigned to the PP *by a torpedo*. A pure syntactic theory of control predicts that the *by*-phrase controls the PRO subject. But this is certainly not what sentence (13c) means. Usually a torpedo does not prove a point. (13c) is again an example for pragmatic control even in a case where a potential syntactic controller is present.

- (13) a. The ship was sunk by the navy [PRO to prove a point]
 b. The ship was sunk PRO_k [PRO_k to prove a point]
 c. The ship was sunk by a torpedo [PRO to prove a point] Lasnik (1988)

A third argument that is brought forward in Stroik (1992 and 1999) concerns the overt realization of the external agent-argument. Stroik argues that the prepositional phrase in (14) can be linked to PRO. Furthermore, he ar-

gues that binding data like (14b) show that the prepositional phrase and the syntactic subject must be co-arguments (cf. Stroik 1999: 127). Note that the examples in (14) only show that the first semantic argument of the verb can be linked to a syntactic constituent. However, they do not prove that the first semantic argument must always be linked. We do not see any reason for the assumption that optional arguments are always linked to some salient syntactic category. Otherwise we would have to introduce nonovert syntactic elements for nearly any kind of implicit argument: optional instrumental PPs, optional directional PPs, optional theme-arguments in locative inversion, optional accusative objects, or optional dative objects in German, to mention just a few. But this would lead to an unwarranted proliferation of non-overt syntactic elements. Besides, although the binding data are less clear in German, the reflexive pronoun in (14c) seems to be less grammatical than the personal pronoun.¹³ Furthermore, we mentioned in Chapter 2 that *for*-PPs in middle constructions are much more restricted than *von*-phrases (*by*-phrases) in the corresponding passives in German (cf. 14d and e).¹⁴ We come back to binding theory in Chapter 5 and to *for*-PPs in middle constructions in Chapter 7 (cf. also Fellbaum and Zribi-Hertz 1989 and Zribi-Hertz 1993).

- (14) a. Physics books always read slowly for Lou
 b. Mary₁ photographs well for Max and herself₁/*her₁
 c. Also ich finde, der Enzensberger liest sich auch für *sich/
 Well, I think the Enzensberger reads RP also for RP/
 ?ihn (selbst) ganz gut
 him (him)self very well
 ‘Well, I think that Enzensberger himself can also read his books very well’
 d. ???Also ich finde, für Maria lesen sich die neuen Physikbücher
 Well I think for Maria read RP the new physics.books
 leicht
 easily
 ‘Well, I think that the new physics books are easy to read for Maria’
 e. Die neuen Physikbücher wurden von Maria gelesen
 The new physics.books PAS by Maria read
 ‘The new physics books were read by Maria’

So far we have seen that neither of Stroik’s empirical arguments provides convincing evidence for the claim that an implicit external argument in middle constructions is obligatorily present in syntax. The second shortcoming of all syntactic movement-analyses is that in many languages middle and passive

formation are not subject to the same restrictions (cf. also Footnote 4 above).¹⁵ If middle formation was merely an application of move- α , we would expect to find middle constructions, like passives, with ECM subjects.¹⁶ ‘Promotion of an object’ by middle formation is, however, only possible if the promoted element is somehow thematically related to the verb. ECM subjects cannot undergo middle formation in English (cf. 15a).¹⁷ Another difference between middle constructions and passives is illustrated in (15c and d). Double object constructions do not permit middle formation. The first object NP can be moved into the subject position only in passives.

- (15) a. *John believes to be a fool easily
 b. John was believed to be a fool
 c. Linguists were sold War and Peace
 d. *Linguists don’t sell books (Ackema and Schoorlemmer 1994:80)

In Dutch and German some middle constructions do not have a corresponding passive. We already mentioned that German, like Dutch, has adjunct middles (cf. Section 2.1). However, German does not have adjunct passives, as can be seen in (16c).

- (16) a. Peter schreibt mit meinem neuen Füller
 Peter writes with my new pen
 ‘Peter writes with my new pen’
 b. Mein neuer Füller schreibt sich gut
 My new pen writes RP well
 ‘With my new pen you can write well’
 c. *Mein neuer Füller wird geschrieben
 My new pencil PAS written

A fourth difference between passivization and middle formation is that they are subject to different semantic constraints. As opposed to the subject of middle constructions, the subject of passives need not be ‘responsible’ for the event described by the verb (cf. Section 2.1.2) and passives need not be ‘generic’ statements.

Note finally, that passives and middle constructions differ with respect to adverbial modification. As opposed to middle constructions, passives are generally acceptable without an adverbial. Furthermore, only passives permit subject oriented adverbs and the interpretation of certain manner adverbs such as *schnell* (‘quickly’) is not identical in middle constructions and passives (cf. Section 2.1.4 and below for further discussion).

Further problems arise when we try to apply a syntactic movement analysis to middle constructions in German. Unlike middle constructions in English and Dutch, their German counterparts are transitive reflexive sentences. They obligatorily select a reflexive pronoun in the position of the accusative object.

- (17) a. Die Tür öffnet sich leicht (middle construction)
 The door opens RP easily
 ‘The door opens easily’
 b. Die Tür wurde geöffnet (passive)
 The door PAS opened
 ‘The door was opened’

As they stand, these movement analyses cannot account for the presence of an overt reflexive pronoun in German middle constructions. A-movement of the deep structure object (the complement of the verb) is motivated by the Case Filter (cf. Chomsky 1981). In German, verbs in personal and impersonal middle constructions assign accusative case. Hence, there is no reason for the deep structure object to move into the subject position (cf. also Fagan 1992). A-movement of the internal argument (the D-structure object) and the appearance of the reflexive pronoun in the position of the accusative object cannot be easily motivated under common syntactic assumptions. Besides, as we have already mentioned, impersonal passives must not have the impersonal (or pleonastic) subject *es* (‘it’) (cf. 18c and d), whereas impersonal middle constructions are ungrammatical without the impersonal subject as (18a and b) illustrate.

- (18) a. Es tanzt sich gut hier (impersonal middle construction)
 It dances RP well here
 ‘Here you can dance well’
 a’. *Hier tanzt sich gut
 b. ... weil es sich hier gut tanzt
 b’. *... weil sich hier gut tanzt
 c. *Hier wird es gut getanzt (impersonal passive)
 Here PAS it good danced
 ‘People here are dancing well’
 c’. Hier wird gut getanzt
 d. *... weil es hier gut getanzt wird
 d’. ... weil hier gut getanzt wird

We conclude that a syntactic derivation of English and Dutch middle constructions is confronted with various empirical and conceptual shortcomings. Both

A-movement and the syntactic presence of the suppressed external argument lack independent evidence. Moreover, passivization and middle formation are subject to different restrictions. The application of theories developed for English and Dutch to German yields further problems. Middle constructions in German are transitive. There is no necessity for A-movement because the verb assigns accusative case in middle constructions. Furthermore, a passive-like syntactic analysis of middle constructions cannot account for the presence of the accusative reflexive pronoun without additional assumptions. In the next subsection we will turn to analyses of reflexive middle constructions. We will take a closer look at syntactic derivations of middle constructions in Italian and German and are mainly interested in the licensing conditions for the reflexive pronoun.

3.1.2 Italian

In Chapter 2 we have already mentioned that middle constructions in Italian, like their counterparts in German, are morphosyntactically active sentences with a reflexive pronoun in object position. Italian middle constructions are only grammatical with the verbal clitic *si*. Moreover, the (weak) reflexive pronoun, i.e. the middle marker, is as ambiguous in Italian as in German. Besides these similarities, the Italian and German middle voice differ in several respects. (i) Italian middle constructions can refer more easily to particular events (i.e. the generic interpretation is optional). They are more passive-like than their German counterparts. (ii) Therefore, they need not be modified by a manner adverbial (cf. Section 7.2 below). (iii) Italian has no corresponding impersonal middle constructions. (iv) Italian has only the third person singular middle marker *si*, which is a verbal clitic in Italian but not in German (cf. also Section 2.3, Footnotes 43–45). We refer the reader to Abraham (1995a: 34f.) for a more detailed discussion of the differences between the Italian and German middle voice. Additionally, the middle voice in Italian (i.e. the *si*-construction) may have an impersonal subject interpretation that is not available in the corresponding German construction (cf. 19).¹⁸ In sentence (19) the verb does not agree with its internal argument *gli spaghetti*. Sentence (20) corresponds to the German middle construction. In this case, the second (or internal) semantic argument is linked to the subject. Manzini (1986) and Cinque (1988) argue that in sentence (19) the NP *gli spaghetti* is the accusative object of the sentence, and the verbal clitic *si* forms a chain with a morphologically empty expletive subject that is assigned nominative case (note that Italian is a pro-drop language). The verb is specified as third person singular in this case. In (20) the same NP

gli spaghetti receives nominative case either by overt movement to Spec of IP or by chain-formation with an expletive element in this position. In this example the verb agrees with the plural NP *gli spaghetti*. Both examples are from Cinque (1988:554).

- (19) Qui, si mangia spesso gli spaghetti
 Here RP eats often the spaghettis
 'Here one often eats spaghettis'
- (20) Qui, gli spaghetti si mangiano spesso
 Here the spaghettis RP eat often
 'Here the spaghettis are often eaten'

Because the *si*-construction in Italian is highly complex and the data are very subtle, we limit the following discussion to middle *si*-constructions. We are mainly interested in whether the analysis of the Italian middle construction can also be applied to German. We have little to say about the impersonal 'subject' *si*.¹⁹ Manzini (1986) offers a uniform treatment of all occurrences of *si*. According to Manzini, *si* is a verbal clitic that is always linked to a semantic argument of the verb. She formulates the following basic lexical entry for *si*.

- (21) *si*: – variable
 – argument
 – N
 – third-person, unspecified number and gender
 – clitic on the verb
 – bound to its subject
 – (passivizer)

The first and the last two properties are crucial for her treatment of middle constructions. *Si* is a verbal clitic that must be bound in syntax. Furthermore, it belongs to the category N and is subject to the case filter. How is middle *si* licensed in syntax? As opposed to impersonal and reflexive *si*, middle *si* is a 'passivizer'. *Si* receives the external theta role of the verb. Therefore, the verb cannot assign case to its object (Burzio's Generalization), and the D-structure object moves in syntax into the subject position. Manzini assumes that middle *si* is interpreted in the same way as impersonal *si*: it introduces a free variable into the semantic representation associated with the 'subject theta-position', i.e. it is linked to the external argument of the verb. Middle *si* cannot be bound to the grammatical subject of the sentence because it is neither referentially dependent on the subject nor does it form a chain with it. Therefore, one would have to assume an additional 'deep structure subject', which binds the clitic re-

flexive pronoun. However, we saw in 3.1.1 above that it is hard to find empirical evidence for the presence of a VP-internal PRO or pro subject in syntax. Moreover, the clitic cannot be licensed by such an additional deep structure PRO or pro subject because this implicit subject cannot occupy a case position. But this means that middle *si* violates the case filter. Note finally that the optional property ‘passivizer’ in (20) does not explain why the weak reflexive pronoun, the clitic *si*, like reflexive pronouns in many other languages, is ambiguous between a passive, a middle, an anticausative, and a reflexive interpretation.

Cinque (1988) modifies the analysis proposed by Manzini. For various reasons, he distinguishes five different kinds of *si*-clitics in Italian. *Si* is a syntactic clitic to which nominative is assigned. It absorbs or suspends nominative, accusative, or VP-internal accusative and dative case. As opposed to Manzini, Cinque assumes that *si* need not be an argument. He argues that Italian distinguishes two distinct nominative clitic reflexive pronouns, which are either specified as [+argument] or [–argument]. This leads to the following picture:²⁰

- (22) *si* is always an [NP, IP] clitic
- (i) two different kinds of impersonal *si*:
 - 1. – [+arg]
 - absorbs external theta-role
 - absorbs nominative
 - 2. – [–arg]
 - identifies an arb pro in conjunction with personal Agr
 - (ii) ‘passivizer’ (i.e. middle *si*) and anticausative *si*:
 - 3. – [–arg]
 - suspends external theta-role
 - suspends accusative Case
 - (iii) reflexive *si*:
 - 4. – [+arg]
 - absorbs external theta-role
 - absorbs VP-internal Case
 - (iv) inherent reflexive *si*:
 - 5. – [–arg]
 - marks the absence of external theta-role
 - marks the absence of VP-internal case

A discussion of the empirical motivation of this complex lexical entry and its empirical and conceptual consequences would exceed the scope of this subsection. Cinque presents empirical motivation for the distinction between [\pm arg] impersonal *si* (22.1 and 2).²¹ [–arg] impersonal *si* can only be licensed in finite sentences. As opposed to [–agr], [+agr] *si* always receives or absorbs the external theta-role (cf. 22.1 and 4).²² In the following discussion we concentrate on middle constructions and passives again, i.e. sentences like (20) with ‘object-agreement’. Cinque subdivides sentences with ‘object-agreement’ into passive *si*- and middle *si*-constructions.²³ The [+arg] *si* in (22.1) is responsible

for the passive interpretation and the [-arg] *si* in (22.3) for the anticausative and middle interpretation (and also for the inherent reflexive interpretation, cf. 22.5).²⁴ We consider passive [+arg] *si* first. According to Cinque, [+arg] *si* ‘absorbs’ or ‘withholds’ the external theta-role, “thus preventing it from reaching [NP, IP]” (p. 535). Furthermore, [+arg] *si* is a nominal element that needs case. Therefore, it must be contained in a CHAIN to which case is assigned. Cinque assumes that the [+arg] reflexive clitic *si* in (22.1) forms a CHAIN with a pleonastic *pro* in IP,Spec, the position to which nominative is assigned (p. 534f.).

- (23) [_{IP} [_{NP} pro_{pleo}] [_{I'} [_{I°} (Agr) si[+agr]] [_{VP} ... gli spaghetti]]]

Note, however, that the internal argument *gli spaghetti* must also move to Spec of IP to get nominative case (recall Burzio’s Generalization: no external theta-role is assigned to IP,Spec, therefore, the verb cannot assign accusative to its internal argument). Hence, we have two elements that are assigned nominative case. Cinque is therefore forced to assume that nominative is assigned twice in (23): both CHAINS *pro_i – si_i* and *pro_i – gli spaghetti_i* receive nominative case.²⁵ But this assumption does not seem to be independently motivated and is necessary only to derive passive [+arg] *si* in this construction. We would expect to find more examples of double nominative assignment within one clause (cf. also Footnote 19 above).

What about [-arg] *si* in middle constructions? Unlike passive [+arg] *si* in (22.1), middle [-arg] *si* in (22.3) can also be licensed in infinitival constructions (p. 560).²⁶

- (24) a. (?)Questo vestito ha il vantaggio di lavarsi molto più
 This suit has the advantage of washing.RP much.more
 facilmente di altri
 easily than others
 ‘This suit has the advantage of washing much more easily than others’
 b. *Neanche il nemico ha la proprietà di uccidersi senza
 Not.even the enemy has the property of killing.RP without
 rimorsi
 remorse

In this respect, middle *si* also differs from impersonal [-arg] *si* in (22.2). For this reason Cinque assumes two different lexical entries for [-arg] *si*: (i) impersonal [-arg] that can be licensed only in finite clauses and ‘identifies’ an *arb* *pro*, i.e. (22.2), and (ii) middle [-arg] that can also be licensed in infinitive constructions and ‘suspends’ the external theta-role and accusative case,

i.e. (22.3). Middle [-arg] *si* is subject to completely different licensing conditions than impersonal [-arg] *si*. Middle *si* “does not need to be associated with nominative” (p. 561) and it renders the external theta-role ‘invisible’ in syntax. This type of [-arg] *si* does not seem to be a pronominal clitic, but rather some kind of functional element. It is, however, not clear to us how middle *si* is syntactically licensed (e.g. what does ‘suspends in syntax’ mean). Stipulating an extra lexical entry for middle *si* is again only a description of the fact that the syntactic subject of the middle construction corresponds to the internal or second semantic argument of the verb. In this respect, Cinque’s treatment of middle *si* is similar to Manzini’s. Besides, it remains an open question how the ‘generic time reference’ and the adverbial modification of middle constructions in Italian can be attributed to the [-arg] middle *si*. Moreover, the analysis of anticausatives (ergative reflexives in Cinque’s terminology) relies on [-arg] *si* as well, but anticausatives do not have obligatory ‘generic time reference’, nor do they require any additional adverbial modification. Middle constructions seem to have additional semantic properties that cannot be reduced to [-arg] middle *si*.

Cinque’s distinction between [+arg] and [-arg] can also be found in German. The (weak) reflexive pronoun in German and Italian can, but need not, be interpreted as an argument of the verb. We will argue in Chapter 5 that this ambiguity results from universal morphological properties of (weak) reflexive pronouns. Besides this similarity we also find some decisive differences. First, the reflexive pronoun in German middle constructions (i.e. the middle marker) receives accusative, not nominative. Second, Gärtner and Steinbach (1997 and 2000) argue in detail that German does not have syntactic clitics, i.e. *special clitics* in the sense of Zwicky (1977). The accusative reflexive pronoun is syntactically an independent pronominal NP that need not be cliticized to the verb or to some functional head. We return to this issue in the next chapter. Third, as seen in Section 2.1, middle formation in German, unlike middle formation in Italian, is not limited to verbs that assign an external theta-role. In addition, we have seen that the syntax of the Italian [-arg] middle *si* is still unresolved. Both analyses of Italian reflexive constructions do not offer a uniform explanation of the ambiguity of the (weak) reflexive pronoun. In sum, an application of the analysis of Italian to German would require greater modifications. The next subsection discusses two analyses of the German middle construction that are closely related to Cinque’s and Manzini’s analyses of Italian middle *si*.

3.1.3 German

Syntactic approaches to the German middle construction also distinguish different types of reflexive pronouns. Haider (1982), for example, analyzes the accusative reflexive pronoun in middle constructions as an *A'*-element. His proposal resembles Manzini's or Cinque's treatment of Italian middle *si* we discussed in the previous section. Haider argues that the reflexive pronoun in German middle constructions, like the reflexive clitic *si* in Italian, absorbs the external theta-role. Unlike its Italian counterpart, the reflexive pronoun in German is not a verbal clitic but an *A'*-element adjoined to VP that receives accusative case from the verb. Hence, it equals Stroik's (1992) PRO. According to Haider, the internal argument is directly linked to the (external) subject position of the sentence and binds the non-argument reflexive according to principle A of binding theory. Note that it does not make a difference for our discussion of syntactic analyses whether the internal object is base-generated in the complement position of V or directly linked to the VP-external subject position. The former analysis requires an additional step of moving the D-structure object into subject position (cf. the derivations of middles in English and Dutch in Section 3.1.1 above).²⁷

- (25) a. Die Schuhe tragen sich gut
 The shoes wear RP well
 'The shoes wear well'
 a'. [_{CP} Die Schuhe [_{C°} tragen₁] [_{VP} sich [_{VP} gut [_{VP} t₁]]]]

In middle constructions and anticausatives, the reflexive pronoun is a non-referential *A'*-element adjoined to VP, as (25) illustrates. By contrast, it is an *A*-element in the position of the accusative object (i.e. in the complement position of V) when it is linked to a semantic argument of the verb (i.e. in the reflexive interpretation of transitive reflexive sentences).²⁸ This is illustrated by sentence (26), which yields a reflexive interpretation.

- (26) [_{CP} Hans [_{C°} wäscht₁] [_{VP} sich t₁]]]]
 Hans washes RP
 'Hans is washing himself'

This distinction into two types of accusative reflexive pronouns is motivated by the observation that the reflexive pronoun cannot be focused, coordinated, modified, fronted, or questioned in anticausatives and middle constructions, as opposed to reflexives, as can be seen in (27).

- (27) a. *Das Buch verkauft nur sich gut (middle construction)
 The book sells only RP well
- b. Hans wäscht nur sich (reflexive)
 Hans wasches only RP
 ‘Hans is only washing himself’

Haider tries to derive these differences from the syntactic distinction between argument and adjunct reflexive pronouns. Our next chapter deals with this difference in great detail. We will show that the difference in (27) directly follows from the semantic distinction between the argument and non-argument reflexive. Haider’s assumption that accusative reflexive pronouns can be either A- or A’-elements is neither necessary nor conclusive for the explanation of the ungrammaticality of (27a). Note that referentiality is a matter of semantics rather than syntax. Moreover, ‘non-referential’ A’-elements like adverbs, adjectives, or verbs can also be focused, questioned, modified, or fronted (just like ‘referential’ A-elements). Therefore, the specific properties of reflexive pronouns in middle constructions and anticausatives cannot be reduced to syntactic differences between arguments and adjuncts.

Word order in German raises additional problems for Haider’s treatment of the reflexive pronoun. We show in Chapter 4 that both types of accusative reflexive pronouns (the adjunct and the argument reflexive) have the same properties with respect to word order in the middle field.²⁹ This similarity between an argument and an adjunct, which is only surprising if we discriminate between two kinds of accusative reflexive pronouns in syntax, needs additional explanation in Haider’s account. Besides, his analysis predicts that the impersonal subject *es* (‘it’) must also be treated as an A’-element. Like the non-argument reflexive, the impersonal subject can neither be coordinated, focused, questioned, nor modified. It follows that nominative case, like accusative case, can not only be assigned to an argument but also to an adjunct. Following this assumption, Haider’s analysis would predict that German has A’-subjects. Note finally that, unlike the non-argument reflexive, the impersonal subject *es* can easily be fronted in German. Hence, at least the non-frontability of the non-argument reflexive cannot be reduced to A’-properties. In Chapter 5 we argue that reflexive pronouns and the third person neuter singular pronoun share crucial morphological properties, by which they are well equipped for their respective grammatical functions.

Haider assumes that the external theta-role can be assigned to or ‘absorbed’ by an A’-element. But this is in variance to the theta-criterion according to which every theta-role is assigned to a syntactic argument (and vice versa).³⁰ In

addition, this assumption does not explain why only accusative reflexive pronouns are able to receive or ‘absorb’ the external theta-role in A'-position.³¹ In this respect, this assumption is as descriptive as Manzini’s assumption that *si* is a ‘passivizer’. Furthermore, Haider is forced to stipulate two ways of accusative case assignment. Accusative case can be assigned (i) either to an A-element in the verb’s complement position (standard case assignment, e.g. for the argument reflexive and common accusative objects) or (ii) to a reflexive pronoun that is adjoined to VP. This stipulation is again only necessary to derive middle constructions and anticausatives. Moreover, it is not sufficient to derive impersonal middle constructions. One-place predicates do not assign accusative case in active voice. But in middle constructions they must assign accusative to the reflexive pronoun. In addition to these two methods of accusative assignment, Haider must also distinguish two kinds of binding relations.³²

The theta-role of the external argument can be assigned only once. In the case of middle constructions, the external theta-role is assigned to (or absorbed by) the reflexive pronoun. Therefore, we expect no constituent other than the reflexive pronoun to receive the external theta-role in middle constructions. We saw in Section 2.3 and 3.1.1 that the overt realization of the external argument is much more restricted in German than in English. Nevertheless, the external argument can be linked to a *für*-PP, as illustrated in (28). We discuss this issue in more detail in Section 7.1.

- (28) Dieses Spiel lernt sich selbst für kleine Kinder schnell
 This game learns_{RP} even for small children quickly
 ‘Even small children can learn this game quickly’

Besides, we mentioned in Chapter 2 that middle formation is not limited to verbs selecting an external argument. Unaccusative verbs are also grammatical in (unergative) middle constructions although they do not select a designated external argument. Auxiliary selection poses a related problem. Remember that verbs in middle constructions, like unergative verbs, always select the auxiliary *haben* (‘have’).

- (29) a. Dieses Buch hat /*ist sich gut gelesen (middle construction)
 This book HAVE /BE_{RP} well read
 ‘This book read well’
 b. Peter hat /*ist geschlafen (unergative)
 Peter HAVE/BE slept
 ‘Peter slept’

- c. Peter *hat /ist in Hamburg angekommen (unaccusative)
 Peter HAVE/BE in Hamburg arrived
 ‘Peter arrived in Hamburg’

Haider derives auxiliary selection from the unergative-unaccusative distinction: unergative verbs select *haben* (‘have’). Unaccusative verbs do not have an external argument. Therefore, they select *sein* (‘be’) (cf. p. 238f.). Haider’s analysis predicts that middle constructions with unaccusative verbs are either ungrammatical or that unaccusatives select *sein* (‘be’) in middle constructions. Both predictions are incorrect. Furthermore, Haider claims that anticausative verbs are ‘lexicalized’ middle constructions.³³ The reflexive pronoun is lexicalized and occupies the first or external argument position in the lexical entry of the anticausative verb without receiving a theta-role.

- (30) a. causative: öffnen₁ (Θ_1, Θ_2) e.g. Peter öffnet die Tür
 ‘Peter opens the door’
 b. anticausative: öffnen₂ (RP (?), Θ_2) e.g. Die Tür öffnet sich
 ‘The door opens’

The internal argument Θ_2 is the only thematic argument of the verb in (30b). Anticausative verbs, unlike ‘middle verbs’, have no implicit external argument (cf. 2.2).³⁴ Hence, the reflexive pronoun cannot be a thematic argument of the verb. But according to Haider’s analysis, the external argument must be present at some level of derivation to control the auxiliary selection. Otherwise, we expect reflexive anticausatives to select the auxiliary *sein*. Hence the reflexive pronoun (30b) finds itself in a quandary: it must be an argument and a non-argument at the same time. We conclude that Haider’s syntactic derivation of German middle constructions and anticausatives is not convincing. His analysis requires several ad hoc stipulations that are necessary only in order to derive the syntactic representation and thematic interpretation of middle constructions. The syntax he proposes is not restrictive enough to exclude focus on and modification, fronting, and coordination of the non-argument reflexive (we refer the reader again to Chapter 4 for a detailed discussion of this issue). Furthermore, Haider cannot derive impersonal middle constructions in general and middle formation with unaccusative verbs in particular. Note finally that he does not offer a uniform explanation of the ambiguity of the accusative reflexive pronoun.

Schachtel (1991) proposes a very similar solution that tries to avoid the problem of accusative case assignment. Following Fanselow (1987), she assumes that German has two different types of accusative case, an abstract and

a morphological one. On the one hand, theta-roles must be assigned to NPs with abstract case and only abstract case is subject to Burzio's Generalization. On the other hand, only morphological case is subject to the case filter. As opposed to Haider, Schachtl does not assume that the external theta-role is assigned in middle constructions. It follows from Burzio's Generalization that the verb cannot assign abstract accusative case in middle constructions. The reflexive pronoun, which again adjoins to VP, 'absorbs' the morphological accusative case of the verb and the syntactic subject of the middle construction receives morphological nominative case in its VP-internal base position. We omit the adverb in (31).^{35,36}

- (31) ... [CP [C^o weil] [VP sich [VP [NP das Buch] liest]]]
 because RP-ACC the book-NOM reads

The stipulation of a second type of accusative case that is morphosyntactically indistinguishable does not explain the accusative reflexive pronoun in middle constructions and anticausatives. First of all, this derivation is in conflict with Fanselow's (1987) assumption that theta-roles must be connected with structural case. In (31), the internal theta-role is assigned to an NP with morphological nominative. Therefore, it should also be possible for the NP *das Buch* to receive morphological accusative in its base position. But in this case we would need no reflexive pronoun to absorb the morphological accusative of the verb. Besides, nothing is said about structural nominative in (31).

Second, it is anything but clear which case can or must be assigned under which condition. Schachtl must assume that every one-place predicate can assign morphological accusative in principle to account for one-place verbs in middle constructions. But then one is forced to stipulate that the same verb that must obligatorily assign its morphological accusative in the middle construction in (32a) must not assign accusative case in the active intransitive counterpart in (32b).

- (32) a. Hier schläft es sich gut
 Here sleeps it RP-ACC well
 'Here you can sleep well'
 b. Peter schläft (*sich)
 Peter sleeps RP-ACC
 'Peter is sleeping'

This solution requires at best some kind of lexical operation to derive a 'middle verb', which assigns nominative and accusative, from an underlying one-place

active verb, which assigns only nominative. We deal with lexical derivations of middle constructions in the next section.

And third, we expect that verbs can assign morphological and structural case to different constituents, yet the corresponding sentences are ungrammatical in German.³⁷ Like Haider, Schachtl must also assume two different kinds of reflexive pronouns as well as two different kinds of binding relations. In the reflexive interpretation, the reflexive pronoun is assigned structural accusative and the internal ‘theme’ theta-role in the VP-internal object position. It is syntactically and semantically bound by the subject. By contrast, in middle constructions and anticausatives the reflexive pronoun is adjoined to VP to absorb morphological accusative. It does not receive a theta-role and it is only bound in syntax by the subject. This distinction, which causes additional problems, is again neither empirically nor conceptually motivated (cf. above and Chapter 4).

3.1.4 Summary

We briefly summarize the outcome of the discussion:

- A syntactic analysis of the middle constructions in English, Dutch, Italian, and German is neither empirically nor conceptually motivated. Note that middle constructions and ‘middle verbs’ are morphosyntactically simple active forms.
- All analyses discussed so far always need additional ad hoc assumptions.
- Furthermore, they run into serious empirical and conceptual problems.
- Syntactic analyses cannot account for the accusative reflexive pronoun in German.
- Syntactic analyses do not offer a uniform explanation of the systematic ambiguity of reflexive constructions in many Indo-European languages.
- So far, we do not find any relevant syntactic restriction on middle formation (however, we will see in Chapter 6 that one generalization can be stated in syntax: the syntactic status of the reflexive pronoun is relevant for preventing dative objects from middle formation).

We conclude that a convincing syntactic explanation has not yet been found. German middle constructions can not be conclusively derived from the principles of generative syntactic theories. Therefore, many linguists prefer a presyntactic derivation of middle constructions. In the next section we discuss lexical explanations of the middle construction.

3.2. Lexical theories

An alternative explanation of middle formation could be found in lexical (or, more generally, presyntactic) theories.³⁸ Some presyntactic manipulation of the verb's argument structure is a characteristic of all lexical approaches. The first or external semantic argument of the verb is lexically suppressed and not linked to an element in syntax. Instead, the second argument is directly linked to the subject position according to linking-principles such as the theta hierarchy or the case hierarchy. In the following subsections we discuss two kinds of lexical theories. The first approach proposes a lexical rule of middle formation. This rule derives a middle verb *V'* from a basic verb *V*. The second approach starts out from the assumption that middle constructions (or 'middle verbs') have a lexical entry of their own and postulates (at least) two different templates for middle constructions, into which basic verbs can be inserted under certain conditions. Both approaches rely on the assumption that the lexicon determines the adicity (selectional properties) of basic and derived verbs (cf. Ackerman and Webelhuth 1998, Chapter 1, for a detailed discussion of lexical theories). The following subsection discusses rule-based approaches and Subsection 3.2.2 deals with the template analysis.

3.2.1 Rule based accounts

Fagan (1992) and Ackema and Schoorlemmer (1994 and 1995) – henceforth A&S – argue for a rule of middle formation that operates on lexical representations of verbs. The central assumption of both explanations is a lexical rule of middle formation. (33) is A&S's rule of middle formation and (35.1) below is the very similar rule proposed by Fagan.

(33) MF (Middle Formation): Actor = ARB

Rule (33), together with the specific design of lexical entries, should enable these theories to derive the correct restrictions on MF. A&S's analysis of English and Dutch middle constructions is based on the framework of conceptual semantics developed in Jackendoff (1990). (34) is a list of additional constraints that are necessary to derive middle formation in Dutch and English.³⁹

(34) A&S (1994)

- a. MF is only possible with a lcs marked [+ext].⁴⁰
- b. ARB-arguments cannot project.

- c. Only an argument represented in the action tier can be a nonprojecting ARB.
- d. A-marked elements project according to the following hierarchy:
[actor – patient] – [agent – theme – goal] – het
- e. An A-marked semantic argument can only be linked to the external argument position iff it is the most prominent argument at all thematic dimensions.⁴¹
- f. A verb has a syntactic e-role iff it has a fully specified action tier.

According to (33), MF marks the actor argument on the action tier of a verb's lexical conceptual structure (lcs) as ARB. ARB cannot project into syntax, and the next argument on the thematic hierarchy (34d) is chosen for the external argument. A&S do not discuss German middle constructions. Nevertheless, we will also consider the consequences of their analysis for German in the following discussion because it is developed from Fagan's analysis of middle constructions in English, German, and French. We discuss both the empirical and conceptual shortcomings of A&S's analysis and its possible application to middle constructions in German. With regard to the second point, it is easy to see that a presyntactic approach along these lines is forced to assume some extra rule or linking-principle to handle the reflexive pronoun in object position in German. Fagan (1992) solves this problem by simply stating that middle constructions in German are transitive reflexive sentences (cf. the corresponding subcategorization frame in 35.4). Therefore, Fagan's rule of middle formation is more complex for German (and French) than for English:⁴² it does not only externalize the direct Θ -role or \emptyset ; it also introduces an accusative reflexive pronoun (and an adverbial expression). The subrules and conditions that comprise Fagan's complex rule of middle formation are illustrated in (35).

- (35) (Fagan 1992:196)
1. Assign arb to the external Θ -role
 2. Externalize (direct Θ -role) [or]
 3. Externalize (\emptyset)
 4. +[NP- NP- AdvP _____]
[+anaphor]
 5. Semantics: 'be able to be Xed'
 6. Condition: V does not assign lexical case
V is not an achievement or state
V is not ditransitive

The rules and conditions in (35) are a description of the empirical facts. Fagan stipulates that the reflexivity of middle constructions is an idiosyncratic

lexical property of this type of construction.⁴³ From her point of view German middle constructions are transitive reflexive sentences in syntax because they idiosyncratically select a reflexive pronoun in object position. Transitive reflexive sentences are linked to an intransitivized verb that selects a semantically ‘empty’ reflexive pronoun. Thus, middle constructions have a lexical entry of their own. All three conditions in (35.6) place restrictions on the verb classes that can be inserted into the ‘middle frame’ (35.4). Rule (35.2) states that the direct theta-role is realized as the external argument (the first NP in (35.4)) and rule (35.3) does the same job for one-place verbs. In this case it can be interpreted as a ‘zero-externalization rule.’⁴⁴ According to Fagan’s analysis, the reflexive pronoun indicates some change in argument structure, a property of reflexive pronouns that can be observed in many languages (cf. Section 2.3 and Fagan, p. 175). We share this intuition in principle. Contrary to Fagan, we do not think that this has to be stipulated in the lexical entry of the middle construction. Condition (35.4) is ad hoc. Although it correctly describes the empirical facts, it does not explain why the reflexive pronoun in middle constructions occupies a syntactic argument position without receiving a thematic role (i.e. without being linked to a semantic argument). Furthermore, it does not explain why middle constructions are reflexive in many languages and why only the accusative reflexive pronoun in object position can be called a middle marker in German (i.e. a free morpheme in the sense of Geniušienė 1987 and Kemmer 1993).

Both analyses are confronted with certain empirical and conceptual problems. Let us begin with a discussion of Fagan’s definition of middle formation (cf. also Abraham 1993 for similar arguments against Fagan’s analysis). Fagan’s subcategorization frame for middle constructions in (35.4) is too restrictive. As seen in Section 2.1, middle formation in German and in English (cf. e.g. A&S and Iwata 1999) is also grammatical without an additional adverb, provided that the middle construction is uttered in an appropriate context and thus informative. We return to this thorny issue in Section 3.2.2 below. A pragmatic explanation of the observation that middle constructions in German usually (but not always) require certain adverbials will be given in Chapter 7. See (36) for further ‘exceptions’ to Fagan’s subcategorization frame (35.4).

- (36) a. This bureaucrat bribes (A&S 1994:71)
 b. I thought we were out of gas, but the car DRIVES! (Fellbaum 1986)
 c. Dieses Auto könnte sich fahren
 This car might RP drive
 ‘This car might work’

- d. Jetzt ist es schwer. Aber es vergisst sich alles
 Now is it hard But it forgets RP everything
 'It is hard now, but you will forget everything'

Condition (35.6: *V is not an achievement or state*) raises another problem. The so-called aspectual interpretation (*Aktionsarten*) is not always an inherent lexical property of the verb. It often results from the interpretation of more complex structures including the verb, the accusative object, and a directional complement. Moreover, verbs in middle constructions can receive an achievement interpretation. The verb *treffen* ('meet'), for example, is ambiguous between an activity and an achievement interpretation.⁴⁵ But in middle constructions, it receives only the achievement interpretation. Sentence (37a), for example, does not mean that it is hard to arrange a get-together with Father Christmas but that it is hard to meet him altogether (cf. also Section 6.2 for further comments on *treffen*).

- (37) a. Der Weihnachtsmann trifft sich nicht so leicht
 The Father.Christmas meets RP not that easily
 'It is not so easy to meet Father Christmas'
 b. Ein hilfsbereiter Mensch trifft sich in dieser Stadt überall
 A helpful person meets RP in this town everywhere
 'You can meet a helpful person everywhere in this town'

In Section 2.1 we mentioned another example of a verb in a middle construction that yields an achievement interpretation, which is repeated in (38).

- (38) Der Fernseher schaltet sich schnell aus
 The TV switches RP quickly off
 'The TV can be switched off quickly'

The third condition (35.6: *V is not ditransitive*) is also too strong (cf. Abraham 1993:819 for a similar observation). In Section 2.1 we already gave some examples for ditransitive verbs in middle constructions. Ditransitive verbs also pose a problem for A&S's analysis. According to their analysis, we expect the third semantic argument on the thematic hierarchy (e.g. the goal) to be linked to the accusative object position in middle constructions. However, the third argument cannot be 'promoted' at all. It remains in the 'third' position on the thematic hierarchy and is linked to the dative (*to*-PP) position as can be seen in (39) (for German see the next subsection). A&S are forced either to assume that the categorial realization of these arguments is fixed in the lexicon or to add some further linking-principle for goal arguments in order to prevent the third argument from being linked to the accusative position, if the patient/theme

is linked to the external argument position. In both cases the validity of the linking-principle (34d) is weakened.

- (39) a. These books don't sell to linguists
 b. *These books don't sell linguists

Additionally, we already mentioned in Section 2.1 that dative objects cannot undergo middle formation in principle. Fagan's condition (35.6: *V does not assign lexical case*) accounts for the ungrammaticality of example (40).

- (40) *Die Maria hilft sich leicht (middle construction)
 The Maria-NOM helps RP easily

In German, dative case differs syntactically and semantically from the so-called structural cases accusative and nominative in many respects. Below we argue for a distinction between structural and oblique case that excludes dative objects from middle formation. Thus, dative objects need not be excluded from middle formation by stipulation. The syntactic and morphological properties of dative objects in German will be discussed in Chapter 6.⁴⁶

Turning now to A&S's analysis of Dutch and English middle constructions. A&S predict that only verbs with actor-arguments and verbs whose lcs is marked for projecting an external argument (i.e. [+ext]) can participate in middle formation. This prediction is incorrect for German, and neither does it seem correct for Dutch.⁴⁷ We illustrated in Section 2.1 and 3.1 above that verbs that do not select an actor-argument can be found in middle constructions. In (41), for example, ARB is not assigned the actor-role.⁴⁸

- (41) a. Diese neuen kleinen Geldscheine verlieren sich aber sehr
 These new small banknotes lose RP really very
 einfach
 easily
 'These new small banknotes can be lost very easily'
- b. In diesem Bett träumt sich's gut
 In this bed dreams RP.it well
 'In this bed you can dream well'
- c. In Hamburg lebt sich's gut
 In Hamburg lives RP.it well
 'Hamburg is a nice place to live'
- d. Kleinen munten raken gemakkelijk kwijt
 Small coins lose easily PARTICLE
 'Small coins can be lost easily'

(42) are two examples for unaccusative verbs in middle constructions in Dutch and German. As opposed to A&S, Fagan does not distinguish between unaccusative and unergative verbs. She argues that both types of one-place verbs select an external theta-role. Hence, unaccusative verbs do not pose a problem for Fagan's theory.

- (42) a. Es stirbt sich leichter mit guten Freunden im Haus
 It dies RP more.easily with good friends in.the house
 'Dying is more comforting with good friends near oneself'
- b. Op/via de snelweg rijdt het een stuk lekkerder naar
 On/via the highway drives it a bit more.comfortably to
 Berlin
 Berlin
 'On the highway you can drive a bit more comfortably to Berlin'

A&S and Fagan do not provide empirical evidence for a lexical rule of middle formation. Recall that 'middle verbs' do not morphologically differ from their corresponding active counterparts. Both verbs appear in active morphology. However, the semantics of middle constructions has been taken as indirect evidence for a lexical rule of MF. The implicit ARB is responsible for the 'generic' interpretation of middle constructions.⁴⁹ Note, however, that Ackema and Schoorlemmer's as well as Fagan's basic rule of middle formation ('actor = ARB'/'Assign arb to the external Θ -role') does not explain why the implicit argument must receive an arbitrary interpretation in English, Dutch, and German. Besides, Fagan's condition (35.5) states that all middle constructions in German are stative (the same holds true for English). That is, they do not involve quantification over events. Instead they "involve properties (of a patient subject)" (p. 156). In addition, Fagan's rule (35.1) is responsible for the fact that the external theta-role receives a generic interpretation because ARB is specified as [+human, +generic].⁵⁰ Likewise, Fellbaum and Zribi-Hertz (1989:24) claim, that "an English middle refers to an intrinsic property of the subject-theme which is relevant for any potential agent." Hence, middle constructions generalize about the implicit argument (ARB) and they attribute a specific property to the syntactic subject (which is linked to the second argument of the verb). Following Fagan, the resulting interpretation for sentence (43a) can be paraphrased as in (43b) (cf. p. 155).

- (43) a. This book reads easily
 b. People, in general, can read this book easily

Similarly, A&S (1994) claim that all predicates with either an ARB-Actor or an ARB-Patient are necessarily individual-level predicates because they do not trigger an e-role.⁵¹ The relevant condition is given in (34f) above. In addition, A&S (1994) also assume the following two conditions in (45).

- (44) Argument projection from LCS to D-structure is optional
- (45) Recoverability condition
 - An A-marked non-projecting semantic argument α must be
 - (a) discourse linked to a semantic argument identical to α
 - (b) ARB

Hence, both Fagan and A&S claim that ‘middle verbs’ are stative or individual-level predicates and that the first argument of these predicates is filled by ARB. We consider the second assumption correct, although we do not believe that it follows from a lexical rule.⁵² We do not, however, consider the first assumption correct.⁵³ We find it very implausible that a change in reference of one of its arguments should turn a stage-level predicate into an individual-level predicate (i.e. change its basic semantic properties). This assumption also raises several empirical problems. Note first that not every non-projecting implicit argument that is not discourse linked leads to a generic or habitual interpretation. Both examples in (46) contain an implicit object which need not induce a habitual interpretation although it is not discourse linked. Contrary to condition (45), the implicit arguments of *trinken* (‘drink’) and *schreiben* (‘write’) can be bound by an existential quantifier without being discourse linked, and they can also receive an arbitrary interpretation. (46b) means either that our neighbor is writing something now (but we do not know what) or that he is writing in general, i.e. he is a writer.⁵⁴ In (46a) the arbitrary interpretation of the implicit object of drinking usually involves alcohol. But sentence (46a) is unlikely to mean that the baby usually drinks alcohol. This (habitual) interpretation becomes the preferred option if we substitute an adult person for the baby. Hence, sentence (46a) most likely means that the baby is now drinking something. It can also receive a generic interpretation that does not involve alcohol. Argument projection is also not always optional, as can be seen in sentence (46c). Note finally that in German discourse linked arguments can only be ‘dropped’ in sentence-initial position, as (46d) and (46e) illustrate. In addition, so called ‘topic drop’ in (46d) fails to be available in a number of environments. First, as discussed by Cardinaletti (1990), the null-pronominal occupying Spec of CP under topic-drop cannot be construed as a first or second person object. Neither, secondly, can it stand in for a dative (cf. also Gärtner and Steinbach 2000).

Condition (45a) incorrectly predicts that sentence (46e) including a discourse linked object/second argument should be grammatical contrary to fact. Hence, in German, discourse linking of an implicit argument seems to be only possible in very specific contexts. We refer the reader to Jacobs (1994) and Rapp (1999) for an analysis of implicit arguments in German. In examples (46d and e) 'Ø DEN KENNEDY' stands for the constituent which is dropped.

- (46) a. Das Baby trinkt
The baby drinks
'The baby is drinking'
- b. Unser Nachbar schreibt wieder
Our neighbor writes again
'Our neighbor is writing again' or
'Our neighbor writes again'
- c. Peter unterstützt *(seine Nachbarn)
Peter-NOM supports (his neighbors-ACC)
- d. Was ist denn mit dem Kennedy? Ø DEN KENNEDY kenne
What is PARTICLE with the Kennedy know
ich nicht
I not
'What about Kennedy? I don't know him'
- e. Was ist denn mit dem Kennedy? *Ich kenne Ø DEN KENNEDY nicht

A second objection concerns passives. A&S assume that a syntactically active implicit argument is present in passives.⁵⁵ The implicit argument in passives therefore projects from LCS to D-structure. (47) shows that the implicit argument can also be a semantically arbitrary element. As a consequence of condition (45), the actor argument of *trinken* ('drink') in (47) does not project to syntax, and passive formation with ARB becomes indistinguishable from middle formation. Rule (33) as it stands is not sufficient to derive middle formation. We conclude that genericity or habituality cannot simply be reduced to implicit (ARB-)arguments. Implicit arguments are neither a necessary nor a sufficient condition for 'generic' statements. This is also illustrated in (47b) and (47c). Neither sentence includes an implicit argument. Nevertheless, (47b) is a generic sentence that reports a general property of Mary, and sentence (47c) is ambiguous between a generic and an episodic interpretation (cf. e.g. Krifka et al. 1995).

- (47) a. In Deutschland wird viel Bier getrunken
In Germany PAS much beer drunk
- b. Mary smokes a cigar after dinner

- c. Hans-Heinrich trinkt Wein
 Hans-Heinrich drinks wine
 ‘Hans-Heinrich (usually) drinks wine’ or
 ‘Hans-Heinrich is drinking wine’

Let us now turn to middle constructions in German. We have already mentioned that middle constructions can also receive an episodic interpretation. Example (28) from Section 2.1, repeated as (48), shows that middle constructions can be used to refer to specific periods of time. The temporal adverbial restricts the generic quantification to a (potentially unbound) set of situations which happened last night. Neither does (48) mean that this piece by Bach has the general property that it can be played well, nor does it receive the interpretation of the corresponding passive, which would mean that there was (exactly) one good performance of this piece by Bach last night. Instead the ‘Bach-middle’ in (48) involves generic quantification over situations that happened last night and over a set of (potentially salient) musicians. It entails that such situations were very likely to be situations in which the piece of music by Bach was played well. We discuss the subtle difference between (48) and the corresponding passive in Section 7.1 in more detail.⁵⁶

- (48) Der Bach hat sich gestern Abend ausnahmsweise mal
 The Bach has RP yesterday evening exceptionally PARTICLE
 ganz gut gespielt
 quite well played
 ‘Exceptionally, this piece by Bach played well last night’

Fagan and A&S argue that ‘middle verbs’ are always individual-level predicates. But verbs in middle constructions differ from typical individual-level predicates in several respects. Middle constructions, like stage-level predicates, can be modified by temporal adverbs, as can be seen in (49a’) and (49a’). As opposed to this, temporal modification is impossible in (49a) because the individual-level predicate *intelligent sein* (‘be intelligent’) describes a permanent property of its subject. (49b) illustrates a second difference. The prepositional phrase *in diesem Laden* (‘in this shop’) is only ambiguous in sentences (49b’) and (49b’), which include stage-level predicates (cf. Maienborn 1996 for further discussion). Sentence (49b’), for example, has the following two readings: (i) the salespersons that are working in this shop usually wear green caps and they (also) wear their green caps outside the shop; (ii) the salespersons must wear green caps whenever they are working in the shop. The same ambiguity can be found in the middle construction (49b’): (i) the books that are

sold in this shop are best sellers in every shop (ii) the books are best sellers (at least/only) in this shop. As opposed to (49b') and (49b''), the first sentence in (49b) including the individual-level predicate *heißen* ('be called') is not ambiguous. The prepositional phrase can only modify the NP (i.e. all the salespersons who work in this shop are called Müller). The second interpretation (VP-modification) is impossible in this case ('il' stands for 'individual-level', 'sl' for 'stage-level', and 'mc' for 'middle construction').

- (49) a. *Heute Abend sind Feuerwehrmänner intelligent (il)
 This evening are firemen intelligent
- a'. Heute Abend sind Feuerwehrmänner verfügbar (sl)
 This evening are firemen available
 'This evening firemen are available'
- a''. Heute Abend verkaufen sich die Bücher ganz gut (mc)
 This evening sell RP the books quite well
 'This evening the books sell quite well'
- b. ...weil alle Verkäufer in diesem Laden Müller heißen (il)
 ...because all salespersons in this shop Müller are.called
 '... because all salespersons in this shop are called Müller'
- b'. ...weil alle Verkäufer in diesem Laden grüne Mützen
 ...because all salespersons in this shop green caps
 tragen (sl)
 wear
 '... because all salespersons in this shop wear green caps' or
 '... because all salespersons wear green caps in this shop'
- b''. ...weil sich die Bücher in diesem Laden gut verkaufen (mc)
 ...because RP the books in this shop well sell
 '... because the books in this shop sell well' or
 '... because in this shop the books sell well'

Additionally, 'middle verbs', unlike individual-level predicates, can be modified by adverbs of quantification (cf. 50a–c), and they can occur in *pflegen zu* ('used to') constructions (cf. 50d and e). As opposed to the English *used to*, the German counterpart is also grammatical in present tense. Adverbs of quantification quantify either over events (situations, or happenings) or over individuals (cf. e.g. Cohen 1996). The latter usually involve subjects that refer to kinds. According to Fagan (1992:154), in middle constructions these adverbs only quantify over individuals. However, quantification over individuals is clearly excluded in (50) because the subjects and the locative expressions do not refer to kinds. Hence, the adverbs of quantification quantify over the

event or situation variable, which must be provided by the stage-level predicate of the middle construction. Accordingly, middle constructions are not individual-level predicates but *characterizing sentences* in the terminology of Krifka et al. (1995).

- (50) a. Dieses Buch liest sich immer wieder gut
 This book reads RP always again well
 ‘This book always reads well’
- b. In Ostfriesland wandert es sich nur selten gut
 In East-Frisia wanders it RP only rarely well
 ‘In East-Frisia you can only rarely hike well’
- c. Dieser Wagen hat sich nie gut verkauft
 This car has RP never well sold
 ‘Never has this car sold well’
- d. Dieses Auto pflegt sich gut zu fahren
 This car uses RP well to drive
 ‘This car used to drive well’
- e. Hier pflegte es sich gut zu schlafen
 Here used it RP well to sleep
 ‘People used to sleep well here’

Note finally that middle constructions usually require some adverbial modification, which typically modifies the way in which an action is performed. Consider the adverb *schnell* (‘quickly’) in (51). In the active sentence (51a) *schnell* can either modify the verb (i.e. the way in which the event is carried out) or the whole VP (i.e. the duration of the event). In the corresponding middle construction in (51b), only the second interpretation is available. The adverb modifies the whole period of time of the event (i.e. the whole event of mowing the lawn usually does not take much time). Although *schnell* (‘quickly’) is not ambiguous in middle constructions, its interpretation clearly involves modification of events.

- (51) a. ...weil Peter den Rasen schnell mäht
 ...because Peter the lawn quickly mows
 ‘...because Peter mows the lawn quickly’
- b. ...weil sich der Rasen schnell mäht
 ...because RP the lawn quicky mows
 ‘... because the lawn mows quickly’

In Chapter 7 we will return to the problem of the generic interpretation of middle constructions. We argue that both the implicit argument and the event variable are bound by a generic quantifier. Furthermore, we show that Fa-

gan's semantic condition (35.5) ('be able to be Xed') can be derived from this assumption.

We conclude that Fagan's and A&S's analyses have various conceptual shortcomings and some of the empirical predictions turn out to be incorrect. Furthermore, the status of the implicit argument is not clear. We have argued that a lexical derivation of middle constructions cannot account for the 'generic' interpretation they typically receive. In German discourse linked 'implicit' arguments are highly restricted. And implicit arguments which are not discourse linked do not obligatorily trigger a generic interpretation. Moreover, 'middle verbs' are not individual-level predicates. Verbs in middle constructions share several properties with stage-level predicates. They clearly select an event variable and middle constructions involve quantification over this event variable. Middle constructions generalize over events. And last but not least Fagan's approach does not offer a conclusive explanation for the accusative reflexive pronoun in German middle constructions. In the following subsection, we therefore look at an alternative lexical theory.

3.2.2 The middle template analysis

Bierwisch (1996) offers an explanation for the reflexive pronoun in anticausatives that can also be applied to reflexive pronouns in middle constructions. In Bierwisch's analysis a general grammatical principle accounts for the reflexive pronoun. In a sense, the reflexive pronoun maps the syntactic subject onto the second argument of the two-place verb (cf. also Abraham 1995a for a similar idea). We believe that this approach is on the right track, although the lexical implementation is faced with various shortcomings. Let us first take a closer look at Bierwisch's analysis of anticausatives.

- (52) Whenever an argument position is dominated by a nongenuine argument position, the lower one is assigned the feature [+refl].⁵⁷

A non-genuine argument position does not bind a variable in the semantic form (SF) of the predicate. It is an example of vacuous quantification. The reflexive pronoun in anticausatives can be derived from principle (52). Consider the following lexical entry for the verb *öffnen* ('open').

- (53) *öffnen*: $\lambda x \lambda y \lambda e$ [e INST [(y CAUSE) [BECOME [OPEN x]]]]

In the anticausative variant of *öffnen* the argument position λy does not bind a variable because the one-place SF-predicate CAUSE along with its argument y is removed from the SF of the anticausative verb (indicated by parentheses).

According to (52), the object position λx receives the feature [+Refl] and is (referentially) bound by the argument position λy dominating λx . The reflexive pronoun results from a valency-reduction operation that only affects the SF of the verb. *Öffnen* still subcategorizes two (syntactic) argument positions in (54), although it only selects one semantic argument. The lexical entry for the anticausative variant of *öffnen* is given in (54):

- (54) *öffnen*: $\lambda x \lambda y \lambda e$ [e INST [BECOME [OPEN x]]]
 |
 [+refl]

Note that the argument structure of a predicate does not simply result from λ -abstraction over SF-variables but is partly independent of the semantic representation (SF) of a predicate. We will argue in Chapter 5 that this assumption is superfluous. Besides, although this analysis can easily be applied to personal middle constructions, it cannot explain why impersonal middle constructions also select a reflexive pronoun in object position. The underlying lexical entry of impersonal middle constructions contains only one argument position, as can be seen e.g. in (55).

- (55) *lachen*: $\lambda x \lambda e$ [e INST [LAUGH x]]

(55) does not contain a second argument position that can be dominated by another non-genuine argument position. Therefore, the reflexive pronoun in impersonal middle constructions cannot be derived from the lexical representation in (55). In order to apply principle (52) to impersonal middle constructions, we first have to add an additional non-genuine argument position to the argument structure of one-place predicates.

Bierwisch (1997) assumes two different middle templates, which are necessary to derive the core cases of middle constructions in his approach. (56a) is the relevant middle template MT_1 for personal middle constructions derived from two-place predicates. One-place predicates have to be inserted in MT_2 in (56b).⁵⁸ The feature [+M] is added to the lexical entry of a verb that undergoes middle formation to distinguish ‘middle verbs’ from their corresponding basic verbs in the lexicon.

- (56) a. MT_1 : Two-place verbs: [+M] $\lambda V \lambda y \lambda z$ [PS [V N y]]
 b. MT_2 : One-place verbs: [+M] $\lambda V \lambda y \lambda z$ [PS [V N]]

These two templates enable us to derive both impersonal and personal middle constructions from underlying one- or two-place verbs. The derivation

of personal middle constructions is illustrated in (57a), and the derivation of impersonal middle constructions is given in (57b).

- (57) a. personal middle construction
1. V [+V, -N]: $\lambda a \lambda b [b P a]$ (two-place verb)
 2. [+M]: $\lambda V \lambda y \lambda z [PS [V N y]]$
 3. V [+V, -N, +M]: $\lambda y \lambda z [PS [(\lambda a \lambda b [b P a]) N y]]$
 4. V [+V, -N, +M]: $\lambda y \lambda z [PS [N P y]]$
- b. impersonal middle construction
1. V [+V, -N]: $\lambda a [a P]$ (one-place verb)
 2. [+M]: $\lambda V \lambda y \lambda z [PS [V N]]$
 3. V [+V, -N, +M]: $\lambda y \lambda z [PS [(\lambda a [a P]) N]]$
 4. V [+V, -N, +M]: $\lambda y \lambda z [PS [N P]]$

The free argument variable N , which is substituted for the first or highest argument of the verb, is crucial for this analysis of middle formation. N is an intrinsic part of both MTs. This step of the derivation is illustrated in (58). It corresponds to Fagan's externalization rule or A&S's basic rule MF: Actor = ARB.

$$(58) \lambda x [x P] N = [N P]$$

In a second step, principle (52) can now be applied to personal and to impersonal 'middle verbs'. In both cases the output is a transitive reflexive sentence. (59) illustrates the derivation of the personal 'middle verb' *schneiden* (we use the simplified SF [b CUT a]).

- (59) 1. /schneid/ [+V, -N]: $\lambda a \lambda b [b \text{ CUT } a]$
2. /Ø/ [+M]: $\lambda V \lambda y \lambda z [PS [V N y]]$
 3. /schneid/ [+V, -N, +M]: $\lambda y \lambda z [PS [(\lambda a \lambda b [b \text{ CUT } a]) N y]]$
 4. /schneid/ [+V, -N, +M]: $\lambda y \lambda z [PS [N \text{ CUT } y]]$
- |
[+refl]

Note that Bierwisch tacitly assumes an additional condition like (60):

- (60) N must occupy the highest argument position of the verb

Without this condition, he could not prevent two-place predicates from being inserted in the 'impersonal' MT_2 in (56b), which would result in the lexical representation given in the third line (61.3). In semantics, (61.3) is a two-place verb with an implicit 'generic' object. But in syntax, (61.3) projects two reflexive pronouns because principle (52) can be applied twice. However, a sentence like (61.4) with two reflexive pronouns does not yield the interpretation in

lich (1992).⁶⁰ These principles, together with (52), yield the following syntactic realization of the arguments, which is again inconsistent with middle constructions derived from three-place verbs (cf. Section 2.1.1). In (65) the non-argument reflexive is incorrectly assigned dative case and the accusative object of the corresponding active sentence is not promoted to subject.

- (65) V [+V, -N, +M]: $\lambda_x \quad \lambda_y \quad \lambda_z$ [PS [N CAUSE [BECOME [POSS (y,x)]]]]
- | | | |
|-------|---------|-------|
| | | |
| [acc] | [dat] | [nom] |
| | [+refl] | |

A similar problem arises for two-place verbs that assign dative case to their second argument. We mentioned in Section 2.1.1 that dative objects cannot undergo middle formation at all. They can only occur in impersonal middle constructions.⁶¹

- (65) a. *Der Rektor widerspricht sich leicht
 The rector-NOM contradicts RP easily
 b. Dem Rektor widerspricht sich's leicht
 The rector-DAT contradicts RP.it easily
 'It is easy to contradict the rector'

One could somehow restrict principle (52) to accusative objects only. But this restriction is again not sufficient to derive middle constructions with three-place verbs. In this case we cannot make use of principle (52) because it is always the dative object that is dominated by the empty (or nongenuine) argument position λ_z . As matters stand, the template analysis cannot derive MF with three-place verbs and it cannot exclude personal middle constructions derived from underlying two-place verbs that assign dative case to their object. We complete the discussion with some more basic remarks. We think that this approach is basically on the right track. The reflexive pronoun in middle constructions and anticausatives is not an inherent property of these constructions, but instead follows from some general grammatical principle. However, the template analysis is forced to assume (at least) two different lexical entries to offer a unified account of personal and impersonal middle constructions and anticausatives.⁶² Unlike anticausatives and two-place predicates, one-place predicates basically only select one argument. Therefore, one-place basic verbs must first be transformed into two-place middle verbs. But this assumption is clearly ad hoc. Therefore, the template analysis does not offer a uniform explanation of personal and impersonal middle constructions. Moreover, although the middle templates in (56) and principle (52) correctly describe the fact that

middle constructions are always transitive reflexive sentences, they do not explain this fact. Besides, we cannot see how this analysis excludes focus on the non-argument reflexive (cf. 67b), which cannot be focused as opposed to the argument reflexive in (67a).

- (66) a. Peter hat SICH gewaschen
 Peter has RP washed
 ‘Peter washed himself’
 b. *Das Brot schneidet SICH gut
 The bread cuts RP easily

The corresponding SF-representations in (68a and b) show that the argument position λy binds a variable at SF in both examples. The template analysis does not distinguish two different interpretations of the reflexive pronoun. In both cases the reflexive pronoun is linked to a genuine argument position, which binds a semantic variable. Following standard theories of focus, we expect (narrow) focus to be grammatical in both cases (cf. next chapter for a detailed discussion of this issue).

- (67) a. λy λx [x WASH y]
 $\lambda y = [+refl]$
 b. λy λz [PS [N P y]]
 $\lambda y = [+refl]$

Furthermore, we expect ‘middle verbs’ to be input to further lexical rules like e.g. nominalization.⁶³ But it seems impossible to apply lexical rules to middle constructions or ‘middle verbs’. This restriction would follow without additional assumptions from syntactic and presyntactic analyses. Besides, we have already mentioned that there is no morphological evidence for ‘middle verbs’ or lexical ‘middle templates’. Verbs in middle constructions do not morphologically differ from their ‘active’ counterparts.

Finally, we briefly turn to adverbial modification. According to Bierwisch, middle constructions obligatorily select an adverbial expression (via the *PS*-operator). Note that the question whether or not adverbial modification is (more or less) obligatory in middle constructions does not necessarily depend on the approach we choose. H&R (1993), for example, try to reduce adverbial modification to some syntactic licensing condition, while some lexical approaches do not assume that adverbial modification is an inherent property of middle constructions that must be stipulated in the lexicon (cf. e.g. A&S 1994 and 1995 above). A postsyntactic approach must offer a semantic or pragmatic explanation for the fact that most middle constructions sound odd without ad-

verbal modification. We have already seen that middle constructions in German are sometimes also grammatical without adverbial modification and that many languages have grammatical middle constructions without any adverb (cf. Sections 2.1.4 and 2.3). Although most middle constructions in German involve some adverbial modification, this does not necessarily mean that middle constructions without adverbial expressions are simply exceptions to the core or canonical cases of middle constructions. Moreover, stipulating that adverbial modification is an intrinsic lexical property of middle constructions or ‘middle verbs’ is not yet an explanation of the fact that most middle constructions require some adverb. Even under this assumption, the reasons why adverbial modification is obligatory in many cases are still unclear. In addition, we do not see any independent criterion to decide whether or not adverbial modification is a necessary condition for the grammaticality of middle constructions.⁶⁴

Traditionally, verbs c-select optional or obligatory arguments (and possibly directional PPs). An approach that claims that verbs (e.g. ‘middle verbs’) also select adverbs, loses an important criterion that distinguishes adverbial expressions from arguments, i.e. the property to be selected (or subcategorized) by the verb. One advantage of our alternative (non-syntactic or non-lexical) explanation is therefore that we need not extend the selectional properties of verbs.⁶⁵ Moreover, a theory assuming subcategorization of an adverb has to explain the (admittedly) rare cases of middle constructions that are grammatical without adverbial modification and the clear correlation between genericity and adverbial modification in middle constructions. By contrast, a theory that does not assume adverb selection in middle constructions must explain why most middle constructions in German usually require some adverbial modification. In Chapter 7 we propose a pragmatic explanation of this fact which relies on the observation that middle constructions are generic statements.

3.2.3 Summary

We again briefly summarize the main results of the discussion:

- Lexical theories do not offer a conclusive explanation for the reflexive pronoun in middle constructions.
- Personal and impersonal middle constructions cannot be derived in a uniform way.
- Middle constructions with three-place predicates cannot be derived at all.
- So far, middle formation with dative objects cannot be excluded.

- The correlation between the implicit argument ARB or *N* and the generic interpretation of middle constructions (or the change from stage-level to individual-level predicates) is unclear. No conclusive lexical explanation has been offered so far.
- ‘Middle verbs’ are not individual-level predicates.
- Lexical theories cannot explain why most middle constructions require some adverbial modification.
- No relevant prediction follows from a lexical derivation of middle constructions.
- There is no morphological evidence for a lexical rule of middle formation or a lexical middle template.

3.3. Conclusion

We have seen that neither a syntactic nor a lexical approach offers a conclusive derivation of middle constructions in English, Dutch, Italian, and French so far. An application of these analyses to German middle constructions raises additional problems. The analyses of German middle constructions that we discussed in 2.1.3 and 2.2 are also inconclusive. They all need additional ad hoc stipulations and cannot account for all kinds of middle constructions that can be found in German. In particular impersonal middle constructions, middle constructions with three-place verbs and impersonal middle constructions with a dative object still pose serious problems. In addition, all syntactic and lexical analyses we discussed in this chapter do not offer a uniform analysis of transitive reflexive sentences (i.e. of the semantic ambiguity of the accusative reflexive pronoun). We think that further investigation into the semantics of middle and related constructions can help to answer some of the questions raised in this chapter. Until now a postsyntactic approach has generally been neglected. In the following we develop a postsyntactic analysis of middle constructions, anticausatives, and reflexives. Above all, this analysis has to account for the ambiguity of the accusative reflexive pronoun. Furthermore, it must exclude dative objects from middle formation. In the next chapter we will show that all transitive sentences with an accusative reflexive pronoun in object position do not differ in syntax no matter whether they are interpreted as reflexives, anticausatives, or middle constructions. In Chapter 5, we will deal with the semantic ambiguity of transitive reflexive sentences. We will argue that all interpretations of transitive reflexive sentences can be derived from one syntactic representation. Chapter 6 deals with anticausatives and dative case. In

Chapter 7 we turn to the problem of adverbial modification and genericity and we finally discuss adjunct middle constructions.

Notes

1. See Footnote 10 below for a brief comment on Zwart's analysis.
2. See also Fagan (1992) for a criticism of Keyser and Roeper's (1984) arguments in favor of a syntactic derivation of English middle constructions and Zribi-Hertz (1993) for another criticism of Stroik's analysis.
3. Stroik claims that his derivation is not in conflict with the PRO-theorem (cf. p. 135). But to account for this he must define dominance based on inclusion and on exclusion at the same time. In the first case INFL would govern PRO and in the second case the verb (cf. Ackema and Schoorlemmer 1995: 174).
4. H&R claim that only 'affected' arguments can be moved in middle constructions. To prevent non-affected arguments from movement, H&R stipulate a second kind of accusative case. This case-distinction, which is not morphosyntactically but semantically motivated, seems necessary only to derive the 'affectedness constraint' (AC) within their syntactic framework (cf. also the discussion in 3.1.3 below for a similar problem). Besides, we also expect passive to be subject to the AC, although NP-movement in passives is not limited to 'affected' arguments (cf. H&R 1993: 204).
Another point is that the AC seems to be the wrong generalization (cf. Ackema and Schoorlemmer 1994; Fagan 1992: 64f.; and Chapter 2 above). Verbs like *read* or *photograph* form perfectly fine middles, yet their implicit arguments are not 'affected'.

(i) This book reads easily

(ii) She photographs well (Fagan 1992)

In Chapter 2 we mentioned that German middles are not subject to the AC either (for this issue see also the discussion of the lexical theories below).

5. It remains unclear what it exactly means that the lexical head (V) 'assigns the index arb to pro' and that 'this index may be identified by a modifier' (i.e. by the experiencer role selected by an adverb). Besides, H&R assume that the agent role is assigned to pro in syntax. Therefore, we expect subject-oriented adverbs to be grammatical in middle constructions. But they are ungrammatical in English and German, which is illustrated in (i) for English. See also Section 2.1.4 above.

(i) *New cars clean carefully

According to Roberts (1987), middle verbs are stative predicates. Under the assumption that adverbs like *carefully* are agent-oriented and eventive, these adverbs cannot occur in middle constructions. However, we argue below that verbs in middle constructions are not stative predicates. Instead, they select an event argument, which is bound by a generic operator.

6. H&R give the following LF-representation ('G' is a generic operator) for the middle construction:

- (i) $G [e: V (x, NP, e)] (Adv (e, for x))$

Take, for example the middle construction in (ii). The adverb *schnell* ('quickly') modifies the whole event of mowing the lawn. This sentence means that the mowing of the lawn does not take too much time in general. We are not aware of any independent criterion to decide whether or not *schnell* in (ii) selects an experiencer role. But we do not think that example (ii) can be paraphrased as follows (cf. H&R: 194): 'In general, events in which some x mows the lawn are quick events for x' (cf. Chapter 7 for further discussion).

- (ii) Der Rasen mäht sich schnell
The lawn mows RP quickly
'The lawn mows quickly'

Furthermore, even whole adverbial phrases like *wie 'erbleichen' ohne 'Leichen'* and *als seien* ... in examples (iii) and (iv) must select an experiencer role. This assumption is again counterintuitive to us.

- (iii) 'Erb' schreibt sich wie 'erbleichen' ohne 'Leichen'
'Erb' writes RP like 'erbleichen' (i.e. to turn pale) without 'Leichen' (i.e. corpses)
- (iv) [Dieser Bericht] liest sich, als seien die Berliner Lehrer und Polizisten schlimme
Fremdenfeinde, ... (Frankfurter Allgemeine Zeitung, 12.9.2000)
racists ...
'This report sounds as if all teachers and policemen in Berlin are racists'

7. H&R assume that all free argument variables in middle constructions are bound by a generic quantifier. In Chapter 7 we develop an analysis of the generic interpretation of middle constructions, which is also based on this assumption.

8. Stroik (1999) argues that adverbs like *quickly* can only cooccur with predicates that select an agent. He concludes that 'middle verbs' also select an agent because they can cooccur with these adverbs. Note, however, that these adverbs can also cooccur with anticausative and unaccusative verbs, which do not have an agent argument.

9. Thanks to Marcel den Dikken, Marie Christine Erb, and to my Dutch informants in Berlin and Tilburg for helping me with the Dutch examples (cf. also the discussion of Ackema and Schoorlemmer's analysis of middle constructions in English and Dutch in Section 3.2.1).

10. Note that Zwart (1998), unlike den Dikken, argues that middle constructions also project vP in addition to the basic VP. Furthermore, Zwart does not assume A-movement of the subject in middle constructions. Instead, the subject is base generated in the specifier of vP . In this position, the subject is interpreted as a 'circumstantial agent', and as such it is responsible for the predication expressed in middle constructions (cf. Section 2.1.2). We think that Zwart's analysis is basically on the right track. However, his analysis also makes some inaccurate predictions: (i) that middle constructions are ungrammatical without an adverbial

expression; (ii) that middle constructions with an unaccusative verb as well as telic middle constructions (e.g. resultatives, achievements, and accomplishments) are also ungrammatical; (iii) that ‘effected’ arguments should be excluded from ν P-Spec; (iv) that non-argument middles (i.e. adjunct middles) should be ungrammatical in German. It also remains unclear how the subject is linked to the internal argument of the verb (i.e. how it receives its correct thematic interpretation). In Zwart’s approach an additional (lexical) operation seems necessary to derive a one-place (or intransitive) middle predicate from the corresponding ‘normal’ two-place (or transitive) predicate.

In our opinion (at least for German) the existence of (rare cases of) non-argument (or adjunct) middles should not be taken as evidence for the claim that all middle constructions are non-argument middles (cf. Zwart 1998: 18). Especially the adjunct middles in German should be explained independently (recall that Zwart’s analysis predicts non-argument middles to be ungrammatical in German). We discuss German adjunct middles in detail in Section 7.3. Note finally that we share the opinion that the reflexive pronoun in German middle constructions is ‘generated in the VP’ and ‘as a consequence of the binding relation obtaining between the surface subject and the reflexive argument of the lexical root, an interpretation according to which the surface subject *is* an argument of the lexical root becomes inescapable’ (Zwart 1998: 18). We deal with the interpretation of the surface subject in Chapters 5 and 6. Besides, we agree with Zwart on the analysis of middle constructions in English, which might have a morphologically empty reflexive pronoun (cf. Steinbach 2000 and Chapter 8 for further discussion of this issue).

11. A detailed criticism of Stroik’s arguments can be found in Ackema and Schoorlemmer (1995) and Zribi-Hertz (1993). In the following we briefly summarize their main points and add some additional observations.

12. Chris Wilder (p.c.) pointed out that Kayne’s (1994) treatment of relative clauses would allow to establish a binding relation between the antecedent and the reflexive pronoun in (10c) in syntax. However, this analysis cannot be applied to (10a) and (10b).

13. Note that in the active counterpart the reflexive pronoun must be used (cf. Chapter 4 on the adnominal focus particle *selbst*).

- (i) Der Enzensberger liest sich selbst/*ihn selbst
 The Enzensberger reads RP (him)self/him (him)self
 ‘Enzensberger is reading a book of himself/reads books of himself’

14. Ackema and Schoorlemmer (1995) come to the same conclusion for English, but see Stroik (1999) for counterexamples. A discussion of *for*-phrases in English can be found in Zribi-Hertz (1993).

15. Recall that passives and middle constructions in Modern Greek and Russian are morphosyntactically identical (cf. Section 2.3). This does not hold true for languages that have developed a periphrastic passive form. Nevertheless, in Modern Greek and Russian the middle interpretation is also subject to restrictions different from those on the passive interpretation.

16. Passives and middle constructions seem to differ in another respect. Preposition stranding seems to be much more acceptable with passives than with middle constructions. We mentioned in Chapter 2 that preposition stranding is possible in some middle construc-

tions (cf. (i)). In many cases the middle construction is, however, more marked than the corresponding passive (cf. (ii)).

(i) [?]That tree climbs up quickly

(ii) a. ^{??}John laughs at easily

b. John was laughed at

17. The situation in German is not that clear. Passivization is not always perfect with so-called A.c.I.-verbs. The best examples involve intransitive complements.

(i) Peter wurde im Garten liegen gelassen

Peter PAS in.the garden lie let

(ii) Peter wurde im Garten spielen gesehen

Peter PAS in.the garden play seen

(iii) [?]Peter wurde gestern eine junge Frau küssen gesehen

Peter PAS yesterday a young lady kiss seen

German has only few verbs selecting A.c.I.-constructions. Besides *lassen* ('let'/'have s.o. do s.th.'), some perception verbs like *hören* ('hear') or *sehen* ('see') select A.c.I.-complements. These verbs do not form good middles in principle. Example (27), Chapter 2, is a middle construction with *sehen* (here repeated as (iv)). We think that the corresponding ECM-constructions in (v) and (vi) are also grammatical although slightly degraded. German A.c.I.-constructions do not provide any argument in favor of or against a syntactic analysis of middle constructions. We come back to these constructions in Chapter 5.

(iv) Von hier aus sieht sich das gegnerische Tor viel besser

From here sees RP the opponent's goal much better

(v) [?]Von hier aus sieht sich die gegnerische Mannschaft viel besser spielen

From here sees RP the opponent's team much better play

(vi) [?]Von hier aus sieht sich der gegnerische Stürmer viel besser den Elfmeter schießen

From here sees RP the opposing forward much better the penalty take

18. Abraham (1995b) judges the corresponding example in (i) to be grammatical in German as well.

(i) a. ^{???}Es besticht sich solche Beamte leicht

It bribes RP such officials easily

b. ^{???}... weil es sich einen solchen Beamten leicht besticht

... because it RP a such official easily bribes

We have already pointed out in Section 2.1, Footnote 12, that many native speakers find these sentences ungrammatical in German.

19. The impersonal *si* is analyzed as a nominative reflexive pronoun. The syntactic clitic must form a chain with (and is bound by) an implicit subject by which it receives nominative case. In Manzini's approach the operation form chain is subsumed under binding theory. Note, however, that cross-linguistically nominative (weak) reflexive pronouns are extremely

rare. Most Romance languages do not have nominative reflexive pronouns (cf. Dobrovie-Sorin 1998). As a consequence of Manzini's and Cinque's analysis, the Italian nominative clitic *si* would be a great exception if it is compared to other reflexive markers.

Anderson (1986) argues that reflexive pronouns in Icelandic are expected to appear in embedded sentences in subject position if the embedded sentence contains a verb with a non-nominative subject. However, nominative reflexives seem to be excluded in principle (see also Everaert 1990). Thanks to Hans-Martin Gärtner for making me aware of this issue, which we discuss in Chapter 5.

20. We do not want to discuss whether the treatment of the reflexive *si* is conclusive. Note, however, that Cinque proposes a passive-like derivation for weak reflexives: the reflexive clitic *si* is linked to the external argument (or logical subject) of the verb and is bound by the syntactic subject, which is linked to the internal argument. Focus seems to be one problem for Cinque's treatment of reflexives. If one asks for the external argument (i.e. *who washes himself*), the syntactic subject, which corresponds to the internal argument in Cinque's account, must be focused in the corresponding answer. But this would yield the wrong semantic representation of the focus-background structure. Furthermore, it seems to be implausible to link the strong reflexive pronoun *se stessi* also to the external argument. But this would result in two entirely different syntactic and semantic representations for the weak and strong form of the reflexive pronoun. See also the discussion of Manzini (1986) above, who analyses the reflexive *si* as an accusative or dative verbal clitic.

21. But see Dobrovie-Sorin (1998:410f.), who argues against Cinque's $[\pm\text{arg}]$ -distinction. She does not assume two types of nominative *si*. The $[\text{+arg}]$ *si* is analyzed as being a middle-passive accusative *si*. Dobrovie-Sorin's analysis is closer to our own analysis, which we develop in Chapters 5 to 7.

22. $[-\text{arg}]$ *si* always occurs in finite sentences without 'object agreement', i.e. the internal argument stays in situ and does not move into the syntactic subject position (cf. (19) above). This is predicted by Burzio's Generalization (1986): $[\text{+arg}]$ *si* absorbs the external theta-role by definition, so that the verb cannot assign accusative case according to Burzio's Generalization. The internal argument is left without case. Therefore, $[-\text{arg}]$ *si* together with a pleonastic pro subject must be used in *si*-constructions without 'object-agreement'. In this case, the external theta-role is assigned to pro in Spec of IP and the verb assigns accusative. Unergatives like (i) might be the only exception to this generalization.

- (i) Si lavora sempre troppo
 RP works always too much
 'One always works too much'

These verbs do not select an internal argument. Hence they are not in conflict with Burzio's Generalization. Furthermore, it is impossible to verify 'object-agreement' in this case. But it seems to be plausible to assume $[-\text{arg}]$ *si* in this context as well to get a uniform analysis.

23. In Section 2.3.2 we mentioned that middle constructions in Italian and French can be used to describe specific events. In this case they can be modified by agentive adverbs and the implicit logical subject can control the PRO subject of a purpose clause (cf. Cinque 1988:562). This seems to be impossible if the *si*-construction receives a 'generic' interpreta-

tion. Cinque attributes this to the difference between $[\pm\text{arg}]$ *si*. With $[-\text{arg}]$ middle *si* the external theta-role becomes 'invisible' in syntax.

24. Both Manzini and Cinque derive middle formation in the syntax and anticausative formation in the lexicon. Arguments in favor of this distinction are (i) middle formation is more productive (ii) anticausative formation, unlike middle formation, is possible with and without a reflexive pronoun, depending on the verb (cf. Section 2.2). Property (i) might be due to the fact that anticausative formation is subject to additional semantic restrictions, so that only certain verbs can undergo anticausative formation. The second property (ii) might be either a lexical idiosyncrasy of certain verbs, that cannot be explained systematically, or it might be attributed to a systematic difference in the selectional properties of the underlying verbs. In Chapters 5 and 6 we argue for a unified (syntactic) analysis of middle constructions and anticausatives.

25. Cinque refers to Chomsky (1986: 131f. and 184f., especially Footnote 120). Chomsky assumes that both the reflexive clitic *si* and the VP-internal argument are parts of two different CHAINS, which contain a different thematic role each but are assigned the same case.

26. According to Cinque, (24b) is an impersonal-passive *si* construction that is grammatical only in finite clauses like (i). Verbs like *kill* are "less prone, even in generic contexts, to an interpretation that 'backgrounds' the agent to simply predicate a property of the subject" (p. 560). Therefore, *si*-constructions with these verbs receive the impersonal passive reading.

- (i) Neanche il nemico *si* uccide senza rimorsi
Not even the enemy RP kills without remorse

27. This derivation resembles Everaert's (1986) analysis of reflexive anticausatives in Dutch. For Everaert the Dutch reflexive pronoun *zich* is also a VP-adjunct. He derives its occurrence from the ECP. The reflexive pronoun, which absorbs the accusative case, forms a chain with the syntactic subject and its trace in VP-internal position to mediate the antecedent-binding of the VP-internal trace.

28. Inherent reflexives equal anticausatives in Haider's analysis. Therefore, we consider only anticausatives in the following discussion.

29. However, both types of reflexive pronouns differ with respect to the sentence-initial position. Only the argument reflexive can occupy the sentence-initial position. This follows again from the semantic ambiguity (interpretative difference) of the accusative reflexive pronoun and the restrictions on the sentence-initial position in German as will be shown in Chapter 4.

30. Note that Haider's explanation relies on the theta-criterion (cf. p. 245).

31. According to Haider, the external theta-role can be assigned either to the subject position (Spec of CP or IP) or alternatively to an A' -element (adjoined to VP). However, it does not become clear why dative reflexive pronouns or 'referential' NPs cannot receive or 'absorb' the external theta-role in VP-adjoined position.

32. Traditionally, reflexive pronouns are bound in syntax (feature-sharing) and semantics (coreference) by the same antecedent. The adjunct reflexive in middle constructions and anticausatives can, however, only be bound in syntax. Semantically, the reflexive pronoun in adjunct position is interpreted as an unbound implicit 'generic' subject in middle con-

structions. In this respect, Haider's analysis resembles Manzini's treatment of Italian middle *si*. The responsibility of the reflexive pronoun for the generic interpretation is neither empirically nor conceptually motivated. We come back to this issue in Chapters 4, 5, and 7.

33. This contradicts the following observation: diachronically, anticausatives and inherent reflexive verbs are attested earlier than middle constructions. Moreover, not every middle construction can be lexicalized. We will see in Chapter 6 that the difference between middle constructions and anticausatives is due not to lexicalization but to further semantic restrictions on anticausatives.

34. Haider claims that the reflexive pronoun stands in for the theta-role of the external argument. But we saw in Section 2.2 that no external theta-role is implicitly present in the anticausative variant of causative verbs. This crucial difference distinguishes middle constructions from anticausatives.

35. Schachtl's analysis is motivated by word order data. According to Schachtl, in the unmarked word order a subject NP marked with morphological nominative in VP-internal position must follow constituents that are adjoined to VP like dative NPs, adverbs (cf. also next footnote), or the reflexive pronoun in middle constructions. But middle constructions do not provide any evidence that the nominative NP stays in situ in its VP-internal base position. For example (iii) see also Diesing (1988 and 1992) and Jäger (1992 and 1995).

- (i) *...weil sich [_{VP} gut ein Buch liest] vs. ...weil sich ein Buch [_{VP} gut liest]
- (ii) ?...weil sich [_{VP} immer ein Buch gut liest] vs. ...weil sich ein Buch [_{VP} immer gut liest]
- (iii) ?...weil sich [_{IT} ja doch ein Buch gut liest] vs. ...weil sich ein Buch [_{IT} ja doch gut liest]
 ... because RP a book well read (*immer* = 'always', *ja doch* = 'indeed')
 '... because you can (always) read a book well'

Moreover, unmarked word order in the German middle field is restricted not only by constraints on morphological and structural case, but also by additional constraints such as for example (i) nominative NPs precede accusative NPs, (ii) agents precede other constituents, (iii) topic precedes focus, (iv) pronouns precede full NPs, or (v) NPs that refer to animate entities precede NPs that refer to inanimate ones. In particular, the unmarked position of dative objects varies. A dative NP can precede an accusative NP and a nonagentive nominative NP, provided that the dative NP refers to an animate entity (cf. Chapter 4 for more details and references). In middle constructions the nominative NP cannot be an agent. Therefore, it is no surprise that dative NPs can precede the nominative NP in principle, especially if they refer to animate entities.

- (iv) a. ... weil sich ein Porsche einem Zuhälter gut verkauft
 ... because RP a Porsche-NOM a pimp-DAT well sells
 '... because a Porsche sells well to a pimp'
- b. ... weil sich einem Zuhälter ein Porsche gut verkauft

Word order restrictions in the German middle field do not provide any evidence for the claim that the internal argument receives morphological nominative in its VP-internal base position. We come back to this issue in Chapter 4 (cf. also Fagan 1992:113, especially

example (40), for a similar argumentation with respect to the accusative-dative order in passives).

36. Schachtl adjoins the adverb to V° in middle constructions, but manner adverbs modify not only the verb but the whole VP in middle constructions. This can be illustrated with adverbs like *schnell* ('quickly') which can modify either the verb itself (i-a) or the whole VP (i-b). In middle constructions like (ii) the adverb has only the second (VP-modifying) reading (cf. also Sections 2.1.4 above and 3.2 below).

- (i) ... weil Peter den Rasen schnell mäht
 ... because Peter the lawn quickly mows
- a. the mowing is quickly but it takes Peter more than 4 hours to mow the whole lawn.
 b. the whole event of mowing the lawn is quickly finished because the lawn is very small. Peter may or may not do this in a quick manner.
- (ii) ...weil sich der Rasen schnell mäht
 ... because RP the lawn quickly mows (only interpretation (i-b) possible)

The adverb in middle constructions should be analyzed as a VP-adverb.

37. German has only very few cases with two accusative objects. Duden (Drosdowski 1995) cites four verbs: *lehren* ('teach'), *kosten* ('cost'), *abfragen* ('test'), and *abhören* ('test'). In the first two cases an alternative realization of the form accusative+dative/PP is the preferred option for many speakers. Besides, German has some idioms like (i) with two accusatives. However, the same verb cannot assign two accusatives in nonidiomatic uses, as is illustrated in (ii).

- (i) Eins bitt' ich dich (Drosdowski 1995)
 One-ACC ask I you-ACC
 'I ask you for one thing'
- (ii) Ich bitte dich *das Auto/um das Auto
 I ask you-ACC the car-ACC/for the car

According to Schachtl we would expect many more 'double case' constructions.

38. Ackema and Schoorlemmer (1994) argue that the term *lexical* is misleading. For them, the lexicon is not part of the computational system but a "list mentioning all and only those properties of the elements of a language that are idiosyncratic" (p. 60) – but see Ackerman and Webelhuth (1998) for a different point of view. In the following discussion we do not make a terminological distinction between the 'productive' and the 'idiosyncratic' part of the lexicon. For the ongoing discussion it is irrelevant whether middle formation and the respective output are part of the lexicon or of some additional presyntactic module. To simplify matters we call these approaches lexical.

39. A&S postulate an additional rule of 'adjunct incorporation' for adjunct middles in Dutch. We discuss this issue in Chapter 7.

40. The feature [+ext] means that one argument must be external. It is an inherent property of the whole lcs and cannot be deleted in the course of a derivation.

41. This restriction raises the following problem. Consider a verb like *receive* that might subcategorize for a patient argument which is the most prominent argument on the action tier and, in addition, for a second argument that is more prominent at the thematic tier than its co-argument, the patient. This verb should be prevented from linking its arguments (cf. sentence (i), which can be represented as (ii) illustrates).

(i) Sam received a book

(ii) *receive* [GO_{Poss} ([BOOK], [TO [SAM]])
AFF⁺ (, [SAM])]

In (ii) neither argument can be linked as the external argument of the verb because of condition (34e), and we expect sentence (i) to be ungrammatical (cf. also the discussion of double objects in A&S 1994). One might, however, argue that *receive* does not select an external argument.

42. The relevant parts of Fagan's definition of middle formation in English and French are as follows:

(i) English: +[_____AdvP]

(ii) French: [_V X] → [_V se + [_V X]]

Middle formation in English introduces only the adverbial phrase (cf. (i)), whereas adverbial phrases are not obligatory in French. On the other hand, French middle constructions select a reflexive clitic that is introduced by rule (ii) in French. Note that the reflexive clitic in French agrees in number and person with its subject. For this, rule (ii) must be slightly modified.

Grimshaw (1982) offers a similar lexical derivation of middle constructions in French. Moreover, she proposes two additional rules for anticausatives and reflexives. We give her middle rule in (iii).

(iii) (SUBJ) → ∅

(OBJ) → (SUBJ)

(↑REFL) =_C +

(Grimshaw 1982:124)

Roughly speaking, the last condition '(↑REFL) =_C +' means that an intrinsic clitic (i.e. a clitic that has '(↑REFL) = +' in its lexical entry) has to be present in the syntactic clitic position CL. Following the general principles of clitic placement in French, it precedes the finite verb. See also Fellbaum and Zribi-Hertz (1989) for middle constructions in French.

43. "In essence, then, the presence of a reflexive in a middle must be stipulated" (Fagan 1992:171). We argue in Chapter 5 that the widespread use of reflexive pronouns to indicate valency-reduction is not accidental.

44. As opposed to A&S, Fagan does not distinguish unergatives from unaccusatives. All intransitive verbs assign an external theta-role and can thus all undergo middle formation in German in principle. This point will be relevant in the discussion below. Fagan argues 'that the diagnostics for ergativity in German are generally unreliable' (p. 120). We do not want to discuss Fagan's treatment of intransitive verbs here because it is not relevant for the analysis of German middles we will present in Chapters 4 and 5. For further discussion

see Grewendorf (1989b), van Riemsdijk (1978), or A&S (1995) among others, who argue at length that there are differences between unergative and unaccusative verbs in German. We briefly return to the distinction between unergatives and unaccusatives in Chapter 6.

45. *Treffen* ('meet') is a two-place predicate that can be inherent reflexive (i), reciprocal (ii), or non-reflexive (iii). The first two examples can describe activities and the last two examples can yield an achievement interpretation. Hence, with a plural sentence (37b) would be ambiguous between a middle interpretation and a reciprocal interpretation. The middle constructions in (37) are derived from the achievement interpretation in (iii).

- (i) Ich habe mich drei Stunden lang mit Helmut getroffen
I have RP three hours long with Helmut met (i.e. for three hours)
- (ii) Wir haben uns gerade auf der Straße/zwei Stunden lang getroffen
We have RP just in the street/two hours long met
- (iii) Ich habe gerade den Peter auf der Straße/?zwei Stunden lang getroffen
I have just the Peter in the street/two hours long met

46. In Chapter 2 we mentioned a contrast between *buy* and *sell*. While *sell* forms acceptable middle constructions, *buy* sounds odd in middle constructions:

- (i) *These books buy well (from linguists)
- (ii) These books sell well (to linguists)

As already discussed, the properties of the object for sale may influence the act of selling. A similar situation is hard to imagine for *buy*. Nevertheless, *buy* is also possible in middle constructions in certain contexts (cf. Section 2.1). The acceptability of middle constructions is affected by the 'responsibility' of the promoted second argument of the event described by the verb. Note that all theories have to assume additional constraints on middle formation. The difference between (i) and (ii) does not directly follow from A&S's lexical-conceptual approach. Both verbs should be equally acceptable in middle constructions because they both provide the correct input for MF.

47. A&S (1994) note in Footnote 15 on page 73 that unaccusatives are marginally grammatical in middle constructions in Dutch. In the previous subsection we gave three examples for middle constructions in Dutch that contain unaccusative verbs. See Chapter 2 for corresponding German examples.

48. A&S subsume the so-called 'affectedness constraint' (AC – cf. Section 3.1.1) under their rule of MF (cf. 33). They observe that even non-affected objects can undergo MF if the verb subcategorizes for an actor argument (cf. p. 76). On the one hand, their rule of MF is more liberal than the AC. On the other hand, it also covers all standard cases of the AC, i.e. two-place predicates selecting an actor and a patient argument. The examples in (41), however, show that A&S's rule of MF is still too restrictive.

In addition, this analysis requires that concepts like actor, patient, agent, theme and action tier or thematic tier can be clearly defined. But until now, no clear definition has been proposed (cf. Dowty 1989 and 1991 for a detailed discussion of this issue).

49. This argument cannot be applied to middle constructions in French, which need not be ‘generic’, although they are also lexically derived. Cross-linguistically the semantics of middle constructions does not provide an argument in favor of a lexical analysis.

50. See Chapter 7, Footnote 10, for some remarks on the feature [+human].

51. A&S claim that only verbs with a fully specified action tier (i.e. without ARB-arguments at the action tier) can have a syntactic e-role (cf. 34f.). Therefore, middle constructions do not trigger an e-role. According to A&S, an ARB-actor induces a generic reading and an ARB-patient a habitual reading.

52. Recall that sometimes the implicit argument of middle constructions can also be linked to a *für/for*-phrase. This contradicts A&S’s rule of middle formation MF = ARB (cf. Chapters 2 and 7 Section 3.1.1 above).

53. Note that Fagan (1992:78) herself describes middles as events.

54. In contrast to English, German does not distinguish simple present from progressive form. The simple present form is ambiguous between a progressive and a ‘habitual’ interpretation.

55. The actor role is not assigned to the subject position but to the passive morphology.

56. In some contexts English middles can also be used in progressive (cf. Chapter 2, Footnote 27).

- (i) a. The wall is painting easily
- b. These chickens are killing easily
- c. Yesterday afternoon your new book was selling like hell

57. The feature [+refl] is itself part of the lexical entry of every reflexive pronoun. Bierwisch proposes the following lexical entry for *sich* (him-/her-/itself and themselves):

- (i) /sich/ [+D, +Refl, +3Pers, +Obj] [x_k]
 condition: x_k is the variable of the argument position occupied by the antecedent

58. The operator *PS* is assumed to be responsible for the adverbial modification in middle constructions (and possibly for the ‘modal’ interpretation which most middle constructions get, cf. 2.1.4). *N* stands for the generic interpretation of the implicit argument (*N* is an implicit argument that is ‘preferably generic’, cf. Bierwisch 1997) and equals Fagan’s and A&S’s ARB. We do not discuss *PS* and *N* because we have already seen in the previous subsection that this kind of lexical explanation is ad hoc and insufficient.

59. We take (62.1) to be a possible representation of a three-place predicate. The following argumentation does not depend on this specific representation. The same problem arises for all lexical entries with three argument positions.

60. Case assignment for (structural) dative, accusative, and nominative can be defined in the following way.

- accusative: [+HR]
- dative: [+HR, +LR]
- nominative: [−HR] or default case

[+HR] means ‘there is a higher role’ and [+LR] means ‘there is a lower role’ (cf. Wunderlich 1992:21). Note that not all instances of dative are structural (cf. Chapter 6).

61. One might argue that the dative in (66), which cannot be derived from universal linking principles, is some kind of lexical case. Therefore, reflexivization might be blocked by some extra principle (e.g. principle (52) can only be applied to ‘structural argument positions’). However, this line of argumentation cannot be applied to the structural dative in (65). Additionally, it does not explain why dative objects cannot be subject to principle (52), i.e. why the feature [+refl] must not be assigned to arguments linked to dative.

62. Both lexical entries in (57) can be combined in the following unified entry:

- (i) $\lambda V \lambda y \lambda z$ [PS [V N (y)]]

Note, however, that one-place basic predicates can only be inserted into one-place middle templates. Likewise, two-place basic predicates can only be inserted into two-place middle templates (cf. above). Otherwise, middle formation would add not only an argument position but also an argument variable. Hence, we again need an additional principle to account for this. The relevant restriction can be stated as follows:

- (ii) A [+M] verb must not select more argument variables than the corresponding [-M] verb

Note that a middle verb can select more argument positions but not more arguments.

63. Take, for example, resultative formation. We mentioned in Section 2.1.1 that resultatives can undergo middle formation.

- (i) Solche Schuhe laufen sich gewiss schnell kaputt
Such shoes walk RP certainly quickly broken

As far as we can see middle constructions must be derived from resultatives and not the other way round. A resultative can be input to MT_1 as is illustrated in (ii). *RF* means ‘resultative formation’ and *MF* ‘middle formation’. (ii-2) is a simplified lexical representation of the resultative construction corresponding to (i):

- (ii) 1. V [+V, -N]: λb [WALK(b)]
2. V [+V, -N]: $\lambda P \lambda a \lambda b$ [WALK(b) & CAUSE [BECOME [P(a)]]] RF
3. [+M]: $\lambda V \lambda y \lambda z$ [PS [V N y]]
4. V [+V, -N, +M]: $\lambda P \lambda y \lambda z$ [PS [WALK(N) & CAUSE [BECOME P(y)]]] MF

If we ‘medialize’ the verb *laufen* (‘walk’) first, it seems impossible to derive the corresponding resultative construction. The output of this derivation is a three-place ‘middle verb’, which cannot be linked to (i).

- (iii) 1. V [+V, -N]: λb [WALK(b)]
2. [+M]: $\lambda V \lambda y \lambda z$ [PS [V N]]
3. V [+V, -N, +M]: $\lambda y \lambda z$ [PS [WALK(N)]] MF
4. V [+V, -N, +M]: $\lambda P \lambda x \lambda y \lambda z$ [PS [WALK(N) & CAUSE [BECOME P(x)]]] RF

64. A similar example might be the verb *wohnen* ('live') (cf. Höhle 1987). One could argue that *wohnen* also requires (context-dependent) adverbial modification because the intransitive sentence in (iv) without an adverbial expression sounds odd. Sentence (i) shows that *wohnen* might select either a manner adverb or a locative PP.

- (i) Ich wohne gut/in Hamburg
I live well/in Hamburg
'I live well/in Hamburg'
- (ii) Ralf wohnt mit Hans-Martin zusammen
Ralf lives with Hans-Martin together
'Ralf and Hans-Martin live together'
- (iii) Sie wohnt gut
She lives well
- (iv) ?Er wohnt
He lives
- (v) Ich wohne jetzt unter der Brücke/im Obdachlosenasyl
I live now under the bridge/in.the shelter for the homeless

We think that sentence (iv) is grammatical. It is, however, not pragmatically licensed. Usually, everybody has a place to live (*zum Wohnen*). The property *wohnen* can even be extended to cases like (v). Therefore, one might argue that sentence (iv) is not very informative. Hence, it is very hard to imagine a situation in which this sentence can be uttered. See also Maienborn (1990 and 1991) and Chapter 7 for further discussion.

65. Otherwise this must be done to explain only a few cases like *wohnen* or middle constructions.

The syntactic parallelism between the argument and non-argument reflexives is, however, not immediately obvious. On the one hand, both kinds of reflexive pronouns – the argument reflexive and the non-argument reflexive – turn out to be subject to the same constraints on word order in the middle field. This is discussed in Section 4.1. Furthermore, they are both bound by the subject. These are good arguments to treat them the same in syntax. On the other hand, there are some crucial differences between argument and non-argument reflexives, which we discuss in Section 4.2. These data seem to provide empirical evidence for the claim that non-argument reflexives differ in syntax from argument reflexives, thus supporting a syntactic analysis of middle formation (cf. Chapter 3.1.3 and Haider 1982, Grewendorf 1984, and Pitz 1988 for German and Everaert 1986 for reflexive anticausatives in Dutch). However, all these differences will turn out to be due to the semantics of non-argument reflexives. They can be explained by semantic theories of focus, coordination, and fronting rather than by an (additional) ad hoc distinction between two syntactically different types of reflexive pronouns. This line of argumentation can already be found in Fagan (1992) and Erb and Steinbach (1997). In this chapter we will show in detail how the distribution of argument and non-argument reflexives can be derived from recent theories on focus, coordination, and fronting.

4.1. Similarities between argument and non-argument reflexives

First, let us discuss word order phenomena that give direct evidence for an analysis that does not draw a distinction between argument and the non-argument reflexives in syntax. Both argument and the non-argument reflexives are subject to the same restrictions on word order in the middle field (for the sentence-initial position see Section 4.2.3). It is a well-known fact that reduced and full pronouns in German tend to be located right-adjacent to the so-called ‘Wackernagel position’, the second position of a clause. This is shown in (3) and (4) for main clauses. The first sentence of each pair is always a middle construction, which contains a non-argument reflexive. The second sentence contains an argument reflexive and receives a reflexive interpretation. Anticausatives and inherent reflexives equal middle constructions in this respect.

- (3) a. Dieser Käse schneidet sich gut (middle interpretation)
 this cheese-NOM cuts RP well
 ‘This cheese cuts well’

a'. Der Kanzler liebt sich sehr (reflexive interpretation)
 the chancellor-NOM loves RP much
 'The chancellor loves himself very much'

- (4) a. *Dieser Käse schneidet gut sich
 a'. *Der Kanzler liebt sehr sich

The examples in (5) show the same correspondence for embedded clauses. In (5a–c') the subject is a definite NP, while it is a pronoun in (5d–e').

- (5) a. ... weil dieser Käse sich gut schneidet
 ... because this cheese-NOM RP well cuts
 (middle interpretation)
 a'. ... weil der Kanzler sich sehr liebt
 ... because the chancellor-NOM RP much loves
 (reflexive interpretation)
 b. ... weil sich dieser Käse gut schneidet
 b'. ... weil sich der Kanzler sehr liebt
 c. ??... weil dieser Käse gut sich schneidet (stilted)
 c'. ??... weil der Kanzler sehr sich liebt (stilted)
 d. ... weil er sich gut schneidet
 ... because it RP well cuts
 d'. ... weil er sich sehr liebt
 ... because he RP much loves
 e. *... weil sich er gut schneidet
 e'. *... weil sich er sehr liebt

The unmarked word order in the German middle field is restricted by various 'weak' constraints. The relevant constraints on the positioning of reflexive pronouns are listed in (i)–(iii), for further discussion see Lenerz (1977), Reis (1987), Uszkoreit (1987), Cooper (1994), Vogel and Steinbach (1997), Haider and Rosengren (1998), Müller (1999), and Gärtner and Steinbach (2000).

- i. Thematic (or backgrounded) elements precede rhematic (or focused) ones.¹
- ii. Pronominal elements precede full NPs (or more general: 'heavy' elements follow 'light' ones).²
- iii. Linearization of arguments directly mirrors the grammatical function/case-hierarchy: the nominative subject precedes the accusative and dative object in the unmarked case (nominative < {dative, accusative}).

The examples (5a–b′) can be described by constraints (ii) and (iii), which are equally ‘strong’. Constraint (ii) claims that *sich* is the first element of the middle field, while constraint (iii) claims the opposite: The nominative NP *dieser Käse/der Kanzler* precedes the accusative NP *sich*. Therefore, both sequences are equally possible (and unmarked). Both sentence (5c) and the corresponding (5c′) sound stilted because the reflexive pronoun does not only follow the subject but also the adverb (cf. Footnote 2 above).³ The sentences in (5d–e′) are subject to all three constraints. Accusative objects can only precede (nominative) subjects if the former are thematic (or backgrounded) and the latter rhematic (or focused). In (5d–e′), the subject and the object are pronominal and most likely thematic. Therefore, (5e) and (5e′) violate the third constraint, which states that nominative precedes accusative in the unmarked word order. Both sentences are much better if we put contrastive focus on the personal pronoun. We slightly modify the middle construction in (5e) by replacing the verb *schneiden* (‘cut’) by *küssen* (‘kiss’) because the second argument of *küssen* usually refers to human entities. Reference to human entities simplifies discourse linking of pronouns.

- (6) a. ... weil sich sogar ER gut küsst (middle interpretation)
 because RP even he well kisses
 a′. ... weil sich sogar ER sehr liebt (reflexive interpretation)
 because RP even he much loves

Two additional constraints are relevant for the linearization of dative objects in the middle field.⁴

- iv. The NP that refers to an agent precedes other constituents.
- v. NPs that refer to animate entities precede NPs that refer to inanimate entities.

In the examples in (7) constraint (v), which seems to be rather weak, interacts with constraint (iii). The subject of the middle construction (the nominative NP) is usually not an agent. Therefore, middle constructions are not subject to constraint (iv), and we expect dative NPs referring to animate entities to precede the subject in middle constructions (cf. constraint (v)) and vice versa (cf. constraint (iii)). This can be seen in the following examples.

- (7) a. ... weil sich einer Nonne ein Gesangbuch schnell
 because RP a nun-DAT a hymnbook-NOM quickly
 verkauft
 sells
 '... because a hymnbook sells quickly to a nun'
- b. ... weil einer Nonne sich ein Gesangbuch schnell verkauft
- c. ... weil sich ein Gesangbuch einer Nonne schnell verkauft
- d. ... weil ein Gesangbuch sich einer Nonne schnell verkauft

All these examples show that non-argument reflexives do not differ from argument reflexives with respect to unmarked word order in the middle field. So far, both kinds of reflexive pronouns are subject to the same constraints on word order.

Besides, the non-argument reflexive is neither a clitic nor is it in some sense syntactically incorporated into the verb. In Section 2.1.2 we mentioned that German has no syntactic (or *special*) clitics. Even (phonologically) reduced pronouns are not syntactic but only phonological clitics, which must be adjoined to an adjacent foot, a syllable, or (under certain circumstances) to a prosodic word in phonology (for further discussion see Booij 1996, Lenerz 1993, and Gärtner and Steinbach 1997 and 2000). Note that even phonological reduction is impossible for the third person reflexive pronoun in Standard German and in most German dialects.⁵ This difference between most personal pronouns and the third person reflexive pronoun is illustrated in (8).

- (8) a. Personal pronoun: Sie hat ihn/'n gestern erst gewaschen
 She has him yesterday just washed
 'She only washed it/him yesterday'
- b. Reflexive pronoun: Er hat sich/*'s/*'ch/*'si/... gestern erst
 He has RP yesterday just
 gewaschen
 washed
 'He only washed himself yesterday'

Reflexive pronouns also differ from elements that obligatorily occur adjacent to the main verb in embedded V-final clauses. The examples in (5) above illustrate that reflexive pronouns need not be adjacent to the main verb in embedded clauses, as opposed to verb-object-combinations like *Ball spielen* ('play with a ball') or the separable prefix in *davonschleichen* ('sneak off/away').

- (9) a. ... weil Peter gestern Ball gespielt hat
 ... because Peter yesterday ball played has
 ‘... because Peter played ball yesterday’
- b. *... weil Peter Ball gestern gespielt hat
- c. ... weil Heidi sich gestern Morgen davongeschlichen hat
 ... because Heidi RP yesterday morning sneaked.off has
 ‘... because Heidi sneaked off yesterday morning’
- d. *... weil Heidi sich davon gestern Morgen geschlichen hat

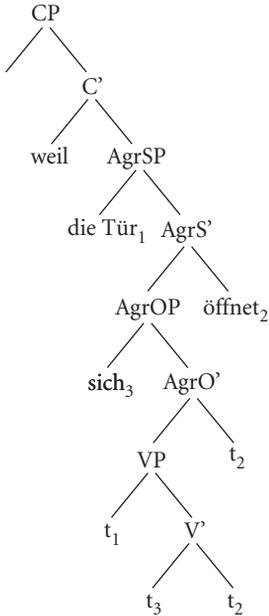
In Chapter 2 we saw that both the argument reflexive and the non-argument reflexive are always bound by the subject NP in syntax. This is illustrated in (10) for middle constructions.⁶ We do not find any evidence that an implicit actor or agent binds the anaphor at some level of derivation as e.g. proposed by Pitz (1988).⁷

- (10) a. Ich₁ wasche mich₁ schneller als alle anderen
 I wash RP-1SG faster than all the.others
 ‘You can wash me faster than the others’
- b. Du₁ hörst dich₁ heute nicht gut an
 You hear RP-2SG today not good PARTICLE
 ‘You don’t sound good today’
- c. Du₁ verkaufst dich₁ gut - ich meine, dein Buch₂
 You-2SG sell RP-2SG well - I mean, your book-3SG
 verkauft sich₂ gut
 sells RP-3SG well
 ‘You sell well – I mean your book sells well’

So far, we have not found any empirical evidence for two syntactically different types of reflexive pronouns in German. The following analysis of transitive reflexive sentences in German is based on Chomsky’s analysis of (structural) case checking (cf. Chomsky 1993 and 1995, Chapter 3). Structural case features must be checked in the corresponding functional projections AgrSP and AgrOP. The syntactic structures for transitive reflexive sentences with personal and impersonal subjects are given in (11.1) and (11.2) below.^{8,9}

(11.1) The syntactic structure of transitive reflexive sentences
with a 'personal' subject

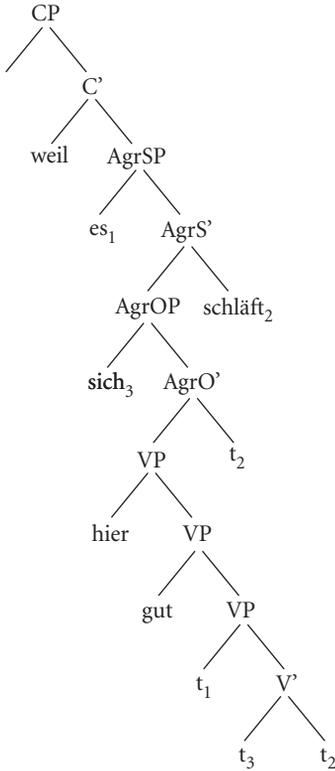
... weil die Tür sich öffnet
 ... because the door RP opens
 '... because the door opens'



Note that the reflexive pronoun overtly moves to AgrOP,Spec if we assume that the adverb is adjoined to VP in middle constructions (cf. 11.2 below). In a second step, it possibly adjoins to AgrSP. Scrambling of the reflexive pronoun is supported by the observation discussed above that pronouns tend to be adjacent to C° (the Wackernagel position). Impersonal middle constructions can be analyzed in the same way. The corresponding structure is given in (11.2) below.

(11.2) The syntactic structure of transitive reflexive sentences with an 'impersonal' subject

... weil es sich hier gut schläft
 ... because it_{RP} here well sleeps
 '... because you can sleep well here'



The examples in (12a–c) show that the impersonal subject *es* has the same syntactic distribution as referential subjects. It can occur in sentence-initial position and after the finite verb in main clauses (12a–b') and after the complementizer in embedded clauses (12c and c'). In addition, the reduced form of the impersonal subject, like the corresponding personal pronoun, can cliticize to another constituent in phonology, as (12d) illustrates. Note finally that the impersonal subject, like non-argument reflexives, cannot be focused, modified, questioned, and coordinated. As opposed to non-argument reflexives, impersonal subjects can be fronted because subjects can occur sentence-initially in un-

marked word order. The next section discusses focus, modification, questions, coordination, and fronting in greater detail.

- (12) a. Es schläft sich gut in diesem Bett
 It sleeps_{RP} well in this bed
 ‘In this bed you can sleep well’
- a’. Er schläft gut in diesem Bett
 He sleeps well in this bed
 ‘He sleeps well in this bed’
- b. In diesem Bett schläft es sich gut
- b’. In diesem Bett schläft er gut
- c. ... weil es sich in diesem Bett gut schläft
- c’. ... weil er in diesem Bett gut schläft
- d. In diesem Bett schläft sich_s (=es) gut
- e. Peter sieht *(es) regnen
 Peter sees it-ACC rain
 ‘Peter sees it raining’

Impersonal subjects need not check nominative case, as can be seen in (12e). In so-called A.c.I.-constructions the embedded impersonal subject cannot check nominative. Nevertheless, sentence (12e) is ungrammatical without an impersonal subject. Note that German is not a pro-drop language. Impersonal subjects may be licensed by either of the following three conditions: (i) German has a strong [EPP]-feature that must be checked in Spec of IP. In this case, the impersonal subject in (12e) is inserted in IP,Spec of the embedded bare infinitive to check the [EPP]-feature. After that it moves to AgrOP,Spec of the matrix clause to check accusative case. (ii) A VP obligatorily requires a [+R]-expression. We will argue in Chapter 5 that personal pronouns are specified as [+R], as opposed to non-argument reflexives, which are specified as [-R]. Hence, the impersonal subject (i.e. the personal pronoun *es* (‘it’)) is the only expression that can fulfill condition (ii) in impersonal middle constructions and sentences containing weather-verbs. (iii) The impersonal subject in middle constructions is necessary to bind the non-argument reflexive. According to this assumption, the impersonal subject in middle constructions is subject to licensing conditions other than the impersonal subject of weather-verbs. Our analysis of impersonal middle constructions is compatible with all three conditions. In the following analysis we refer to condition (ii), but further research on impersonal subjects and impersonal passives will be necessary to decide this issue. We assume that the impersonal subject *es* is inserted directly into Spec of VP. The resulting structure for an impersonal middle construction is

given in (11.2) above. Impersonal subjects, like non-argument reflexives, are only syntactic arguments. Both elements fulfill a grammatical function. The non-argument reflexive indicates valency reduction, whereas the impersonal subject fulfills some subject-related function in active sentences. We argue in Chapter 5 that both functions follow from the morphological specification of the impersonal subject on the one hand and the reflexive pronoun on the other hand.¹⁰

We conclude this section with three general remarks on the syntax of transitive reflexive sentences. First, Gärtner and Steinbach (1994, 1997, and 2000) argue that there is no empirical and conceptual evidence for a so-called asymmetry analysis which assumes different sentence-initial positions for subjects and for fronted objects, fronted VPs, or fronted adverbs. We uniformly analyze all main clauses as CPs, no matter which constituent occupies the sentence-initial position (this can be the subject, an object, the VP, or an adverbial expression, cf. also 4.2.3 for more discussion).¹¹

Second, note that, in our framework, accusative assignment is not a specific lexical property of a verb. In addition to middle constructions and anticausatives, resultatives and ECM-constructions are further examples for constructions which contain an accusative object that is not licensed by the verb itself but by the whole construction. Besides, most verbs that are typically one-place predicates can also assign accusative case (these objects are, however, semantically restricted).

- (13) a. Es regnet dicke Tropfen/Konfetti
 It rains big drops/confetti
 b. Er schlief den furchtbarsten Schlaf seines Lebens
 He slept the most.terrible sleep of.his life

We assume that structural (accusative and nominative) case is ‘assigned’ by morphological feature checking in syntax (cf. Chomsky 1995).¹² We argue in Chapters 5 and 6 that accusative and nominative are structural case forms. Accusative and nominative NPs move to AgrOP,Spec and AgrSP,Spec respectively (i.e. the extended projections of the verb) to check their structural case-feature. In their VP-internal base positions both NPs bear a specific relation to the semantic arguments of the verb. The nominative NP is always linked to the first (external or internal) argument of the verb and the accusative NP to the second one (except the impersonal subject and the non-argument reflexive). Hence, in transitive sentences containing an accusative and nominative NP, both NPs are linked to a semantic argument and must therefore also be

semantically licensed, i.e. the verb must allow a two-place interpretation. We return to structural case in Chapters 5 and 6.

Third, we do not assume that all semantic arguments of a verb are obligatorily linked to syntax as is, for example, claimed by the second part of the theta-criterion or by the UTAH. Implicit and reduced arguments need not project to syntax. On the other hand we argue that every syntactic argument must be linked to a semantic argument (i.e. the first part of the theta-criterion). However, we show in Chapter 5 that our analysis permits two strictly defined exceptions: non-argument reflexives and impersonal subjects. The first one occupies the accusative object position and the second one the subject position. Both exceptions are pronominal elements sharing certain morphosyntactic properties. We will see that non-argument reflexives and impersonal subjects are two well defined exceptions. Their morphosyntactic specification prevents them from being linked to a semantic argument. Thus it is no accident that these two elements fulfill specific grammatical functions. Both elements are licensed by the grammatical functions they fulfill. Note that some lexical approaches also assume that non-argument reflexives and impersonal subjects must not be linked to (i.e. do not bind) a semantic argument variable (cf. e.g. Bierwisch 1997). Otherwise the occurrence of these elements must simply be stipulated in the lexical entries of zero-place verbs and personal and impersonal ‘middle verbs’.

4.2. Focus, coordination, and fronting: Explaining the difference

So far we have told only half of the story, since we have not yet discussed the differences between argument and non-argument reflexives. Non-argument reflexives are in fact not completely identical to argument reflexives. Haider (1982) cites Reis (1981), who observes that only argument reflexives can be coordinated. In addition, only argument reflexives can be focused and occur in the scope of a focus sensitive operator and of contrastive negation. Moreover, only argument reflexives can be questioned, fronted, and replaced by another (non-reflexive) NP. These differences are illustrated in (14), (15), and (16). (14) illustrates that argument reflexives can be coordinated (14a), focused (14b–d), replaced (14e), questioned (14f), and fronted (14g) (cf. also Hermodsson 1952: 40f., Drosdowski 1995, Fagan 1992, and Erb and Steinbach 1997).

- (14) Reflexive interpretation (argument reflexive)
- a. Otto wäscht sich und seine Freunde (coordination)
 Otto washes_{RP} and his friends
 ‘Otto is washing himself and his friends’

- b. Otto wäscht SICH/sich SELBST (narrow focus)
 Otto washes RP /RP SELBST
 'Otto washes himself'
- c. Otto wäscht nur/sogar sich (focus particles)
 Otto washes only/even RP
 'Otto is only/even washing himself'
- d. Otto wäscht freitags nicht SICH (sondern HANS)
 Otto washes on.Friday not RP (but Hans)
 (contrastive negation)
 'On Friday Otto does not wash himself, but Hans'
- e. Otto wäscht sich/Maria (substitution)
 Otto washes RP/Maria
 'Otto is washing himself/Maria'
- f. Wen wäscht Otto? Sich! (questioning)
 Who washes Otto? RP!
 'Who is Otto washing? He is washing himself!'
- g. Sich hat Otto gestern Nachmittag gewaschen (fronting)
 RP has Otto yesterday afternoon washed

This is all impossible for non-argument reflexives as can be seen in (15) for middle constructions and in (16) for anticausatives. The same holds true for inherent reflexive verbs. The '*' indicates that none of the sentences in (15) and (16) can receive a middle interpretation or an anticausative interpretation, respectively. The only reading that is available for (15) and (16) is the reflexive interpretation, which would involve linking of both the subject and the reflexive pronoun. But in this case the reflexive pronoun would be an argument reflexive, and the meaning of these sentences would be nonsense (books usually do not sell themselves or their authors and doors do not open themselves or windows). In the following we argue that the sentences in (15) and (16) are in fact syntactically wellformed. However, the semantics of coordination, focus, substitution, questions, and fronting forces the reflexive pronoun to be linked to a semantic argument, i.e. to be interpreted as an argument reflexive, which results in nonsense.

(15) Middle construction (non-argument reflexive)

- a. *Das Buch verkauft sich und seinen Autor gut (coordination)
 The book sells RP and its author well
- b. *Das Buch verkauft SICH/sich SELBST gut (narrow focus)
 The book sells RP/RP SELBST well

- c. *Das Buch verkauft nur/sogar sich gut (focus particles)
The book sells only/even RP well
- d. *Das Buch verkauft nicht SICH gut (sondern...)
The book sells not RP well (but...)
(contrastive negation)
- e. Das Buch verkauft sich/*seinen Autor gut (substitution)
The book sells RP/ its author well
- f. *Wen hat das Buch gut verkauft? Sich! (questioning)
Who has the book well sold? RP!
- g. *Sich hat das Buch gut verkauft (fronting)
RP has the book well sold
- (16) Anticausative (non-argument reflexive)
- a. *Die Tür öffnet sich und das Fenster (coordination)
The door opens RP and the window
- b. *Die Tür öffnet SICH/sich SELBST (narrow focus)
The door opens RP/RP SELBST
- c. *Die Tür öffnet nur/sogar sich (focus particles)
The door opens only/even RP
- d. *Die Tür öffnet nicht SICH (sondern...)
The door opens not RP (but...)
(contrastive negation)
- e. Die Tür öffnet sich/*das Fenster (substitution)
The door opens RP/ the window
- f. *Wen öffnet die Tür? Sich! (questioning)
Who opens the door? RP!
- g. *Sich öffnet die Tür (fronting)
RP opens the door

According to Haider, the data in (14), (15), and (16) can be explained by a syntactic analysis that distinguishes argument reflexives from non-argument reflexives (cf. Chapter 3). He argues that the non-argument reflexive is an A'-element only bound in syntax by the subject of the sentence. It is adjoined to VP and in middle constructions it receives the theta-role of the implicit first argument of the verb. As opposed to the non-argument reflexive, the argument reflexive is an A-element that is syntactically and semantically bound by the same antecedent, the subject of the sentence. Since non-argument reflexives are A'-elements, they cannot be coordinated with A-elements or, to put it the other way around, if they are coordinated with A-elements, they must be interpreted as A-elements themselves. However, we expect that coordination of the non-argument reflexive with other A'-elements should be grammatical. But

non-argument reflexives cannot be coordinated at all. Hence, additional constraints on coordination of *A'*-elements are necessary to exclude non-argument reflexives from coordination. In 4.2.1 we give a semantic explanation that does not rely on further constraints on coordination of *A'*-constituents. In addition, Haider claims that focusing and fronting of non-argument reflexives is impossible because they are not referential (as opposed to argument reflexives, which are bound by a ‘referential’ antecedent and thus referential). However, non-referential pronouns can appear in sentence-initial position, as can be seen in (17). *Regnen* (‘rain’) in (17a) and the impersonal middle construction in (17b) do not select a referential subject. Nevertheless, the impersonal subject is grammatical in sentence-initial position because nominative pronouns are usually good candidates for the sentence-initial position in unmarked word order. We come back to this issue in Section 4.2.3 below.

- (17) a. Es regnet
 It rains
 ‘It is raining’
 b. Es tanzt sich sehr gut hier
 It dances RP very well here
 ‘You can dance very well here’

As a consequence, fronting is not a matter of referentiality. Moreover, it is not clear what Haider means by ‘referential’. Verbs and modifiers might not be referential, but they can clearly be focused, as is illustrated in (18a and b). They can also occupy the sentence-initial position, as (18c and d) illustrates. Hence, focus, like fronting, is not a matter of referentiality either.

- (18) a. Peter hat das Buch [sogar gelesen]
 Peter has the book even read
 ‘Peter even read the book’
 b. Der Atomphysiker hat das Buch wieder mal
 The nuclear.physicist has the book once again
 [sehr aufmerksam] gelesen
 very attentively read
 ‘The nuclear physicist read the book very attentively once again’
 c. [Selten] sind so viele Leute gekommen
 Seldom are so many people come
 ‘Rarely did so many people come’
 d. [Gestern] hat es geregnet
 Yesterday has it rained
 ‘Yesterday it was raining’

Note finally that referentiality is a semantic and not a syntactic notion. Therefore, the central part of Haider's argumentation concerns semantics. It is the semantic status of the reflexive pronoun that is responsible for the differences mentioned above. So far we have seen that a syntactic distinction between argument and adjunct reflexives is not sufficient to explain the differences between (14) on the one hand and (15) and (16) on the other. In the remainder of this chapter we argue that it is also not necessary. We follow Fagan's (1992) idea that the difference between these two types of accusative reflexive pronouns must be explained in semantics rather than in syntax. This issue will be investigated in the following subsections in detail. We will illustrate how the differences between argument and non-argument reflexives can be derived from independently motivated theories of coordination, focus, questions, and fronting. The following table summarizes the empirical facts and gives an overview of the following discussion (cf. also Haider 1982).

examples (cf. 14, 15, and 16 above)	argument reflexive	non-argument reflexive	section	related topic
(a) coordination	yes	no	4.2.1	coordination
(b) narrow focus	yes	no	4.2.2.2	focus
(b) 'selbst'	yes	no	4.2.2.6	focus
(c) focus particles	yes	no	4.2.2.3	focus
(d) contrastive negation	yes	no	4.2.2.4	focus
(e) substitution	yes	no	4.2.2.4	focus
(f) questionability	yes	no	4.2.2.5	focus
(g) fronting ('topicalization')	yes	no	4.2.3	fronting

4.2.1 Coordination

Let us repeat the relevant examples from (14), (15), and (16) that illustrate the contrast between the argument and the non-argument reflexive at the beginning of each subsection. (14a), (15a), and (16a) repeated as (19a, b, and c), show that only the argument reflexive can be coordinated.

- (19) a. Otto wäscht sich und seine Freunde (argument reflexive)
 Otto washes _{RP} and his friends
 'Otto is washing himself and his friends'
- b. *Das Buch verkauft sich und seinen Autor gut
 The book sells _{RP} and its author well
 (non-argument reflexive)

- c. *Die Tür öffnet sich und das Fenster (non-argument reflexive)
The door opens _{RP} and the window

The intuition behind Haider's explanation of the ungrammaticality of (19b) and (19c) seems to be the following: only syntactically and semantically identical constituents can be coordinated. At first sight one could argue that a reflexive pronoun that is conjoined with another ('referential') NP must also receive a 'referential' interpretation because both parts of the conjunction are interpreted alike. In (19b) and (19c) the second part of the coordination is a referential NP that must be linked to the second semantic argument of the verb (i.e. it must be assigned a theta-role). Therefore, the first part of the conjunction, the reflexive pronoun, must also be linked to the second semantic argument. But this is only possible for argument reflexives. Therefore, the second and the third sentence in (19) are grammatical only if they contain an argument reflexive, which would yield an interpretation that is nonsensical. This analysis is in principle correct, but it does not explain why sentence (20a) below is also ungrammatical. As opposed to the corresponding sentence in (19c), sentence (20a) does not involve coordination of two NPs, but rather of two sentences, one of which contains a gap in the verb position. (20b) is a similar example. The ungrammaticality of both examples might be related to a zeugma-effect, which is illustrated in example (20c) (cf. Bierwisch 1983:92f.). Hence, we first have to answer the question what semantically 'identical' exactly means? (20I) and (20II) are the relevant interpretations of the first and second conjunct respectively.

- (20) a. *Hans öffnet das Fenster und die Tür sich
Hans opens the window and the door _{RP}
I. 'Hans opens the window'
II. 'The door opens'
- b. *Maria trinkt ein großes Bier und Peter den Hans unter den
Maria drinks a big beer and Peter the Hans under the
Tisch
table
I. 'Maria drinks a big beer'
II. 'Peter drinks Hans under the table'
- c. ???Die Schule bekam einen neuen Lehrer und ein Flachdach
The school got a new teacher and a flat.roof
I. 'The school got a new teacher'
II. 'The school got a flat roof'

Let us first consider example (20b). *Trinken* ('drink') is interpreted differently in each conjunct. In the second conjunct, *trinken* does not mean that Peter is drinking something, i.e. *Hans* (this might only be possible if *Hans* is a liquid). The resultative construction in the second conjunct means that Peter and Hans are drinking alcohol and as a result Hans ends up under the table (i.e. Hans is more drunk than Peter). In the first conjunct, *trinken* is interpreted as a simple two-place verb (i.e. it means that Maria is drinking a big beer). Similarly, (20c) involves two different specifications of the semantically underspecified lexical entry of *Schule* ('school'). In the first conjunct, the NP *die Schule* refers to an 'institution', whereas in the second conjunct it refers to a 'building'. We refer the reader to Nunberg (1979), Bierwisch (1983), and Dölling (1992a, b) for the concept of polysemy and lexical underspecification.

In the following discussion we refer to Wilder (1994 and 1995), who offers a unified analysis of coordination and ellipsis.¹³ He argues that many restrictions on coordination are syntactic. We have selected this analysis for two reasons. First, it allows a unified analysis of (19c) and (20a). And second, we want to illustrate that our main proposal can also be integrated into syntactically oriented approaches to coordination. Wilder analyzes coordination as an application of forward and/or backward deletion. This is illustrated in (21) for forward (*he*) and backward (*the newspaper*) deletion (the examples in (21) and (22) are from Wilder 1995).

- (21) a. He bought and read the newspaper
 b. [He bought ~~the newspaper~~] and [~~he~~ read the newspaper]

According to Wilder, forward and backward deletion are subject to different restrictions in English. Whereas backward deletion (BWD) affects only right-peripheral material and is licensed at PF, forward deletion (FWD) dependencies are licensed at LF and the deleted material must occur left-peripheral in all conjuncts. Therefore, only backward deleted material must satisfy a condition on form-identity at PF.¹⁴

- (22) a. I am drinking beer and John ___ wine (FWD: am>is)
 b. *John said that I _____ and
 Mary said that she is the best swimmer (*BWD: am>is)
 c. John said that I _____ and
 Mary said that she was the best swimmer (BWD: was>was)

These constraints postulate a certain asymmetry between BWD and FWD. In FWD we expect strict LF-identity, i.e. both the deleted element and its antecedent receive exactly the same interpretation. As opposed to FWD, BWD

should allow the gap and its antecedent to receive different interpretations at LF. The following (weak) contrast seems to confirm this for English.¹⁵

- (23) a. ??At the present the project managers, but in the past the executive directors, set the research priorities
 a.' *(as for our research properties. . .) project managers set them in the past and executive directors at the present

The situation is less clear in German. For most native speakers, the BWD in (24a) is as ungrammatical as the corresponding FWD in (24b). There is, however, a clear contrast between (24a) and (24b) on the one hand and (24c) on the other. Although the first two examples might not be entirely ungrammatical, they are both much less acceptable than the third one, which is perfectly grammatical. Only in (24c) do the antecedent and the gap receive exactly the same interpretation. (24I) are the relevant interpretations in the first conjuncts and (24II) in the second ones.

- (24) a. *Für diese Spedition fahren viele ____ und Maria
 For this haulage.contractor drive many and Maria
 plagen einige Laster
 worry some vices
 I. Laster = truck
 II. Laster = vice
 b. *Viele Laster fahren für die Spedition und ____ plagen
 Many trucks drive for this haulage.contractor and worry
 Maria
 Maria
 I. viele Laster = many trucks
 II: viele Laster = many vices
 c. Peter plagen viele ____ und Maria plagen wenige Laster
 Peter worry many and Mary worry few vices
 I. Laster = vice
 II. Laster = vice

Speakers have a clear preference to give *Laster* (either 'truck' or 'vice') the same interpretation in both conjuncts, no matter whether FWD or BWD has been applied. The situation is similar in (20a) and (20b). We also try to interpret the verb *drink* in the second conjunct as an action of putting the liquid referred to by the direct object in one's mouth and swallowing this liquid because this is the interpretation the verb receives in the first conjunct. But this interpretation does not make sense in the second conjunct.¹⁶

We conclude that in German LF-identity is at least the highly preferred option for the interpretation of the deleted material and its antecedent in both FWD and BWD.¹⁷ With this in mind, let us come back to the problem under discussion. In (25) we give further examples parallel to (20a and b). In all examples the interpretation of the gap and its antecedent differ.¹⁸

- (25) a. *Peter loaded sand on the wagon and ____ the truck (with hay)
 b. *Der Wagen brummt und ____ um die Ecke
 The car drones and around the corner
 I. ‘The car drones’
 II. ‘The car drones around the corner’

In (25a), the second part of the coordination can only mean that Peter loaded sand on the truck, too. It cannot mean that Peter loaded the truck. It is impossible to take a different variant of the locative alternation verb *load* for each conjunct. The same effect can be observed in (25b). The verb *brummen* (‘growl’) is either a one-place predicate with the meaning ‘to produce a sound’ or a verb of motion selecting a directional PP.¹⁹ The one-place predicate is unergative and the two-place predicate is unaccusative. Hence, not only the verb, but also the subject, receives a different interpretation (or theta-role) in each conjunct. (25b) is in conflict with the condition that the deleted copy and its antecedent must receive exactly the same interpretation in both conjuncts. Both interpretations of the verb *brummen* in (25b) are illustrated in (26). (26I) is its interpretation in the first conjunct and (26II) in the second one (‘B’ stands for *brummen* and ‘w’ for *Wagen*).

- (26) a. [_{CP} Der Wagen [_{C°} brummt] [_{VP} ...]] und
 [_{CP} ~~Der Wagen~~ [_{C°} ~~brummt~~] [_{VP} ... um die Ecke]]
 I. B₁ < w > (unergative)
 II. B₂ << w >> & around-the-corner < w > (unaccusative)

Coordination of a non-argument reflexive with another NP leads to the same conflict. In (27) we repeat the corresponding examples from (15) and (16). (27a and b) are simplified semantic representations (‘V’ and ‘O’ stand for *verkaufen* und *öffnen*, ‘b’, ‘a’, and ‘t’ stand for *Buch*, *Autor*, and *Tür*; and ‘Op’ stands for the semantic operator that binds the implicit argument in middle constructions, cf. Chapter 7). According to Wilder’s analysis, traditional NP-coordination like (27) involves deletion of the verb and the subject.

- (27) a. *Das Buch verkauft sich und ~~das Buch verkauft~~ seinen Autor
 The book sells RP and the book sells its author
 gut
 well
 I. V < (Op x) < b >>
 II. V < b < a >>
- b. *Die Tür öffnet sich und ~~die Tür öffnet~~ das Fenster
 The door opens RP and the door opens the window
 I. O << t >>
 II. O < t < f >>

We argue in the next chapter that the non-argument reflexive is not linked to an argument variable of the verb. A verb that does not link its first argument to syntax cannot, however, be the antecedent of a verb that links both the first and the second argument. Moreover, the subjects in (27a) and (27b) are linked to different arguments of the verb in each conjunct. In the first conjunct, the subject is linked to the second argument of the verb, whereas it is linked to the first argument in the second conjunct. Hence, the coordination in (27) involves different interpretations not only for the verb, but also for the subject. LF-identity between the deleted material and its antecedent is impossible in both sentences in (27). Either we choose the anticausative or middle interpretation of the first conjunct or both conjuncts receive the reflexive interpretation of the second conjunct. If we choose the former, the accusative object in the second adjunct cannot be linked to a semantic argument.²⁰ But if we choose the latter, both the subject and the reflexive pronoun must be linked to the first and second semantic argument in the first conjunct. In this case, the first conjuncts in (27) would mean that the book is selling itself and that the door is opening itself. These interpretations are, of course, nonsense. Even if we permit two different interpretations of the verb in both conjuncts (i.e. the middle or anticausative interpretation in the first and the reflexive interpretation in the second conjunct), the meaning of the second conjunct would still be nonsense, since the deleted subjects *das Buch* ('the book') and *die Tür* ('the door') are linked to the first argument of the verb in the second conjunct. Note that coordination of an active with a passive verb also leads to ungrammaticality.²¹

- (28) a. *Das Buch wurde ~~gelesen~~ und Hans hat gelesen
 The book PAS read and Hans has read

- b. *Die Nachrichten wurden ~~gelesen~~ und Hans hat die Zeitung
 The news PAS read and Hans has the newspaper
gelesen
 read

As opposed to this, coordination of the argument reflexive with another argument NP is perfectly grammatical. Recall example (19a), repeated below as (29). In (29), the verb *waschen* ('wash') receives identical interpretations in both conjuncts, as can be seen in (29I) and (29II).

- (29) a. Otto wäscht sich und ~~Otto wäscht~~ seine Freunde
 Otto washes RP and Otto washes his friends
 I. W < o < o >>
 II. W < o < f >>

We argued that in (27) the interpretation of both the verb and the subject is different in each conjunct. We can now return to sentence (20a), repeated as (30). Once again, the deleted material (the verb *öffnen* ('open')) and its antecedent are not LF-identical. Only in the first conjunct are both semantic arguments linked to syntax. *Öffnen* in the second conjunct is again anticausative and the subject is linked to its internal argument position. The non-argument reflexive is not linked to an argument of the verb. Hence, sentence (30) is also correctly excluded.

- (30) *Hans öffnet das Fenster und die Tür ~~öffnet~~ sich
 Hans opens the window and the door opens RP
 I. O < h < f >>
 II. O << t >>

The same difference can also be found in sentence (31), which involves BWD. The second conjunct is a middle construction, the subject of which is again linked to the second argument of the verb *verkaufen* ('sell').²²

- (31) *Der Autor hat seinen Namen ~~gut verkauft~~ und das Buch sich
 The author has his name well sold and the book RP
gut verkauft
 well sold
 I. V < a < n >>
 II. V < (Op x) < b >>

We conclude that the ungrammaticality of examples (19b) and (19c) can be derived from the assumption that non-argument reflexives, unlike argument-

reflexives, are not linked to a semantic argument, i.e. from the semantic interpretation of the non-argument reflexive (which we will turn to in Chapter 5).

4.2.2 Focus

We subsume the examples in (14b) to (14f), (15b) to (15f), and (16b) to (16f) under the notion of focus because they are all more or less connected to this phenomenon, as will be illustrated in this subsection. Recent theories of focus divide the semantic representation of a sentence into two parts. The first part corresponds to the focus of the sentence, the second part to the background. The focus-background structure of a sentence can be represented as an ordered pair in semantics. Let us first briefly introduce the main concepts of the theory of focus before we apply it to the interpretation of argument and non-argument reflexives.²³

4.2.2.1 Theoretical background

Consider first the following example in (32), which is taken from Büring (1997). The NP *the baseball* is the focus of the sentence. It is dominated by the syntactic feature [F] for focus. The head noun *baseball* receives a pitch accent at PF and the whole NP is translated as focus at LF.²⁴

- (32) a. John threw [the BASEball]_F
 b. [λx . threw (John, x)] (*tz*. baseball (*z*))
 c. Background: λx . threw (John, x)
 d. Focus: *tz*. baseball (*z*)²⁵

The background (32c) results from lambda abstraction. The focus of a clause is replaced by a variable bound by a lambda-operator. The semantic background (or according to Rooth (1992) the focus semantic value of a sentence or constituent) is a set of alternatives to the ordinary semantic value of the sentence. (32c) (λx . threw (John, x)) is the set of worlds in which John threw some *x* and *x* is an alternative to the focus (32d).

- (33) {John threw the baseball, John threw the football, John threw his pencil,
 ...}

Applying the focus to the background will give us the ordinary meaning of the sentence: the set of worlds where John threw the baseball. The focus in (32) is called free focus, i.e. it is not bound by a focus sensitive operator. Jacobs (1984 and 1988) assumes that free focus is bound by an operator as well, namely the

illocutionary operator of the clause, which is the assertion operator ASSERT in example (32). This is illustrated in (34).

(34) ASSERT ($\langle \lambda x. \text{threw}(\text{John}, x), (\iota z. \text{baseball}(z)) \rangle$)

What is the meaning of the ASSERT-operator? Assertion can be seen as a modification of the ‘shared knowledge’ of the participants in the conversation, i.e. the common ground CG (cf. Stalnaker 1978). ASSERT($\langle \alpha(\beta) \rangle$) maps a common ground CG to a common ground CG'. In a simplified version the CG is a set of possible worlds.²⁶ Adding a new proposition (which is also a set of possible worlds) to CG changes CG into CG'. CG' is the intersection of CG and our actual proposition (32) (i.e. the possible worlds that make this proposition true).

(35) $CG' = CG \cap \lambda x. \text{threw}(\text{John}, x), (\iota z. \text{baseball}(z))$

We can now state the felicity conditions for the ASSERT-operator (cf. Krifka 1992:20 and Büring 1997:23f.) $\langle \alpha(\beta) \rangle$ is the focus-background structure with α the background and β the focus.²⁷

- (36) a. $CG' \neq CG$ (informativity)
 b. $CG' \neq \emptyset$ (compatibility)
 c. There are X, with $X \approx \beta$ and $X \neq \beta$, such that $\alpha(X)$ could have been asserted with respect to CG: i.e. this assertion would be informative (36a) and compatible (36b) and would have yielded a different output context CG'' with $CG' \neq CG''$.

According to (36a), the assertion of a new proposition with respect to CG must provide new information. (36b) means that the truth of $\alpha(\beta)$ must not be excluded by CG, i.e. that there is at least one possible world that makes $\alpha(\beta)$ true and is part of CG or, to put it the other way around, CG', which is the intersection of CG and the proposition asserted by the speaker, must not be empty. The last condition (36c) states that there are pragmatically plausible and contextually salient alternatives to the interpretation of the focus. Moreover, these alternatives must be of the same logical type and sort as the focus. This brief outline of focus theory has prepared the ground for the analysis of the interaction of argument and non-argument reflexives and focus. In the following we show that the ungrammaticality of focus on non-argument reflexives can be derived from this theory of focus. We begin with narrow focus.

4.2.2.2 *Narrow focus*

Consider first the sentences in (14b), (15b), and (16b), repeated below as (37a–c). *Sich* is the focus of the sentence in all three examples (indicated by the labelled brackets []_F):

- (37) a. Otto wäscht [SICH/sich SELBST]_F (argument reflexive)
 Otto washes RP /RP SELBST
 ‘Otto washes himself’
- b. *Das Buch verkauft [SICH/sich SELBST]_F gut
 The book sells RP /RP SELBST well
 (non-argument reflexive)
- c. *Die Tür öffnet [SICH/sich SELBST]_F
 The door opens RP /RP SELBST
 (non-argument reflexive)

Let us put *sich selbst* aside for the moment and consider only the stressed reflexive pronoun *SICH*.²⁸ Why can the non-argument reflexive not be the focus of a sentence? Recall that the non-argument reflexive does not introduce an argument variable into the semantic representation of the sentence (as opposed to argument reflexives and other nominal expressions, cf. Chapter 5). Therefore, replacement of and lambda-abstraction over an argument variable are impossible, and no focus-background structure can be generated for the sentences in (37b) and (37c). Both sentences fail to meet condition (36c). The argument reflexive in (37a), on the other hand, is linked to the second argument variable. Hence, this expression can be replaced by a variable, and lambda-abstraction over this variable is possible. Plausible alternatives are also available as can be seen in (38).²⁹

- (38) a. Wen hat Otto gewaschen?
 ‘Who did Otto wash?’
- b. Otto hat [SICH]_F gewaschen (... und nicht Maria)
 Otto has RP washed (... and not Maria)
 ‘Otto washed himself (and not Maria)’
- c. ASSERT (< λx . wash (o, x), o>)

The impersonal subject in (39a), which is also not linked to a semantic argument, equals non-argument reflexives. Narrow focus on the impersonal subject is again impossible. Furthermore, narrow focus on constituents that do not have plausible type-equivalent alternatives (i.e. condition (36c) above) is excluded as well, as can be seen in (39b). (39c) illustrates that every element that (i) is represented in semantics and (ii) has at least one plausible alternative

can be the focus of the sentence, no matter whether it is an A- or A'-element in syntax. It must only fulfill condition (36c).

- (39) a. *Bei dieser Sache handelt [ES]_F sich um eine ernste
 In this case concerns it RP about a serious
 Angelegenheit
 matter
- b. ^{??}Ich habe den Brief [AN]_F den Vermieter geschickt
 I have the letter to the landlord sent
 'I sent the letter to the landlord'
- c. Ich lege das Buch [UNTER]_F den Tisch und nicht
 I put the book under the table and not
 [AUF, NEBEN, ...]_F den Tisch
 on, next to, ... the table
 'I put the book under the table ...'

Unlike (39c), sentence (39b) contains no alternatives to the focused preposition. The only plausible alternative is *zu* ('to'). However, *zu* selects a dative NP (*dem Vermieter*), making it ungrammatical in this syntactic context.

4.2.2.3 Focus particles

The analysis of narrow focus can also be applied to the examples with focus particles (14c), (15c), and (16c). The relevant examples are repeated in (40a–c).

- (40) a. Otto wäscht nur/sogar sich (argument reflexive)
 Otto washes only/even RP
 'Otto is only/even washing himself'
- b. *Das Buch verkauft nur/sogar sich gut (non-argument reflexive)
 The book sells only/even RP well
- c. *Die Tür öffnet nur/sogar sich (non-argument reflexive)
 The door opens only/even RP

Jackendoff (1972), Jacobs (1983), and Krifka (1992) among many others analyze focus particles such as *nur* ('only') or *sogar* ('even') as focus sensitive operators. Focus sensitive operators, like the ASSERT-operator mentioned above, bind the focus of a sentence/constituent. Example (41) illustrates this for *nur* ('only').

- (41) a. Maria hat nur [HANS]_F geliebt
 Maria has only Hans loved
 'Maria loved only Hans'
- b. ONLY (< λx . love (m, x), h>)

The meaning of ONLY can be outlined as follows: the background is applied to the focus *Hans* and to no other X, with $X \approx Hans$ and $X \neq Hans$.³⁰ The scalar focus operator *sogar* ('even') means that the focus β is ranked lower than every alternative X, with $X \approx \beta$ and $X \neq \beta$ on a scale of probability determined by the background. Furthermore, *sogar* implies that the respective focus alternatives would make the preposition also true. We do not want to go into detail here. The crucial point has already been stated. Focus particles are focus sensitive operators that bind the focus. But as we have seen above binding of a focused non-argument reflexive is impossible because no focus-background structure can be generated in this case.

4.2.2.4 Contrastive negation and substitution

The relevant examples for contrastive negation in (14d), (15d), and (16d) and substitution in (14e), (15e), and (16e) are repeated in (42a–c) and (43a–c) respectively. Again both require a semantic representation of the negated or replaced element.

- (42) a. Otto wäscht freitags nicht SICH (sondern HANS)
 Otto washes on.Friday not RP (but Hans)
 (argument reflexive)
 'On Friday Otto does not wash himself, but Hans'
- b. *Das Buch verkauft nicht SICH gut (sondern...)
 The book sells not RP well (but...)
 (non-argument reflexive)
- c. *Die Tür öffnet nicht SICH (sondern...)
 The door opens not RP (but...)
 (non-argument reflexive)
- (43) a. Otto wäscht sich/Maria (argument reflexive)
 Otto washes RP/Maria
 'Otto is washing himself/Maria'
- b. Das Buch verkauft sich/*seinen Autor gut
 The book sells RP/ its author well
 (non-argument reflexive)
- c. Die Tür öffnet sich/*das Fenster (non-argument reflexive)
 The door opens RP/ the window

If we replace the non-argument reflexive with some other accusative NP, the sentence is still (syntactically) grammatical. We have yet another transitive sentence.

- (44) Die Tür öffnet sich \Rightarrow *Die Tür öffnet Peter
 The door opens RP The door opens Peter
 ‘The door opens’

Semantically, however, things change. We can substitute one element for another element of the same logical type only if this element is present in the semantic representation. In the semantic representation of (44) we cannot replace *sich* by the NP *Peter* because *sich* is not present there at all, while the NP *Peter* is interpreted as a generalized quantifier or an individual constant. This explanation is parallel to the impossibility of non-argument reflexives to be the focus. The background results from replacement of the actual focus by a variable bound by a lambda-operator. Substitution of a variable (or of a constant) for another type-equivalent element in the semantic representation is only possible if the element to be replaced is present.

According to Jacobs (1982 and 1991), contrastive negation (‘fokussierende Negation’) in German can be analyzed like focus particles. The negation attracts the focus β . Furthermore, there is an implication that an alternative X exists, with X subject to condition (36c), which requires: (i) $X \approx \beta$, (ii) $X \neq \beta$, and (iii) X makes the proposition $\alpha(X)$ true. Hence, contrastive negation also requires a partition of the semantic representation into focus and background, which is again impossible with focused non-argument reflexives.

4.2.2.5 Questioning

So far two examples related to focus are still unexplained: questions and *selbst*. We will turn to questions first. Consider the examples in (14f), (15f), and (16f), which we repeat in (45a–c).

- (45) a. Wen wäscht Otto? Sich! (argument reflexive)
 Who washes Otto? RP!
 ‘Who is Otto washing? He is washing himself!’
 b. *Wen hat das Buch gut verkauft? Sich!
 Who has the book well sold? RP! (non-argument reflexive)
 c. *Wen öffnet die Tür? Sich! (non-argument reflexive)
 Who opened the door? RP!

Semantically questions can be analyzed as a set of possible answers (cf. e.g. Karttunen 1977).

- (46) a. Wen hat Hans gewaschen?
 ‘Who did Hans wash?’

- b. $\lambda p. \exists x [\text{person}(x) \wedge p = \text{wash}(h, x)]$
 c. {Hans hat Peter gewaschen, Hans hat Maria gewaschen, Hans hat ihn gewaschen, Hans hat sich gewaschen, ...}

Hence, the meaning of a question corresponds to the background of the respective answer and the *wh*-word corresponds to the focus of this answer.³¹ Both the meaning of a question and the background of the answer are analyzed as a set of propositions (or possible worlds, compare (33) with (46c)). A question characterizes the actual common ground ($\lambda p. \exists x [\text{person}(x) \wedge p = \text{wash}(h, x)] \cap \text{CG} = \text{CG}$). Every possible answer *p* to a question *Q* must be informative ($p \cap \text{CG} \neq \text{CG}$) and compatible ($p \cap \text{CG} \neq \emptyset$), for details see Büring (1997: 32f.). According to Büring (p. 35), a sentence *S* can be uttered as an answer to a question *Q* given a common ground *CG* if the focus semantic value (or background) of *S* is identical to the meaning of the question *Q*. Hence, the ungrammaticality of (45b) and (45c) follows directly. We have already seen that non-argument reflexives cannot be focused because no corresponding focus-background structure (or focus semantic value) can be generated. But the focus semantic value of the question in (45) involves a second argument variable. This is, however, only possible if the reflexive pronoun is linked to the second argument as illustrated in (47b). Again, this is impossible for non-argument reflexives and an argument reflexive interpretation in (47) would be nonsensical because doors usually do not open something else.

- (47) a. Wen/was hat die Tür geöffnet?
 Who/what-ACC has the door-NOM opened?
 ‘Who/what did the door open?’
 b. $\lambda p. \exists x [\text{person/thing}(x) \wedge p = \text{open}(t, x)]$
 c. {Die Tür hat X geöffnet, die Tür hat Y geöffnet, ...}
 d. Background: $\lambda y (\text{open}(t, y))$

4.2.2.6 Adnominal focus particle

Finally we turn to the analysis of *selbst*. Recall that the non-argument reflexive cannot be focused and/or modified by *selbst*.

- (48) a. Otto wäscht [SICH/sich SELBST]_F (argument reflexive)
 Otto washes RP /RP SELBST
 ‘Otto washes himself’
 b. *Das Buch verkauft [SICH/sich SELBST]_F gut
 The book sells RP /RP SELBST well
 (non-argument reflexive)

- c. *Die Tür öffnet [SICH/sich SELBST]_F (non-argument reflexive)
 The door opens RP /RP SELBST

German does not distinguish between weak and strong reflexive pronouns. *Sich selbst* is not the strong counterpart of a weak form *sich*. The focused simple forms *mich*, *dich*, and *sich* with a pitch accent and the complex forms *mich selbst*, *dich selbst*, and *sich selbst* are almost identical in German and can be used in the same contexts.³² German differs in this respect from so-called ‘two-form languages’ (cf. Section 2.3 and especially Section 5.3 below). The reflexive pronouns *zich* and *zichzelf* in Dutch, for example, have different syntactic distributions. Only the strong form *zichzelf* can be focused (i.e. assigned a pitch accent), whereas the weak form *zich* can only be used with inherent reflexives, anticausatives and verbs that are likely to be reflexive as, for example, verbs like *wash*. König and Siemund (1997:4) argue that the complex form *sich selbst* in German consists of two independent parts: the reflexive pronoun *sich* and the adnominal focus particle *selbst*. They distinguish between four different types of the particle *selbst*.

- (49) a. Selbst RIEsen haben einmal klein angefangen
 SELBST giants have once small begun
 ‘Even giants started off in a small way’ (scalar focus particle)
- b. Der Minister SELBST war in den Skandal verwickelt
 The minister SELBST was in the scandal involved
 (adnominal, centering)
 ‘The minister himself was involved in the scandal’
- c. Der Minister war SELBST in den Skandal verwickelt
 The minister was SELBST in the scandal involved
 ‘The minister was also involved in the scandal’ (adverb, inclusive)
- d. Der Minister löste den Skandal SELBST aus
 The minister caused the scandal SELBST PARTICLE
 ‘The minister caused the scandal himself’ (adverb, exclusive)

In (49a) *selbst* is a scalar focus particle whose meaning is very similar to that of the focus particle *sogar* (‘even’). Like all scalar focus particles, *selbst* bears no accent, precedes its focus, and is preferably adjacent to it. As opposed to the focus particle *selbst* in (49a), adnominal and adverbial *selbst* in (49b), (49c), and (49d) must be stressed.³³ Adnominal *selbst* in (49b) always adjoins to the right of the NP it modifies. The corresponding NP is the focus bound by the adnominal modifier. It is interpreted as the center with respect to the focus alternatives. In (49c) and (49d) *selbst* is an adverb. These two uses of *selbst* are closely related, but differ in their syntactic distribution and their semantics.

The so-called inclusive *selbst* tends to precede the object in the middle field, while exclusive *selbst* preferably follows the object.³⁴ Both types of adverbial *selbst* are usually subject-oriented. However, inclusive *selbst* can also modify dative or accusative objects that precede the subject in unmarked word order (or on the thematic hierarchy) and exclusive *selbst* can modify a *by*-phrase in the passive.³⁵ Semantically the inclusive adverb can be compared to the scalar focus particle and the exclusive adverb to the adnominal *selbst* (although the exclusive *selbst* does not presuppose that the focus is the center with respect to the focus alternatives).³⁶ The relevant properties of the four different types of *selbst* are summarized in (50) ('among others' stands for the presupposition that is triggered by the scalar focus particle and the inclusive adverb).³⁷

(50) (Ad)nominal and adverbial *selbst*

	scalar f.p.	adnominal	inclusive	exclusive
accent	no	yes	yes	yes
post XP	no	yes	no	no
adverbial	yes	no	yes	yes
'among others'	yes	no	yes	no

It is an interesting issue whether all occurrences of *selbst* can be reduced to one underlying lexical entry and whether they all belong to the same syntactic category (as e.g. proposed in Primus 1992). However, our main interest is the interaction of *selbst* with non-argument reflexives. The examples in (51a and b) show that neither the scalar focus particle nor the adnominal *selbst* can modify the non-argument reflexive. Although the inclusive and the exclusive adverbial *selbst* are grammatical in sentences that contain a non-argument reflexive, they do not interact with the non-argument reflexive but usually with the subject of the sentence (cf. 51c–e). We underline the constituent inclusive and exclusive *selbst* modify in these examples. In (59f) the exclusive *selbst* applies to the implicit argument.

(51) Scalar focus particle

- a. *Die Tür hat [selbst SICH] geöffnet
 The door has SELBST RP opened (anticausative)

Adnominal *selbst*

- b. *Die Tür hat [sich SELBST] geöffnet
 The door has RP SELBST opened (anticausative)

Inclusive *selbst*

- c. Peter schämt sich doch SELBST
 Peter is.ashamed RP PARTICLE SELBST
 ‘Peter is also ashamed’ (inherent reflexive)
- d. (I do not need your new off-road vehicles for this journey to the North Cape. . .)
Mein Auto fährt sich auf solchen Straßen SELBST sehr
 My car drives RP on that.kind.of street SELBST very
 gut
 well
 ‘My car drives on that kind of street very well, too’
 (middle construction)

Exclusive *selbst*

- e. ?Die Tür hat sich gerade eben SELBST geöffnet
 The door has RP just now SELBST opened
 ‘The door opened by itself just now’ (anticausative)
- f. Schwierige Aufgaben lösen sich doch meistens SELBST
 Difficult exercises solve RP PARTICLE usually SELBST
 am besten
 best
 ‘Usually it is best to solve difficult exercises by oneself’
 (middle construction)

The crucial examples are (51a) and (51b). The explanation for (51a) is straightforward. The semantic representation of the scalar focus particle is basically identical to that of other focus sensitive operators like *nur* (‘only’) or *sogar* (‘even’). The meaning of the focus operator *selbst* is almost equivalent to *sogar* (for differences in syntax and semantics see Primus 1992). Therefore, the explanation for the incompatibility between focus sensitive operators and non-argument reflexives can also be applied to this type of *selbst*.

The explanation of (51b) is also based on the theory of focus outlined above. Primus (1992) and König and Siemund (1997) argue that the adnominal *selbst* is a focus sensitive operator as well. According to Primus, adnominal *selbst* also has a scalar implication: the adjacent NP is ranked lower on a scale of likelihood determined by the rest of the sentence. But unlike the scalar focus particle, the adnominal *selbst* does not presuppose that (all/some/no) focus alternatives make the proposition true. König and Siemund’s analysis of adnominal *selbst* slightly diverges from that proposed by Primus. The focus is the center and the alternatives make up the periphery or entourage.³⁸

- (52) Peter hat [den Chef SELBST] gesprochen
 Peter has the boss SELBST talked.to
 ‘Peter talked to the boss himself’

In (52) the likelihood of Peter’s speaking to the boss is ranked lower than the likelihood of his speaking to other contextually salient persons (e.g. the assistant, the secretary, ...). (52) implies that Peter was not expected to talk to the boss directly. This line of argumentation can be applied to reflexive pronouns, as can be seen in the following two examples.

- (53) a. Peter hat [den Präsidenten SELBST] im Fernsehen gesehen
 Peter has the president SELBST in.the TV seen
 ‘Peter saw the president himself in the TV’
 b. Peter hat [sich SELBST] im Fernsehen gesehen
 Peter has RP SELBST in.the TV seen
 ‘Peter saw himself in the TV’

The adnominal focus sensitive operator indicates in (53) that it is remarkable for Peter to see the president or his own image in the TV. This implication is also nicely illustrated by the following minimal pair, which is taken from König and Siemund (1997:28).

- (54) a. [Der Anführer SELBST] hat sich verraten
 The leader SELBST has RP betrayed
 ‘The leader was betrayed by himself’
 b. Der Anführer hat [sich SELBST] verraten
 The leader has RP SELBST betrayed
 ‘The leader betrayed himself’

By means of his function the leader is the center of his gang. (54a) implies that the most important or most clever and cautious person of the gang betrayed him- or herself. (54b), on the other hand, sets the actual victim (the leader him- or herself) in contrast to other potential victims (the rest of the gang). (54b) implies that it is noteworthy that the leader has betrayed him- or herself and not the rest of the gang, i.e. that it was a self-betrayal. The scalar implication of adnominal *selbst* is not always easy to make out, especially if it modifies a reflexive pronoun. In some of these examples *selbst* does not necessarily imply a ranking between the center on the one hand and the alternatives on the other. In these cases reflexive pronoun + *selbst* is almost equivalent to a reflexive with narrow focus (example (55) is from Primus 1992:75).

- (55) Maria kauft für die ganze Familie etwas Schönes, für Mutter
 Maria buys for the whole family something beautiful, for mother
 und Brüderchen Pralinen, für Vater und [sich SELBST] Schnaps
 and little.brother chocolate, for father and RP SELBST liquor
 'Maria buys something beautiful for the whole family: chocolate for her
 mother and her little brother and liquor for her father and herself'

Buying liquor for herself need not be more remarkable for Maria than buying liquor for her father, mother, or brother. This might be due to the fact that the reflexive pronoun and *selbst*, unlike some NP and *selbst*, seem to form an idiomatic unit. The fusion of (reflexive) pronouns and adnominal focus sensitive operators like *selbst* can be observed in the history of many languages.³⁹ The use of German *sich SELBST* as the focused counterpart of bare *sich* might be supported by the fact that reflexive pronouns tend to avoid heavy stress (cf. also Footnote 31). Note finally that indefinites cannot be modified by adnominal *selbst*. It is impossible for indefinites to establish a center and a periphery because they do not refer to an unique and specific individual. Example (56b) is from (Primus 1992:72).

- (56) a. *[Wer SELBST] entging dem Gefängnis?
 Who SELBST escaped the prison
 b. *[Jemand SELBST] zeigte der Polizei ein Bild von Anna
 Someone SELBST showed the police a picture of Anna
 c. *Mir hat gestern [einer SELBST] das Geld geklaut
 Me has yesterday one SELBST the money stolen
 d. *Maria hat [einen Präsidenten SELBST] auf der
 Maria has a president SELBST on the
 Wahlveranstaltung gesehen
 election.rally seen

We conclude that both the adnominal and the prenominal focus particle *selbst* establish a set of semantic alternatives to the denotation of the focus, i.e. the NP they are adjoined to. This is only possible for argument reflexives. Non-argument reflexives are again correctly excluded in the middle construction (48b) and the anticausative (48c), (51a), and (51b) above. Many of the above issues have been touched on only in passing, but we hope that we have argued convincingly that a (focus) semantic analysis explains the varying distribution of argument and non-argument reflexives.

4.2.3 Fronting

One issue is still unexplained. Besides their inability to be coordinated and focused, non-argument reflexives cannot be fronted either. The relevant examples are repeated in (57).

- (57) a. Sich hat Otto gestern Nachmittag gewaschen
 RP has Otto yesterday afternoon washed
 'Yesterday afternoon Otto washed himself' (argument reflexive)
- b. *Sich hat das Buch gut verkauft (non-argument reflexive)
 RP has the book well sold
- c. *Sich öffnet die Tür (non-argument reflexive)
 RP opened the door

The sentence-initial position is not simply a mirror image of the initial position of the middle field. In German, various elements can occupy the sentence-initial position (CP,Spec in GB terminology). It is neither a pure topic- nor a pure focus position and neither topic nor focus must occupy this position. Elements that move to CP,Spec are subject to various conditions, which are necessary but not sufficient. These conditions mainly relate to information structuring and discourse semantics (cf. Gärtner and Steinbach 1997 and 2000). (58) lists the the most relevant restrictions for the sentence-initial position.

- (58) a. the first argument of the unmarked word order (in the middle field) can occupy CP,Spec⁴⁰
- b. the focus can occupy CP,Spec
- c. the 'topic' can occupy CP,Spec
- d. further conditions may depend on the structuring of the text or discourse

We will not be concerned with condition (58d). Reflexive pronouns cannot refer to discourse referents directly because they are usually bound within the sentence containing them (condition A of binding theory). We will see in the next section that non-argument reflexives are always bound by the subject of the same sentence. Therefore, we only have to discuss conditions (58a), (58b), and (58c).

4.2.3.1 Unmarked word order

To be the first element of the unmarked word order is always a good reason for a constituent to appear in sentence-initial position. We have already seen that reflexive pronouns can precede the subject (i.e. their antecedent) in the

unmarked order in the middle field only if the subject is not a pronoun itself. The crucial examples from Section 4.1 above are repeated in (59).

- (59) a. ... weil der Kanzler sich sehr liebt
 ... because the chancellor-NOM RP much loves
 '... because the chancellor loves himself very much'
- b. ... weil sich der Kanzler sehr liebt
- c. ... weil er sich sehr liebt
 ... because he RP much loves
 '... because he loves himself very much'
- d. *... weil sich er sehr liebt

Pronominal elements tend to be right-adjacent to C° , the Wackernagel position (cf. Anderson 1993 for a cross-linguistic study of the so-called *Wackernagel-effect*). Pronominal elements therefore precede full NPs. This constraint overrides the constraint which states that nominative precedes accusative. However, the Wackernagel-effect can be observed only in the middle field because C° is the left border of the middle field (*linke Satzklammer*). Hence, this constraint does not help us in the sentence-initial position.

As seen in Section 4.1, nominative NPs precede accusative and dative NPs. Thus nominative NPs are always good candidates for the sentence-initial position, as (60a) illustrates. With some verbs, dative NPs can precede the nominative NP. These objects also appear unmarked in sentence-initial position, as (60b) illustrates (cf. also Chapter 6). In addition, some verbs permit the accusative to precede the nominative. However, in German such verbs are rare, and also the reverse word order (nominative precedes accusative) is always unmarked.⁴¹ Verbs in middle constructions, as well as anticausatives and inherent reflexives, do not belong to this very small class.⁴² It follows that accusative reflexive pronouns cannot occur unmarked in the sentence-initial position. The impersonal subject, by contrast, can occupy the sentence-initial position in unmarked word order because nominative precedes dative and accusative.

- (60) a. Ein Junge hat einem Mädchen ein Buch gegeben
 A boy-NOM has a girl-DAT a book-ACC given
 'A boy gave a book to a girl' (unmarked)
- b. Einem Kind ist ein Stein aufgefallen (unmarked)
 A child-DAT is a stone-NOM attracted.attention
 'A stone attracted a child's attention'
- c. Ein Mädchen hat ein Buch interessiert (unmarked)
 A girl-ACC has a book-NOM interested
 'A girl was interested in a book'

‘Stage-setting’ adverbs like *gestern* (‘yesterday’) can also appear unmarked sentence-initially (i.e. they need neither be focus nor topic).

- (61) Gestern hat der Gärtner die Gitarre aus dem Schrank geholt
 Yesterday has the gardener the guitar out.of the closet taken

4.2.3.2 *Focus in CP,Spec*

Focused constituents can also occur in sentence-initial position.

- (62) a. Who did Hans wash?
 b. [SICH/sich SELBST]_F hat Hans gewaschen
 RP /RP SELF has Hans washed
 ‘Hans washed himself’
 c. *[SICH]_F hat die Tür geöffnet
 RP has the door opened

(62a) illustrates that a reflexive pronoun can be moved to CP,Spec if it is the focus of the sentence. We saw in Section 4.2.2 that non-argument reflexives cannot be focused because they are not linked to a semantic argument variable of the verb. Hence this difference between argument and non-argument reflexives is again due to the (semantic) inability of non-argument reflexives to be focused.⁴³

4.2.3.3 *Topic in CP,Spec*

Besides focus, there is an additional condition that can be subsumed under the notion of topic. Recall that the semantic representation of a sentence is divided into two parts: the focus and the background. Vallduví (1992) argues that the background (*ground* in his terminology) is further subdivided into topic and comment (*link* and *tail*). The link (or topic) is a designated element, i.e. ‘an address pointer in the sense that it directs the hearer to a given address [...] in the hearer’s knowledge store, under which the information carried by the sentence is entered’ (p. 47).⁴⁴ Based on this assumption, Büring (1997) investigates the syntax, phonology, and semantics of topics in German in detail. He gives a well defined notion of sentence-internal topics (S-topics). Recall that argument and non-argument reflexives in transitive reflexive sentences can only be sentence-internal topics because they must be bound within their sentence.

S-topics share some semantic properties with focus. Both have a similar accent (topics have a rising pitch L*H, focus has a falling one H*L) and the semantics of S-topics is very similar to the semantics of focus. We briefly illustrate this semantic similarity with an example taken from Büring (1997) – ‘/’ and ‘\’ indicate the rising and falling accents respectively.

- (63) a. What did the popstars wear?
 b. Die [/*weiblichen*]_T Popstars trugen [*Kaftane*\]_F
 The female pop.stars wore caftans
 ‘The female pop stars wore caftans’
 c. And what about the male pop stars?

S-topics can be used to pick up entities mentioned in the preceding discourse, to narrow down a given discourse topic (partial topic), to indicate that there are some alternatives to discuss (implicational topic) or ‘to move the conversation away from an entity given in the previous discourse’ (p. 49) (contrastive topic). Sentence (63b) is an example for a partial topic and sentence (64b) for an implicational topic.

- (64) a. Did your wife kiss other men?
 b. [/*Meine*]_T Frau hat [*keine*\]_F fremden Männer geküsst
 My wife has no strange men kissed
 ‘My wife did not kiss any other men’
 c. But what about YOUR wife?

We do not want to go into detail. The reader is referred to the detailed presentation in Büring (1997). Two points are of interest. Firstly, S-topics can appear in sentence-initial position.⁴⁵ Secondly, the semantics of S-topics is a ‘typed-up’ focus semantics. The second point is illustrated in the following. S-topics induce alternatives similar to the focus. We already know that the focus value (or background) of e.g. example (63b) is a set like (63b’).

- (63) b’. {the female pop stars wore caftans, the female pop stars wore dresses, the female pop stars wore overalls, ...}

According to Büring (p. 56f.), the topic value is computed by replacing the S-topic in (63b’) with type-equivalent salient alternatives. Thus the topic value of a sentence is a set of such sets.

- (63) b’’. {{the female pop stars wore caftans, the female pop stars wore dresses, the female pop stars wore overalls, ...}
 {the male pop stars wore caftans, the male pop stars wore dresses, the male pop stars wore overalls, ...}
 {the female or male pop stars wore caftans, the female or male pop stars wore dresses, the female or male pop stars wore overalls, ...}
 {the italian pop stars wore caftans, the italian pop stars wore dresses, the italian pop stars wore overalls, ...}
 ...}}

Furthermore, S-topics have an implication that can be informally outlined as follows: The use of an S-topic in a sentence A implies that there is an element Q from the topic value (63b''), such that Q is still under consideration after uttering A (i.e. some elements in one of these sets in (63b'') must be non-absurd and informative with respect to CG). Hence, after uttering (63b), we know that there must be some element from (63b'') that is still under consideration. The most salient element in (63b'') seems to be the following set: {the male pop stars wore caftans, the male pop stars wore dresses, the male pop stars wore overalls, ...}. This means that this set of propositions (i.e. the question: What did the male pop stars wear?) serves as the residual topic in (63). The residual topic of (64b) (YOUR wife as opposed to MINE) can be derived in the same way. Before we look at an example with argument reflexives, we want to capture the fact that non-argument reflexives cannot be S-topics. S-topics induce focus alternatives similar to the focus. But, as we have already seen in Section 4.2.2, non-argument reflexives can not be the focus. A topic value cannot be generated for non-argument reflexives for the same reason a focus semantic value cannot be generated. As opposed to non-argument reflexives, argument reflexives are expected to be S-topics. They are also expected to occur in sentence-initial position. This is confirmed by example (65).

- (65) a. Where did Peter take a picture of himself (and his friends)?
 b. [/SICH]_T hat er [vor dem Matterhorn\]_F fotografiert
 Himself has he in.front.of the Matterhorn photographed
 'He photographed himself in front of the Matterhorn'

The focus alternatives are the salient type-identical elements in (65b'). The topic value (of the reflexive pronoun) results from a second substitution: in all focus alternatives the S-topic (the argument reflexive) is replaced by type-equivalent salient alternatives (cf. 65b'').

- (65) b'. {Er hat sich vor dem Matterhorn fotografiert, er hat sich vor dem Montblanc fotografiert, er hat sich vor der Eiger Nordwand fotografiert, ...}
 'He photographed himself in front of the Matterhorn/Montblanc/Eiger Nordwand/...'
 b''. {{Er hat sich vor dem Matterhorn fotografiert, er hat sich vor dem Montblanc fotografiert, er hat sich vor der Eiger Nordwand fotografiert, ...}
 {Er hat seine Freunde vor dem Matterhorn fotografiert, er hat seine Freunde vor dem Montblanc fotografiert, er hat seine Freunde vor der Eiger Nordwand fotografiert, ...}

{Er hat sich und seine Freunde vor dem Matterhorn fotografiert,
 er hat sich und seine Freunde vor dem Montblanc fotografiert, er
 hat sich und seine Freunde vor der Eiger Nordwand fotografiert,
 ...}
 ...}
 ‘He photographed himself/his friends/himself and his friends/... in
 front of the Matterhorn/Montblanc/Eiger Nordwand/...’

According to the implication of topics, the residual topic must be informative. The second element of the topic value is a good candidate for the residual topic ‘and where did he photograph his friends?’⁴⁶

We conclude that the accusative reflexive pronoun cannot occur in sentence-initial position in unmarked word order. Therefore, it must either be focus or S-topic to occupy CP,Spec. Neither of these options is available for non-argument reflexives because they are not linked to an argument variable of the verb. And finally, non-argument reflexives must be bound by the subject within their sentence. Therefore they cannot be subject to further conditions which may depend on the structuring of a text or discourse. In sum, non-argument reflexives do not meet the conditions on fronting in German.

- (66) Non-argument reflexives in sentence-initial position
- a. Unmarked word order:
 Nominative precedes accusative. RPs in sentence-initial position are either focus or topic (the ‘Wackernagel-effect’ is limited to the middle field).
 - b. Focus:
 Non-argument reflexives cannot be focused (cf. 4.2.2).
 - c. S-topic:
 Non-argument reflexives cannot be S-topic.
 - d. Further conditions on the structuring of texts/discourses:
 (Non-argument) reflexive pronouns cannot pick up discourse referents from outside their sentence.

4.3. Conclusion

We can summarize that non-argument reflexives do not differ from argument reflexives syntactically. They are subject to the same restrictions on word order in the middle field and binding. The differences between argument and non-argument reflexives are due to the different interpretations of these ele-

ments. The ungrammaticality of coordination, focus, and fronting results from a linking-mismatch: a syntactic argument (the accusative reflexive pronoun in object position) is not linked to a semantic argument of the verb. In the next chapter we will take a closer look at this important issue. As far as we see, these differences do not follow from any approach that draws a syntactic distinction between argument and non-argument reflexives. Furthermore, syntactic theories would have to explain the strict correspondence between two syntactically different kinds of reflexive pronouns with respect to word order. And last but not least, a semantic approach can abandon the unnecessary stipulation that accusative reflexive pronouns can be both arguments and adjuncts.

Notes

1. There are various ways to state this constraint. Another possibility would rely on Jäger's (1996) definition of topics, i.e. the topic precedes the comment in the unmarked case.
2. The constraint on pronominals might be subsumed under the more general constraint on 'heavy' and 'light' elements (Behagel's 1932 'Gesetz der wachsenden Glieder'). See also Lenz (1977) and Uhlmann (1993) for heaviness.
3. That these constraints are 'weak' can be demonstrated by the following example from an anecdote by Eckhart Henscheid (cf. also the first sentence in the quotation from Behagel in Footnote 52, Chapter 2):
 - (i) "[...] Derjenige sollte Sieger und der beste Kritische Theoretiker sein, der das Reflexivum 'sich' am weitesten postponieren (nachstellen) konnte [...] Sieger wurde und sein Meisterstück machte nämlich Adorno mit dem seither geflügelten Satz: 'Das unpersonliche Reflexivum erweist in der Tat noch zu Zeiten der Ohnmacht wie der Barbarei als Kulmination und integrales Kriterium Kritischer Theorie *sich*'" (Henscheid 1993:56–57).

Note that *sich erweisen* ('prove to be') is an inherent reflexive verb.

4. The same constraints seem also relevant for the linearization of the arguments of nominative-accusative verbs that do not select an agent like e.g. *interessieren* ('to be interested in').
5. Hessian and Saxonian seem to be exceptions, which allow phonological reduction of the third person reflexive pronoun. Hall (1998: 107) argues that a vowel preceding the [ç] cannot be reduced to schwa in German.
6. We mentioned in Section 3.1.1 that not all reflexive pronouns are bound in syntax. Reflexive pronouns that are used as logophors are not subject to the binding conditions. In Chapter 5 we take a closer look at binding.
7. Example (10c) is from Reis (1981) and also mentioned in Haider (1987).

8. There is a long discussion in the literature about how to analyze the relatively free constituent order of languages like German. Essentially, three approaches can be distinguished: (i) Word order is derived via movement (scrambling, extraposition, and fronting) from an underlying structure. (ii) Word order is base generated (possibly in compliance with linearization principles). (iii) Word order is derived by an extra modul of linearization. For movement theories see Müller and Sternefeld (1993), Müller (1993), and Grewendorf and Sabel (1994) among others. Supporters of a base generation theory are Haider (1993), Cooper (1994), Fanselow (1995 and 1997), and Uszkoreit (1986 and 1987) within the framework of GPSG-theory. Vogel and Steinbach (1997) argue for a mixed approach which assumes that accusative and nominative NPs are subject to A- and A'-movement, while dative NPs can be inserted directly. Advocates of a linearization grammar are Kathol (1995 and 2000), Reape (1994) and (1995), and Richter (1997). Müller (1999) develops an OT-approach to free word order in the middle field.

Another long standing problem is verb placement in V2-languages like Dutch and German. Discussions and analyses can be found in Vikner and Schwartz (1991), Zwart (1993) and (1997), Gärtner and Steinbach (1994), Vikner (1995), Bobaljik (1995), and Rohrbacher (1999). See also the discussion in Stanek (1995) and the references in the next footnote.

9. In (11) we base generate the external argument in VP and split IP into AgrSP, TP, and AgrOP. Furthermore, we omit TP. For the discussion pro and contra the presence of IP in German see Grewendorf (1989a), Haider (1993), Vikner (1995), and Sabel (1995). A summary of the arguments is given in Erb (1995). See also Haider and Rosengren (1998).

10. Recall from Section 2.1.2 and 3.1.1 that impersonal passives must not have an impersonal subject.

11. Wilder (1993), like Zwart (1993), wants to avoid vacuous movement in case of subject-initial clauses. He assumes a 'mixed projection' instead. Hence, the sentence-initial position is both CP and AgrSP. As opposed to Zwart's analysis, Wilder's analysis is not an asymmetry-analysis in the strict sense because subject-initial sentences are hybrid CP/AgrSP-structures. Therefore, subject-initial sentences, like object- or adverb-initial sentences, are always CPs. Wilder's and Zwart's analyses are also motivated by the assumption that sentence-initial objects but not sentence-initial subjects are 'topics'. Again we refer the reader to Gärtner and Steinbach (1994 and 1997), who show in detail that this assumption cannot be maintained. So far no definition of the term (syntactic) topic and the corresponding topic-feature has been given that includes sentence-initial adverbial phrases and accusative objects and excludes nominative subjects. In the following discussion, we will use the more neutral term 'fronting' instead of 'topicalization'. See also Section 4.2.3 for a discussion of the restrictions on the sentence-initial position in German.

12. Dative case is not structural. In Section 3.2.2 we saw that dative case poses a serious problem for a lexical analysis of middle constructions. Moreover, dative objects differ in syntax from accusative objects in many respects (cf. Chapter 6 below). Also, two-place verbs like *helfen* ('help') or *folgen* ('follow') require a dative object – see for example the minimal pair *begegnen* and *treffen* (both: 'meet') in (i). Hence, not all instances of dative case can be analyzed as a structural case that is assigned to the third argument of the verb.

- (i) a. Maria traf den Bundeskanzler
Maria met the-ACC chancellor
'Maria met the chancellor'
b. Maria begegnete dem Bundeskanzler
Maria met the-DAT chancellor
'Maria met the chancellor'

Dative assignment might either be a lexical property – especially in the case of two-place verbs with dative objects – or it can be reduced to semantic differences between dative and accusative case. It is well known that dative case is semantically more specific than accusative (cf. e.g. Wegener 1985). But as it stands this issue is still an unsolved problem that requires further research. We come back to dative case in Chapter 6.

13. Note that German also has so-called asymmetric coordination (cf. example (i)). In the following discussion we are mainly dealing with symmetric coordination and the problem of semantic 'identity'.

- (i) Gestern ging der Jäger in den Wald und schoss den Hasen
Yesterday went the hunter in the forest and shot the hare
'Yesterday the hunter went in the forest and shot the hare'

14. For details see Wilder (1995:287f.).

15. Thanks to Chris Wilder for drawing my attention to this point. Example (23a) is from Pullum and Zwicky (1986), the *Laster*-example in (24) is due to Hans-Martin Gärtner. This subtle contrast might be related to processing. In FWD, the interpretation of the deleted element is perhaps fixed as soon as the parser processes the antecedent. But this is just speculation, so we leave this point open.

16. Reinterpretation seems possible to a certain degree which depends on various additional conditions. Various factors influence this.

a) syntactic parallelism facilitates reinterpretation:

- (i) ??Peter setzt sich auf ____ und Hans geht in die Bank
Peter sits down on and Hans goes into the bank/bench
(ii) *Peter setzt sich auf ____ und Hans beauftragt mit dieser Angelegenheit eine Bank
Peter sits down on and Hans instructs with this affair a bank/bench

b) reinterpretation seems to be more difficult, if the homonymous elements cannot be reduced to the same underspecified lexical entry.

c) reinterpretation is easier if both elements (nouns or verbs) belong to the same semantic class. Coordination of a two-place predicate with e.g. a homonymous one-place predicate is much worse than coordination of two homonymous two-place predicates:

- (iii) ??Ich weiß nicht, ob ich zu ____ oder aufhören soll (Chris Wilder, p.c.)
I don't know, if I should listen-to or stop
(iv) *Er hat das Buch ____ und die ganze Nacht gelesen
He has the book and the whole night read
'He read the book and he read all night long'

d) Likewise the copy-antecedent relation can be more easily established when the two homonymous nouns belong to the same semantic sort. Compare (24) above with (i). *Bank* refers to bench and bank (building) in the first and second conjunct respectively. In both interpretations it refers to a physical object. On the other hand, *Laster* in (24) refers to a physical object in the first conjunct (truck) and to a moral concept in the second one. The problem of reinterpretation requires, of course, further research.

17. The following example might be evidence for semantic (LF-)identity of the copy and its antecedent because it does not involve PF-deletion. Nevertheless, the same kind of zeugma-effect can be observed.

- (i) ??Der Krug und der Jüngling, die brechen nach dem Trunke
The mug and the youth, they break/vomit after the drink

18. Sentence (25b) becomes grammatical if we use *und zwar* ('namely') instead of *und*. In this case, the second conjunct does not describe an independent event but restricts the meaning of the first conjunct. We ignore *und zwar* in the following discussion.

19. See, for example, Jackendoff (1990), Levin (1991), and Levin and Rappaport Hovav (1991) on this issue. We do not want to discuss whether this kind of verbal polysemy must be represented in the lexicon (e.g. by means of a lexical rule of so-called 'lexical extension' or 'lexical subordination') or whether it is another case of underspecification.

20. We argue below that all syntactic arguments that are specified as [+R] must be linked to a semantic argument. The only element that is not inherently specified as [+R] is the reflexive pronoun. The impersonal subject is another exception that must also not be linked to a semantic argument, although it is specified as [+R] (cf. Chapter 5 for the principles of argument linking in German).

21. Examples like (28) become slightly more acceptable with narrow focus on the auxiliary.

- (i) ??Das Buch WURDE und Hans HAT gelesen
The book was and Hans has read

22. The examples in (30) and (31) seem to be slightly more acceptable than the corresponding examples in (27). As opposed to (27), the sentences in (30) and (31) contain two different subjects, one for each conjunct. Therefore reinterpretation is only possible in (30) and (31). Neither conjunct in (27a) and (27b) can receive a meaningful interpretation under reinterpretation. A similar effect can be observed if we coordinate two reflexive verbs, one with an argument reflexive (*rasieren* – 'shave') and one with a non-argument reflexive (*schämen* – 'be ashamed').

- (i) ??Peter schämt und rasiert sich
Peter is.ashamed and shaves RP

23. For the structured meaning approach see von Stechow (1991), Jacobs (1991), or Krifka (1992). For alternative semantics see Rooth (1985 and 1992) or Büring (1997). For a modified version see Schwarzschild (1999).

24. On the assignment of focus accents in German see Jacobs (1992 and 1993), Féry (1993), or Schwarzschild (1999). On focus projection see Büring (1997) or Jacobs (1993).

25. Buring translates the NP *the baseball* as an iota expression (i.e. an individual type variable) instead of a generalized quantifier in order to simplify the illustration.

26. In fact, the situation is more complex. Among other things we need a representation of the hearer's assumptions of the speaker's knowledge and vice versa. But these refinements are irrelevant for the following discussion. On the term common ground see e.g. Stalnaker (1978) and Zeevat (1997) or Kruijff-Korbayová and Hajicová (1997) for the very similar notion *stock of shared knowledge*.

27. If we assume that the semantic background (or semantic focus value) corresponds to the actual common ground CG, then condition (36c) can be derived from (36a). There must be at least one alternative X to the focus that fulfills (36c), otherwise $CG' = CG$ (cf. Buring 1997:32).

28. It is not important for the ongoing presentation whether this focus is presentational or contrastive. Note that weak pronouns like *sich* can be stressed in German. An alternative to focus on the reflexive pronoun itself (with nuclear stress on *sich*) is the complex form *sich SELBST* with stress on the adnominal particle *selbst* (we discuss *sich SELBST* right away).

29. The semantic representation in (38c) is an oversimplification. Actually, possible alternatives to *sich* (*Otto*) are not only elements of type $\langle e \rangle$ but also generalized quantifiers of type $\langle\langle e, t \rangle\rangle$. If the alternatives are required to be type-equivalent, pronouns and argument reflexives must be translated as generalized quantifiers, too.

30. There is a wide range of investigations in the semantics of focus particles like *only* (cf. Horn 1996 for *only* and the references cited there).

31. We omit presuppositions and further semantic issues related to questions.

32. "Dem Pron. refl. kann das Pron. *selbst* beigegeben werden; dadurch erhält das Reflexiv, das an sich unbetont ist, mehr Körper und stärkere Betonung." (Behagel 1923:307)

33. Focus particles seem to receive the pitch accent when they follow their focus. This correlation between syntactic position and stress assignment also applies to the focus particle *allein* (cf. Primus 1992:70 and König and Siemund 1997:8).

(i) In Hamburg alLEIN gibt es riesige ProBLEme
In Hamburg alone gives it big problems

(ii) Allein in HAMburg gibt es riesige ProBLEme
Alone in Hamburg gives it big problems

34. In the following transitive clause, there is a strong preference that the first *selbst* that precedes the indefinite object is exclusive and the second one that follows the indefinite object is inclusive (cf. also Footnote 35 below).

(i) Ich habe (selbst) einen Aufsatz (selbst) gelesen
I have (SELBST) a paper (SELBST) read

35. Experiencer verbs are typical examples for dative and accusative objects that can precede the subject. In this case inclusive *selbst* does not modify the subject but the object. Example (i) is from König and Siemund (1996:11). For unmarked word order see also Section 4.1 above and the references cited there.

- (i) Mir ist dieser Kerl selbst nicht geheuer
Me-DAT is this guy SELBST not sympathetic
'Even to me this guy is eerie'
- (ii) Mich interessiert diese Frage selbst
Me-ACC interests this question SELBST
'I am interested in this question myself'

36. The interpretations of inclusive and exclusive *selbst* are highly context dependent. The inclusive interpretation requires events that are repeatable (like e.g. *read a book* vs. *write the book*) or states that are not exclusive (like e.g. *speak a language*). The exclusive reading only makes sense if something cannot only be done on one's own but also with other people's help. Furthermore, minimal pairs like (i) and (ii) show that there is a certain interaction between topic/focus and the inclusive/exclusive reading: the exclusive reading is preferred if the NP is topic (cf. Jäger 1996), and the inclusive one is favored if the NP is focused.

- (i) Peter hat selbst ein Buch gelesen (inclusive)
Peter has SELBST a book read
- (ii) Peter hat ein Buch selbst gelesen (exclusive)
Peter has a book SELBST read

Syntactically, both the inclusive and the exclusive *selbst* can be analyzed as VP-adverbs. The semantic analysis seems to be much more complicated. It is not clear yet whether both readings can be reduced to one basic (possibly underspecified) lexical entry (cf. Primus 1992 and especially König and Siemund 1997: 18f. for more details).

37. Alternatively, focus particles can be analyzed as cross-categorical operators (which might be subject to language-specific constraints) (cf. König 1993 for an overview).

38. Note that the following examples are sometimes ambiguous between the adnominal and the adverbial exclusive reading. We therefore indicate the adnominal interpretation with brackets.

Adnominal *selbst* is restricted to persons that are in some sense central or important. The following examples show that modifying non-central persons with adnominal *selbst* does not make sense. It is difficult to establish a meaningful center in (i) and (ii-a):

- (i) ??Die Putzfrau selbst hat unsere Wohnung geputzt
The cleaner SELBST has our flat cleaned
'The cleaning lady herself cleaned our flat'
- (ii) The bus had a bad accident . . .
- a. ??Die Fahrgäste selbst sind ums Leben gekommen
The passengers SELBST died
'The passengers themselves died'
- b. Der Fahrer selbst ist ums Leben gekommen
The driver SELBST died
'The driver himself died'

39. Many languages have reflexive pronouns that incorporate a *selbst*-like element (e.g. English *him-/her-/itself* – i.e. pronoun and scalar expression –, Dutch *zichzelf* – i.e. anaphor and scalar expression – or Hungarian *maga*). These reflexive pronouns seem to have developed from either a pronoun or anaphor and an adnominal scalar expression. In the first case, this fusion leads to the disambiguation of the binding domains in languages like English. The pronoun *him* is subject only to Principle B while the reflexive pronouns *him-/her-/itself* are subject to Principle A (cf. also Section 2.3 and 2.4 above). In the second case, this fusion leads to a distinction between weak and strong reflexive pronouns. The basis for this might have been predicates that favor a disjoint reference interpretation of the arguments over a coreference reading (i.e. the reflexive use is more remarkable than the non-reflexive use). In these contexts, scalar expressions seem to occur regularly together with pronouns or anaphora (cf. Section 5.6 for more discussion). We refer the reader to Primus (1992), König and Siemund (1997) and Gelderen (2000) and the references cited there for a more detailed discussion of this issue.

40. We correlate unmarked word order with focus projection. Only unmarked word order allows for maximal focus spreading (cf. Höhle 1982, Jacobs 1992 and 1993, and Vogel and Steinbach 1998).

41. Besides these rare cases, German has some idiomatic expressions that permit accusative-nominative order (e.g. *ihn hat der Schlag getroffen* – ‘he was floored’).

42. Note that the experiencer verb *interessieren* (‘be interested in’) in (60c) becomes inherent reflexive when we substitute a reflexive pronoun for the accusative NP *ein Mädchen* (‘a girl’).

- (i) Sie interessierte sich für ein Buch
 She was.interested.in RP a book
 ‘She was interested in a book’

43. The same holds true for the examples in (39) above. Consider the examples in (i-a) and (ii). Again, focus on the preposition is ungrammatical if plausible alternatives are not available. Sentence (i) is only grammatical with narrow focus on the pronoun *sie* (cf. (i-b)).

- (i) a. *[AN sie] habe ich einen Brief geschrieben
 b. [An SIE] habe ich einen Brief geschrieben
 To her have I a letter written
 c. [UNTER den Tisch] lege ich das Buch
 Under the table put I the book

44. This partition might be too static. At a certain stage of a discourse different expressions can be equally salient or ‘designated’. Therefore, it is sometimes not clear which element of the background is the actual address pointer (center) for the ongoing discourse. See e.g. Kruijff-Korbayová and Hajicová (1997) and Kameyama (1999) for a dynamic approach.

45. S-topics have to precede the focus at surface structure. Therefore, CP,Spec is one (maybe the preferred) option for S-topics in main clauses. They can also appear on the left periphery of the middle field.

46. Sentence (65b) gets worse if we ask for the subject, i.e. the antecedent of the reflexive pronoun:

- (i) a. Who photographed himself in front of the Matterhorn?
- b. ?[/Sich] hat [der Peter\] vor dem Matterhorn fotografiert

The residual topic is something like: and who photographed not himself but someone or something else (X photographed Y with $X \neq Y$). In this case we contrast a reflexive action with a non-reflexive action. The only thing that is under discussion here is the intrinsic meaning of the reflexive pronoun, its reflexive function. But for that we need a very special context.

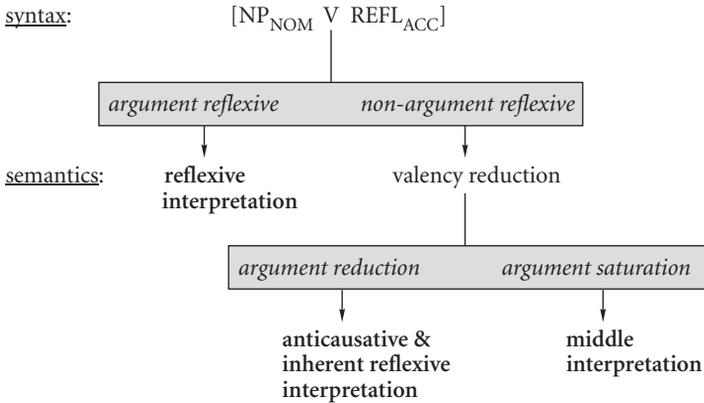
The interpretation of reflexive pronouns in German

So far, we have argued that the different interpretations of transitive reflexive sentences are not related to different syntactic representations. Both the argument and the non-argument reflexive are analyzed as accusative objects. In this chapter we will illustrate how the ambiguity of transitive reflexive sentences can be derived at the interface between syntax and semantics. We will argue that the accusative reflexive pronoun can but need not be linked to a semantic argument of the verb. This very specific property of the ‘middle marker’ in German results from the interaction between universal properties of (weak) reflexive pronouns and a language-specific distinction between structural and oblique case forms.

Cross-linguistically, (weak) reflexive pronouns are ‘referentially’ underspecified. As a consequence, they are ambiguous between an argument and a non-argument interpretation. Argument reflexives are linked to the second semantic argument themselves, while non-argument reflexives only mediate the linking of the syntactic subject to the second argument. Hence, non-argument reflexives prevent the first semantic argument of the verb from linking (to the subject).

In German, the non-argument interpretation is only available for reflexive pronouns that are assigned structural case in the position of the accusative object. NPs assigned structural case will be called syntactic arguments. Argument reflexives trigger a reflexive interpretation, whereas non-argument reflexives are indicators of valency-reduction that trigger a middle, an anticausative, and an inherent reflexive interpretation. In the latter case the first semantic argument of the verb, which is not linked to syntax, must either be bound by a generic operator (*argument saturation*) or deleted (*argument reduction*). Argument saturation yields the middle interpretation and argument reduction the anticausative and inherent reflexive interpretation. Figure (1) illustrates the ambiguity of transitive reflexive sentences in German.

(1) The ambiguity of transitive reflexive sentences



In the previous chapter we argued that all transitive sentences with a reflexive accusative object are syntactically identical. It turned out that certain differences between argument and non-argument reflexives concerning coordination, focus, and fronting are semantic rather than syntactic. In this chapter we investigate the ambiguity of the accusative reflexive pronoun in transitive reflexive sentences (i.e. the first ambiguity in (1) above). We turn to the ambiguity of the implicit semantic argument in Chapter 6 (i.e. the second ambiguity between argument saturation and argument reduction).

We argue that the morphosyntactic features of reflexive pronouns are maximally underspecified. As a consequence, they can either head their own A-chain or they can be included in another, more complex A-chain, which is headed by another syntactic argument that c-commands the accusative reflexive pronoun (i.e. the subject). Furthermore, syntactic arguments (i.e. A-chains) are subject to the following two linking-principles: (i) VP_{Spec} is linked to the first argument position of the verb and (ii) the complement position of V° is linked to the second argument position of the verb. According to (i) and (ii), a complex A-chain that includes the subject and the non-argument reflexive is linked to the second argument position via its base, the complement position of V°. The non-argument reflexive mediates the linking of the subject to the second argument position because it is included in a complex A-chain headed by the subject. As opposed to the non-argument reflexive, the argument reflexive heads its own A-chain and is thus linked to a semantic argument itself. We will see that this approach offers a uniform analysis of the ambiguity of the accusative reflexive pronoun in transitive reflexive sentences. It accounts for the reflexive, middle, anticausative, and inherent reflexive interpretation.

Before we turn to reflexive pronouns in transitive reflexive sentences, we must first introduce the basic notions of binding theory. The crucial element for the interpretation of transitive reflexive sentences is of course the reflexive pronoun in the position of the accusative object, which we call a morphosyntactic ‘middle marker’.¹ In most Indo-European languages, (weak) reflexive pronouns are ambiguous between the argument and the non-argument interpretation. The latter interpretation of reflexive pronouns (i.e. its function as an indicator of valency reduction) has been strongly neglected in the discussion of binding, which has dealt mainly with argument reflexives. A modification of the existing theories of binding will therefore be necessary. We limit the discussion to reflexive pronouns in order not to lose sight of our topic.² A theory of binding must consider at least morphological, syntactic, semantic, pragmatic, and discourse-theoretical aspects, which cannot be discussed in detail here. The following points will be relevant to the discussion of transitive reflexive sentences (cf. also the brief outline of the discussion at the end of the next section).

- i. German does not always draw a morphological distinction between personal pronouns and reflexive pronouns.
- ii. Unlike most Indo-European languages, German is a one-form language that does not distinguish weak from strong reflexive pronouns.
- iii. Structural binding of reflexive pronouns differs from logophoric binding.
- iv. The distinction between structural and oblique case forms turns out to be relevant for binding theory.

We will concentrate on the interpretation of locally bound pronouns, irrespective of whether the paradigm always has two morphologically different forms for reflexive and personal pronoun. Furthermore, German has only one kind of reflexive pronoun, as opposed to many other languages. German is a so-called *one-form language* (Kemmer 1993), which does not morphologically distinguish weak from strong reflexive pronouns. We will put the first two issues (i) and (ii) aside for the present, but we will return to the morphology of reflexive pronouns in the course of this chapter. In the next subsection we first turn to (iii) and in Section 5.2 we deal with point (iv).

5.1. Logophoric or exempt anaphors

Reflexive pronouns in German are subject to principle A of Chomsky’s (1981) binding theory.³ This theory of binding, which is based on the notion of c-

command, has given rise to criticism. Reinhart and Reuland (1993) as well as Pollard and Sag (1994) – henceforth R&R and P&S - discuss various shortcomings of Chomsky’s version of binding theory that lead them to develop their own proposals (see also Zribi-Hertz 1989 for a detailed criticism of Chomsky’s binding theory). Both theories share essential features. Structural binding of reflexive pronouns is restricted to coreference of arguments of the same predicate. Therefore, reflexive pronouns are not always subject to the principles of binding theory. P&S (1994) and R&R (1993) give a sample of sentences that are grammatical although they violate principle A of Chomsky’s binding theory.⁴ In all examples in (2) the reflexive pronoun is not bound within its governing category (cf. also Ross 1970 or Jackendoff 1972).

- (2) a. [John and Mary]₁ knew that [the journal had rejected [each other’s]₁ paper]
 b. John suggested that [tiny gilt-framed portraits of [each other]₁ would make ideal gifts for [the twins]₁]
 c. John₁ told Mary₂ that there were some pictures of themselves₁₊₂ inside
 d. [A picture of myself] would be nice on the wall
 e. [The picture of himself₁] that John₁ saw in the post office was ugly

In each case, the reflexive pronoun and its antecedent are not arguments of the same predicate. Furthermore the reflexive pronoun cannot be bound by a co-argument of the same predicate (the noun) because it is its sole argument. In addition, Chomsky’s principles of binding predict strict complementary distribution of personal pronouns and reflexive pronouns (cf. also Bech 1983). But this contradicts the observation that in certain contexts the reflexive pronoun can be replaced by a personal pronoun, as can be seen in (3a) and (3b) for German.⁵ Similar examples can be found in Dutch (cf. 3d) and English (cf. 3e).⁶

- (3) a. [Bilder von sich₁/ihm₁] machen Peter₁ glücklich
 Pictures-NOM of RP/him make Peter-ACC happy
 ‘Pictures of himself make Peter happy’
 b. Den Hans ängstigen [nur Geschichten über sich₁/ihn₁]
 The Hans-ACC frighten only stories-NOM about RP/him
 ‘Hans is only frightened by stories about himself’
 c. Der Chef₁ lässt die Leute₂ für sich₁/ihn₁ arbeiten
 The chief let the people for RP/him work
 (Grewendorf 1983)
 ‘The boss made the people work for him’

- d. Max₁ legt het boek achter zich₁/hem₁ (R&R 1995:243)
 Max puts the book behind RP/him
 'Max puts the book behind himself'
- e. Max₁ saw a ghost next to him₁/himself₁

The interpretation of reflexive pronouns in ellipses provides another argument for this distinction. A reflexive pronoun that is not bound by a co-argument is ambiguous between a strict and a sloppy interpretation, whereas a bound reflexive pronoun permits only the interpretation as bound variable, i.e. strict identity. This contrast is illustrated in (4a) and (4b) on the one hand and (4c) on the other hand.

- (4) a. Peter hat [das Bild von sich] in der Zeitung gesehen und
 Peter has the picture of RP in the newspaper seen and
 Maria auch
 Maria too
 'Peter saw the picture of himself in the newspaper and Maria did too'
- b. Den Kanzler ärgert [die neue Karikatur von sich]
 The chancellor-ACC annoys the new caricature-NOM of RP
 und den Oppositionsführer auch
 and the opposition.leader-ACC too
 'The chancellor was annoyed by the new caricature of himself and the leader of the opposition was too'
- c. Maria wäscht sich und Peter auch
 Maria washes RP and Peter too
 'Maria washes herself and Peter washes himself'

R&R call reflexive pronouns that are exempt from the (structural) conditions on binding *logophoric anaphors*, P&S call them *exempt anaphors*.⁷ The antecedents of logophoric or exempt anaphors are not determined by binding theory but by other, non-syntactic factors such as, for example, processing and discourse constraints (cf. also Zribi-Hertz 1989). Intervening constituents, point of view, or the subject of consciousness might influence the grammaticality of certain coindexations.⁸ We briefly illustrate this point in (5). In the first two sentences (5a) and (5b) the reflexive pronoun in the embedded clause is obligatorily coindexed with and thus bound by the closest subject. The third and fourth example, (5c) and (5d), show that additional binding relations are also grammatical. When the first subject refers to an inanimate entity, the reflexive pronoun can also be bound by the matrix subject. In (5c) and (5d) the reflexive pronoun is clearly not locally bound.

- (5) a. John₁ found [a picture of himself₁]
b. Bill₂ remembered that Tom₁ saw [a picture of himself_{1/2}] in the post office
c. ??Bill₁ remembered that the Times had printed [a picture of himself₁] in the Sunday edition
d. Bill₁ thought that nothing could make [a picture of himself₁ in the Times] acceptable to Sandy

So far, we separate logophoric from structural binding relations as stated in (iii) above. Logophoric or exempt anaphors provide arguments for a reformulation of binding theory. In the following we ignore logophoric or exempt anaphors and concentrate on structural binding because only the structural restrictions on reflexive pronouns will be relevant for the analysis of argument and non-argument reflexives. The accusative reflexive pronoun in transitive sentences (i.e. the middle marker in German) is always (structurally) bound by the subject of its sentence. In contrast to the middle marker, logophoric anaphors are not ambiguous between an argument and a non-argument interpretation. They are always argument reflexives.

We discuss R&R's binding theory first because it is based on a distinction between syntactic and semantic arguments that turns out to be very fruitful for the explanation of the ambiguity of accusative reflexive pronouns we develop in this chapter. In the next section we give an outline of R&R's theory, which will be necessarily incomplete, and we modify the *syntactic part* of R&R's binding theory. Note that R&R's (1993) analysis is based mainly on Dutch, which is a two-form language. Therefore, a modification of the *semantic part* of their binding theory will also be necessary in order to apply it to German. This will be done in Sections 5.3 and 5.4. In this connection we also refer to P&S's binding theory. P&S do not distinguish between syntactic and semantic arguments, but they do assume a hierarchy of grammatical relations, which turns out to be fundamental for the interpretation of reflexive pronouns in German. In sum, the theory we develop in this chapter is based on the assumption that only semantic co-arguments of the same predicate are subject to principle A of Chomsky's binding theory. Reflexive pronouns that cannot be bound by a co-argument are exempt from (structural) binding. Furthermore, we postulate that only non-argument reflexives are 'bound' in syntax because reflexive pronouns that check structural case are subject to a conditions on A-chain formation. This syntactic 'binding' relation, which results from chain formation, is responsible for the non-argument interpretation of the accusative reflexive pronoun. The following discussion can be outlined as follows:

- i. We introduce the binding theory of Reinhart and Reuland (1993). The distinction between syntactic and semantic binding and the *General Condition on A-Chains* will be important in the discussion below (Section 5.2).
- ii. The syntactic part of R&R's binding theory can be reduced to the *General Condition on A-Chains*, as is argued in Fox (1993). This condition will be relevant to the analysis of non-argument reflexives in German. We argue that in German the definition of *syntactic argument* is based on structural case (also Section 5.2).
- iii. R&R distinguish between two types of reflexive pronouns. This distinction is irrelevant to the analysis of reflexive pronouns in German because German is a one-form language (Section 5.3).
- iv. As a consequence of (iii), the semantic part of R&R's binding theory is replaced by principle A of Pollard and Sag's (1994) binding theory (Section 5.4).

Section 5.5 deals with the semantic ambiguity of reflexive pronouns in German, and the final Section 5.6 examines whether the binding theory developed for German can also be applied to two-form languages such as, for example, Dutch.

5.2. Syntactic and semantic predicates and A-chains

Recall that R&R's binding theory is based on Dutch, which is a two-form language. As opposed to German, Dutch has two kinds of reflexive pronouns.⁹ The third person form of the weak reflexive pronoun is the simple word *zich* and the strong counterpart of *zich* is the complex word *zichzelf*. According to R&R's theory, two features are relevant for the specification of reflexive pronouns in Dutch. The feature $[\pm R]$ (for *referential independence*) distinguishes reflexive pronouns from R-expressions and personal pronouns.¹⁰ Both weak and strong reflexive pronouns are referentially deficient and therefore specified as $[-R]$. A second feature, $[\pm REFL]$, distinguishes strong from weak reflexive pronouns. $[+REFL]$ stands for a reflexivizing function that operates on predicates and their arguments. Roughly speaking, the feature $[+REFL]$ requires two arguments of a predicate to be coindexed. Only strong reflexive pronouns are specified for $[+REFL]$, while weak reflexive pronouns and personal pronouns are specified as $[-REFL]$. R&R call the weak reflexive pronoun *zich* 'SE anaphor' and its strong counterpart *zichzelf* 'SELF anaphor'.

(6) Reflexive and personal pronouns in Dutch

	SE (weak RP)	SELF (strong RP)	Pronoun
Reflexivizing function	[-REFL]	[+REFL]	[-REFL]
Referential independence	[-R]	[-R]	[+R]
Examples:			
<i>gedragen</i> (7a)	✓	*	*
<i>wassen</i> (7b)	✓	✓	*
<i>horen</i> (7c)	*	✓	*
<i>horen</i> in ECM (7d)	✓	✓	*

SE anaphors are the least specified elements of the pronominal paradigm because they are neither reflexivizers nor referentially independent elements. The distribution of pronominal elements in Dutch is illustrated in (7).

- (7) a. Max₁ gedraagt zich₁ /*zichzelf₁ /*hem₁ (inherent reflexive)
 Max behaves SE /SELF /him
 ‘Max behaves’
- b. Max₁ wast zich₁ /zichzelf₁ /*hem₁ (‘weak’ reflexive)
 Max washes SE /SELF /him
 ‘Max washes himself’
- c. Max₁ hoorde *zich₁ /zichzelf₁ /*hem₁ (‘strong’ reflexive)
 Max heard SE /SELF /him
 ‘Max heard himself’
- d. Henk₁ hoorde [zich₁ /zichzelf₁ /*hem₁ zingen] (ECM)
 Henk heard SE /SELF /him sing
 ‘Max heard himself sing’

The first example (7a) contains the inherent reflexive verb *gedragen* (‘behave’), the object of which must be the weak form of the reflexive pronoun, i.e. the SE anaphor.¹¹ In contrast, the SE anaphor cannot be the object of verbs like *horen* (‘hear’) in (7c). In this case, the strong form, i.e. the SELF anaphor, must be used. Verbs like *wassen* (‘wash’) in (7b) permit both the weak and the strong form of the reflexive pronoun. Thus SE anaphors are only grammatical with verbs that are inherently reflexive like *gedragen* in (7a) or verbs like *wassen* in (7b) that describe events that are very likely to be reflexive. The crucial difference between the English and the Dutch pronominal system shows up in ECM-constructions like (7d). As opposed to (7c), SE anaphors are not excluded from this construction, even if the matrix verb is *horen*. This difference between (7c) and (7d) can be attributed to the status of the direct object. In (7d), on the one hand, the reflexive pronoun is only a *syntactic* co-argument of its antecedent.

Both the antecedent and the anaphor are assigned case by the same predicate, the matrix verb *horen*. Semantically, the anaphor is an argument of the embedded verb *zingen* ('sing'). The reflexive pronoun is linked to its first semantic argument. On the other hand, in (7c) the anaphor is both a syntactic and semantic argument of the same verb. Note finally that personal pronouns are ruled out in all four sentences. (8) summarizes the observations made so far.¹²

(8) The distribution of pronominal forms with the verb *horen* ('hear')

	SELF (strong)	SE (weak)	Pronoun
pro-form is only syntactic co-argument (7d)	+	+	–
pro-form is also semantic co-argument (7b)	+	–	–

R&R formulate a theory of binding that accounts for the different distribution of weak and strong reflexive pronouns in Dutch. Their binding theory is based on the following two conditions in (9). The relevant definitions of the notions *reflexive*, *reflexive-marked*, *syntactic* and *semantic predicate*, and *syntactic argument* are given in (10) (cf. R&R 1993:678):¹³

(9) *Conditions*

- A: A reflexive-marked syntactic predicate is reflexive.
 B: A reflexive semantic predicate is reflexive-marked.

(10) *Definitions*

- a. The *syntactic predicate* formed of (a head) P is P, all its syntactic arguments, and an external argument of P (subject).
- b. The *syntactic arguments* of P are the projections assigned a Θ -role or case by P.
- c. The *semantic predicate* formed of P is P and all its arguments at the relevant semantic level.
- d. A predicate is *reflexive* iff two of its arguments are coindexed.
- e. A predicate is *reflexive-marked* iff either P is lexically reflexive or one of P's arguments is a SELF anaphor.

Conditions A and B correctly explain the distribution of the SE and SELF anaphors in Dutch. Condition B says that whenever a semantic predicate is reflexive, it must be reflexive-marked. A predicate is reflexive-marked either if it is lexically reflexive or if one of its arguments is a SELF anaphor. *Gedragen* in (7a) is an inherent reflexive verb that is lexically reflexive, hence no SELF anaphor is required.^{14,15} *Horen* in (7c) is not lexically reflexive. Thus the predicate *horen* can only be reflexive-marked by a SELF anaphor. A verb like *wassen*

in (7b) shares features with both *gedragen* and *horen*. It permits SE and SELF anaphors (i.e. weak and strong reflexive pronouns). According to R&R, verbs like *wassen* can but need not be lexically reflexive.¹⁶ Therefore, weak and strong forms are grammatical. And finally, both forms are also licensed in the position of the ECM-subject in (7d) because it is only a syntactic argument of the matrix predicate to which condition A applies: the syntactic (matrix) predicate is reflexive-marked by the SELF anaphor in object position and it is reflexive because two of its arguments are coindexed. Condition B is also fulfilled: the embedded (semantic) predicate is not reflexive, hence no reflexive-marking is required and both the SE and the SELF anaphor are grammatical. Only if the embedded predicate is reflexive, is a SELF anaphor obligatorily required because the reflexive (semantic) predicate must be reflexive-marked (but it does not matter which of the two arguments is the SELF anaphor).

- (11) a. Jan hoorde [zich zichzelf / *zich critiseren]
 Jan heard SE SELF SE criticize
 b. Jan hoorde [zichzelf / *zich zich critiseren]
 Jan heard SELF / SE SE criticize

So far, R&R correctly derive the distribution of SE and SELF anaphors or weak and strong reflexive pronouns in our terminology. Recall that personal pronouns are excluded in all examples in (7), although SE anaphors, which are also [-REFL], are grammatical in (7a), (7b), and (7d). Personal pronouns are ruled out by an additional condition, which unifies the treatment of binding and A-movement. This condition will be central to the analysis of reflexive pronouns in German that we propose below.¹⁷

- (12) *General Condition on A-Chains (GCC)*
 A maximal A-chain ($\alpha_1, \dots, \alpha_n$) contains exactly one link – α_1 – that is both [+R] and case-marked.

The crucial difference between SE anaphors and personal pronouns is the feature [R]. Only personal pronouns (and R-expressions) are referentially independent, i.e. [+R] (cf. (6) above). As a consequence of (12), personal pronouns can only be the head of an A-chain. Hence they are excluded in all positions α_j with $j > 1$. The GCC correctly predicts that personal pronouns are ungrammatical in all examples in (7).

Fox (1993) goes even further than R&R and argues that condition A of R&R's binding theory can be completely reduced to the GCC in (12). As opposed to R&R, Fox assumes singleton chains.^{18,19} He proposes that any sequence of coindexation that is headed by an A-element forms a maximal A-

chain. As a consequence, every syntactic argument forms an A-chain of its own.²⁰ Moreover, every [-R] A-element must always be contained in an A-chain that is headed by a [+R] A-element. This modification will be relevant for the derivation of the ambiguity of transitive reflexive sentences, as we argue below. Besides, it simplifies the binding theory as well as the analysis of ECM-constructions and SE anaphors. Recall that SE anaphors are grammatical in ECM-constructions like (13) only if the embedded (semantic) predicate is not reflexive (cf. (11) above). In (13a) condition A is met because two of the arguments of the matrix predicate, which is reflexive-marked by the SELF anaphor, are coindexed. Things are different in (13b). Unlike SELF anaphors, SE anaphors are [-REFL]. Therefore, condition A does not apply to SE anaphors in ECM constructions. As a consequence, the syntactic arguments of the matrix predicate need not be coindexed because the (syntactic) matrix predicate is not reflexive-marked by the SE anaphor in the position of the ECM subject. Recall that condition B does not apply in (13) because the matrix subject and the ECM subject are only syntactic co-arguments of the same syntactic predicate. We therefore expect the SE anaphor in (13b) to behave more like pronouns or like logophoric anaphors, which is obviously not true.²¹

- (13) a. Henk₁ hoorde [zichzelf₁ zingen]
 Henk heard SELF sing
 b. Henk₁ hoorde [zich₁ zingen]
 Henk heard SE sing

A theory that reduces condition A to the modified version of the GCC predicts that the SE anaphor *zich* in (13) must be bound by and coindexed with the subject because a [-R] SE anaphor cannot head its own A-chain. Therefore, it is forced to form a chain with a [+R] A-element c-commanding it, i.e. the subject of the matrix clause.²²

Finally, we follow Vogel and Steinbach (1995 and 1998), who argue that in German the term *syntactic argument* should be defined on the basis of structural case. In German, only NPs that are assigned structural case (or have a structural case-feature to check) are syntactic arguments. In Chapter 6 we will provide empirical evidence in support of a distinction between structural and oblique case. We will see that nominative and accusative are structural. As opposed to nominative and accusative, dative is oblique. Hence, A-chain formation is restricted to subjects and accusative objects. The relevant modification of R&R's definition (10b) is given in (14).

(14) *Definition of syntactic arguments in German*

...

- b. The syntactic arguments of P are the chains that are assigned structural case in the extended projection of P.

...

So far, we have argued that R&R's binding condition A should be reduced to a slightly modified version of the GCC. In addition, their definition of syntactic arguments was modified for German. In German only NPs that are assigned structural case are subject to 'syntactic binding', i.e. A-chain formation. In the next two sections we turn to the distinction between [+REFL] and [-REFL] expressions and R&R's binding condition B, which is responsible for 'semantic binding'.

5.3. Weak and strong reflexive pronouns and the [\pm R]-distinction

As mentioned in Chapter 2, German is a so-called 'one-form language'. We have already seen that German does not distinguish weak from strong reflexive pronouns, or, in R&R's terminology, SE from SELF anaphors. In this respect German differs from most Indo-European languages. Morphologically, reflexive pronouns in German are simple words that correspond to SE anaphors in Dutch. German, unlike Dutch and English, does not have a corresponding complex (strong) form. As opposed to Dutch *zich*, German *sich* can be stressed. Furthermore, *sich selbst* is not a lexicalized strong reflexive pronoun but a simple reflexive pronoun (i.e. *sich*) that is modified by the adnominal focus particle *selbst*. In German, this form has not been grammaticalized (cf. the diagram in (8) above and Sections 2.1.3 and 4.2.2.6).²³

Nevertheless, one might argue that the German pronominal system also draws a distinction between weak and strong reflexive pronouns. Under this assumption, the weak reflexive pronoun *zich* in Dutch would correspond to unstressed *sich* in German and the strong form *zichzelf* in Dutch would correspond to stressed (and thereby focused) *SICH*. However, the distribution of the weak and strong forms in Dutch does not match with the distribution of unstressed *sich* and stressed *SICH* in German. While stressed *SICH* always corresponds to *zichzelf* in Dutch, unstressed *sich* differs from *zich*. Recall from Section 4 that the reflexive pronoun in middle constructions, anticausatives, and inherent reflexives cannot be focused, fronted, and coordinated. In these constructions the unstressed non-argument reflexive *sich* corresponds to the weak

form in Dutch (*zich*), which cannot be stressed (i.e. focused) or fronted either, and which must also be used with anticausatives and inherent reflexives.²⁴ The strong form *zichzelf* and stressed *SICH* are ungrammatical in these constructions in both languages. However, the crucial difference between reflexive pronouns in Dutch and German shows up in examples like (15a). Recall that the weak form *zich* cannot be the object of verbs like *horen* ('hear') which are not lexically reflexive (or more general: which describe events which are not likely to be reflexive). It can only be used with verbs of grooming and verbs of change in body posture. This generalization seems to hold true for all languages that distinguish weak from strong reflexive forms (cf. Kemmer 1993 and Section 2.3). In contrast, German unstressed *sich* is grammatical with verbs like *hören*, the German counterpart of Dutch *horen*, as is illustrated in (15). The examples in (16) illustrate the same point: verbs that are unlikely to be (lexically) reflexive take unstressed *sich* as accusative object. In all examples we put the focus on some other constituent to exclude a 'strong' interpretation of *sich*.

- (15) a. Max hoorde *zich
 Max heard WEAK RP
- b. Hat sich der Peter nur gehört oder auch gesehen?
 Has RP the Peter only heard or also seen?
 'Did Peter only hear himself or did he also see himself?'
 Der Peter hat sich nur [F GEHÖRT]
 The Peter has RP only heard
 'Peter only heard himself'
- (16) a. ... weil sich sogar [F HANS] nun nicht mehr belügt
 ... because RP even Hans now no more tells.a.lie
 '... because even Hans does not delude himself any longer'
- b. ... weil sie sich nur [F GESTern] im Fernsehen
 ... because she RP only yesterday in.the TV
 gesehen hat
 seen has
 '... because she saw herself in the TV only yesterday'

In sum, although the distribution of the weak and strong forms in Dutch largely overlaps with the distribution of unstressed and stressed reflexive pronouns in German, the pronominal systems of Dutch and German are not completely identical. As opposed to two-form languages like Dutch (and English), reflexive pronouns in German are not sensitive to whether a predicate is likely to be reflexive or not. This difference is illustrated in (17) for Dutch and German. The crucial difference can be found in the fourth column.

(17) Dutch and German reflexive pronouns

Language/Example	gedragen/benehmen	wassen/waschen	horen/hören
Dutch:	<i>zich</i>	<i>zich</i> & <i>zichzelf</i>	<i>zichzelf</i>
German:	<i>sich</i> (–focus)	<i>sich</i> (± focus)	<i>sich</i> (± focus)

We conclude that German does not distinguish between weak and strong reflexive pronouns or SE and SELF anaphors.²⁵ One morphological form corresponds to both weak and strong forms in Dutch. The distribution of stressed and unstressed reflexive pronouns in German depends solely on the interpretation of the reflexive pronoun itself (i.e. whether it is an argument or a non-argument reflexive). Besides, a subdivision of reflexive pronouns into [+REFL] and [–REFL] would lead to the situation that nearly every verb in languages with reflexive middle constructions and/or reflexive passives would have to be listed in the lexicon twice because ‘middle verbs’ and ‘passive verbs’ equal inherent reflexive verbs in R&R’s binding theory. This would result in an unnecessary enlargement of the lexicon.²⁶ We ignore the distinction between weak and strong or SE and SELF anaphors in the following discussion. The feature [REFL] is unnecessary in German. We return to two-form languages in Section 5.6.

How can we account for the difference between argument and non-argument reflexives in German? We think that another feature, which is also discussed in R&R, is relevant to the ambiguity of reflexive pronouns in German (and any other Indo-European language). According to R&R, the feature [R] is a morphosyntactic feature that depends on the inherent specification of a lexical item (cf. Footnote 10 above). All nominal expressions are intrinsically specified for Φ -features. Moreover, only elements that are not least specified for these features (i.e. not maximally underspecified) are [+R]. (18) and (19) illustrate the specification of the Φ -features number, person, gender, and case of personal and reflexive pronouns in German (homonymous forms within one paradigm are written in italics and homonymous forms in both paradigms are underlined).

(18) Personal pronouns in German

	person	gender	nominative	accusative	dative	
singular	first	∅	ich	<u>mich</u>	<u>mir</u>	
	second	∅	du	<u>dich</u>	<u>dir</u>	
	third	masc.	er	ihn	ihn	ihm
		fem.	sie	sie	sie	ihr
plural	third	neuter	es	es	ihm	
		∅	wir	<u>uns</u>	<u>uns</u>	
	second	∅	ihr	<u>euch</u>	<u>euch</u>	
	third	∅	sie	sie	ihnen	

(19) Reflexive pronouns in German

	person	nominative	accusative	dative
singular	first		<u>mich</u>	<u>mir</u>
	second		<u>dich</u>	<u>dir</u>
	third		sich	sich
plural	first		<u>uns</u>	<u>uns</u>
	second		<u>euch</u>	<u>euch</u>
	third		sich	sich

German distinguishes personal from reflexive pronouns only in the third person. Reflexive pronouns differ from personal pronouns at least in two dimensions: they are not specified for gender and they lack nominative case.²⁷ Furthermore, within the reflexive paradigm a morphological distinction between accusative and dative case can only be found in first and second person singular, while personal pronouns also distinguish third person accusative forms from third person dative forms. The personal pronoun *ihn* ('him'), for example, is specified as < [+sing, -plur], [-1st p, -2nd p, +3rd p], [+masc, -fem, -neuter], [-nom, +acc, -dat] >. The corresponding third person singular reflexive pronoun *sich* is specified neither for number, nor for gender, nor for object case: < [∅], [-1st p, -2nd p, +3rd p], [∅], [-nom, +acc, +dat] >. A discussion of the morphological specification of individual forms within these paradigms would lead us beyond our topic.²⁸ The two tables in (18) and (19) are only meant to illustrate that reflexive pronouns are the pronominal items that are least specified. The reflexive paradigm only distinguishes between seven different object forms (i.e. accusative and dative forms), whereas the pronominal paradigm distinguishes between twelve different object forms. It is not accidental that locally bound pronominal expressions are maximally underspecified.

Recall that Modern German, like many other languages, does not morphologically distinguish reflexive from personal pronouns in the first and second person (cf. the paradigms in (18) and (19) above). Although Modern German does not always have two morphologically distinct forms, it discriminates between reflexive pronouns and personal pronouns in principle. In addition, we have seen in Section 2.3 that Middle High German uses dative personal pronouns for local binding relations because it has no dative reflexive pronouns. Also some languages distinguish reflexive possessive pronouns from personal possessive pronouns, while others have only personal possessive pronouns, which are used in every context – i.e. locally bound (bound variable) and locally free (pragmatic coreference).²⁹

Burzio (1989a, b) connects this observation to his principle of morphological economy: an NP that is locally bound must be maximally underspecified. Reflexive pronouns are less specified than personal pronouns (and personal pronouns are less specified than R-expressions). Whenever a language discriminates between reflexive and personal pronouns, they must be used in different (syntactic) contexts. The following two principles account for the distribution of personal and reflexive pronouns: (i) If X is locally bound, X must be a reflexive pronoun; (ii) If X is bound, X must be a pronoun. The second principle is an elsewhere principle, which applies as soon as principle (i) is blocked. If a language has a reflexive pronoun, the reflexive pronoun must be used for local binding (principle (i)) and the personal pronoun for non-local binding (principle (ii)). On the other hand, if there is only one pronominal form (i.e. if a language lacks a reflexive pronoun), this pronominal form can be used in every context where a pronominal form can occur (cf. e.g. the first and second person object pronouns in Modern German). The logic of this argument can be illustrated as follows.

- (20) X is locally bound \rightarrow X is maximally underspecified (i.e. there is no Y that is less specified than X)

(20) does not imply that every maximally underspecified element must be locally bound. In Modern German the first and second person pronominal forms are maximally underspecified (there is no comparable pronominal form that is even less specified), but they need not be locally bound. The same holds true for dative pronouns in Middle High German and logophoric or exempt anaphors in many languages (cf. Footnote 7 above). In general, reflexive pronouns are less specified than personal pronouns, which are less specified than R-expressions (in the sense of Chomsky 1981). Personal pronouns can only be locally bound if there is no corresponding reflexive pronoun, which is less spec-

ified. Note finally that the distribution of weak and strong reflexive pronouns is constrained by additional conditions, to which we turn in Section 5.6 below.

We propose that the ambiguity of (weak) reflexive pronouns also follows from the principle of morphological economy. As opposed to R&R, we argue that (weak) reflexive pronouns are not lexically specified for the feature [R]. Depending on the syntactic context, maximally underspecified elements can be either [+R] or [-R]. By contrast, elements that are not maximally underspecified are always [+R]. The following definition accounts for this inherent property of reflexive pronouns.

- (21) a. A pronominal element X is not lexically specified for [R] iff
 (i) it is equally specified for the features $\langle F_1, \dots, F_n \rangle$ like another pronominal element Y and
 (ii) only Y is additionally specified for a feature $\langle F_{n+1} \rangle$.
 b. A pronominal element Y is lexically specified as [+R] iff
 (i) it is equally specified for the features $\langle F_1, \dots, F_n \rangle$ like another pronominal element X and
 (ii) only Y is additionally specified for a feature $\langle F_{n+1} \rangle$.

According to (21), a maximally underspecified pronominal element is not lexically specified for [R]. By contrast, a pronominal element that is not maximally underspecified is always [+R]. If we compare, for example, the third person singular personal pronoun *ihn* ('him') in (22a) with the third person singular reflexive pronoun *sich* in (22b), it becomes clear that the reflexive pronoun in (22b) is less specified than the personal pronoun in (22a). Thus only the personal pronoun is lexically specified as [+R].

- (22) a. *ihn* $\langle [+s, -p], [-1st\ p, -2nd\ p, +3rd\ p], [+m, -f, -n.], [-nom, +acc, -dat] \rangle$
 b. *sich* $\langle [\emptyset], [-1st\ p, -2nd\ p, +3rd\ p], [\emptyset], [+acc, +dat] \rangle$

The reflexive pronoun is not lexically specified for the feature [R]. Hence, [R]-specification depends on the inherent lexical properties of an element and the pronominal paradigm of a language. Pronominal elements with similar feature specifications are compared to each other, and only the element which is maximally underspecified is not inherently specified for [R]. We will argue in Section 5.5 that the feature [R] is relevant for A-chain formation in German (i.e. 'syntactic binding') and thereby for the interpretation of non-argument reflexives. Recall that the *General Condition on A-Chains* in (12) excludes A-chains that are not headed by a [+R]-expression. Consider, for example, the

personal pronoun *es* ('it'), which carries a full specification for Φ -features. It is specified as $\langle [+sing, -plur], [-1st\ p, -2nd\ p, +3rd\ p], [-masc, -fem, +neuter], [+nom, +acc, -dat] \rangle$ and hence $[+R]$. Therefore, *es* can be the subject of the impersonal middle construction in (23b) and of the weather verb in (23a). It can also be the head of a complex A-chain, which includes another pronominal element that is not specified as $[+R]$ (we come back to impersonal subjects in Section 5.6).

- (23) a. ... weil es_1 $sich_1$ einregnet
 ... because it- $[+R]$ RP- $[-R]$ PARTICLE.rains
 'The rain is settling in'
- b. Es_1 schläft $sich_1$ gut in diesem Bett
 It- $[+R]$ sleeps RP- $[-R]$ well in this bed
 'In this bed you can sleep well'
- c. Die Tür $_1$ öffnet $sich_1$
 The door- $[+R]$ opens RP- $[-R]$
 'The door opens'

We conclude that the semantic ambiguity of (weak) reflexive pronouns – or, more generally, of the elements that are least specified for Φ -features – results from the intrinsic lexical specification of these elements within the pronominal system of a language. Expressions that are not specified for $[R]$ can be either $[+R]$ or $[-R]$. This ambiguity seems to be a universal property of (weak) reflexive pronouns, which can also be observed in German. All reflexive pronouns in German are inherently underspecified for the feature $[R]$. As a consequence, they are ambiguous and can be used as $[+R]$ and as $[-R]$ -expressions. The GCC discussed in the previous section requires that reflexive pronouns that are $[+R]$ must head their own A-chain. Every A-chain is linked to a semantic argument. $[+R]$ reflexive pronouns thus yield the argument reflexive interpretation. In contrast, $[-R]$ reflexive pronouns cannot head their own chain. Instead, they must be included in another A-chain which is headed by a $[+R]$ -expression (cf. the examples in (23) above). The $[-R]$ reflexive pronoun yields the non-argument reflexive interpretation. The derivation of this ambiguity will be discussed in Section 5.5 in greater detail.

Recall that our approach differs from R&R's binding theory in two points: First, (weak) reflexive pronouns (or SE anaphors in R&R's terms) can but need not be $[-R]$ expressions. Second, German does not discriminate between $[+REFL]$ and $[-REFL]$ expressions. Because of this second difference, R&R's condition B in (9) above cannot apply to German. The next section deals with the final modification of R&R's binding theory. The semantic part of their

binding theory (i.e. condition B) will be replaced by Pollard and Sag's (1994) binding principle A.

5.4. O-command and o-binding in German

This final modification follows P&S (1994), who argue that the definition of binding should be based on the relative obliqueness of arguments. In the previous section we saw that the feature [REFL] is unnecessary in German. Therefore, we cannot apply R&R's binding condition B, repeated here as (24), to German.

(24) B: A reflexive semantic predicate is reflexive-marked

We replace binding condition B with P&S's condition on reflexive pronouns, which will be needed anyway to account for certain binding asymmetries in German. Vogel and Steinbach (1998, Footnote 20) argue that for German R&R's binding theory should be enriched with an obliqueness hierarchy along the lines of the binding theory of P&S (1994). Let us first introduce P&S's binding principles A and B.³⁰

(25) Principle A: A locally o-commanded anaphor must be locally o-bound
Principle B: A personal pronoun must be locally o-free

Local o-command and *local o-binding* are defined in the following way.

(26) *Definitions*

- a. Let Y and Z be synsem objects with distinct LOCAL values, Y referential. Then Y locally o-commands Z just in case Y is less oblique than Z.
- b. Y locally o-binds Z just in case Y and Z are coindexed and Y locally o-commands Z. If Z is not locally o-bound, then it is said to be locally o-free.

In P&S the relative obliqueness of grammatical functions is reflected by the order of the syntactic arguments on the SUBCAT list: a synsem object Y is less oblique than a synsem object Z iff Y precedes Z on the SUBCAT list of the same lexical head. Consider, for example, the following SUBCAT list in (27). The first synsem value can bind the second and the third one because NP [NOM] is less oblique than NP [ACC] and NP [DAT], and the second synsem value can bind the third one, but not vice versa. Hence, a dative NP (or indirect object) can be bound by an accusative NP (or direct object) and a nominative NP (or

subject), whereas an accusative NP can be bound only by a nominative NP. These binding asymmetries are illustrated below.

- (27) [SUBCAT < NP [NOM], NP [ACC], NP [DAT] >]

As opposed to P&S, we do not think that the obliqueness of arguments has to be fixed separately for each lexical entry. Instead, we assume the general obliqueness hierarchy for German.³¹ This asymmetry between nominative subjects and accusative and dative objects is manifested in various phenomena, which will be discussed in the next chapter.

- (28) *Obliqueness hierarchy*
 nominative (subject) > accusative object > dative object > other oblique objects

P&S lexical definition of obliqueness in (27) is also incompatible with our analysis of non-argument reflexives. Their theory requires a lexical derivation of non-argument reflexives because relative obliqueness is defined on the basis of SUBCAT lists. However, as we argued at length in Chapter 3, a lexical approach fails to account for non-argument reflexives. Especially impersonal middle constructions such as (29) can hardly be derived in the lexicon. Recall that middle constructions in German always select two syntactic arguments (a nominative subject and an accusative object), even if the basic verb subcategorizes only for one syntactic and semantic argument.

- (29) a. In diesem Bett schläft es sich gut
 In this bed sleeps it RP well
 'In this bed you can sleep well'
 b. schlafen <1>

A similar issue might be free dative objects in German. They are unlikely to be subcategorized for by the verb. They can be inserted rather freely and they are very often ambiguous between various interpretations such as, for example, possessor or beneficiary. Note that German also has multiple occurrences of dative objects (cf. Chapter 6).

- (30) a. Ich backe meiner Mutter einen Kuchen
 I bake my mother-DAT a cake-ACC
 'I bake a cake for my mother'
 b. Maria hat das Buch ihrem Vater auf den Tisch gelegt
 Maria has the book-ACC her father-DAT on the table put
 'Maria put the book on the table for her father' or
 'Maria put the book on her father's table'

Free datives show the same syntactic behavior and the same binding properties as ‘subcategorized’ dative objects. (31a) and (31b) illustrate that they can be asymmetrically bound by the nominative subject or accusative object of the same sentence and (31c) and (31d) illustrate that they asymmetrically bind more oblique objects. Again, a lexical binding theory based on the selectional properties of predicates fails to account for the binding properties of free dative objects.³²

- (31) a. Hans erzählte, dass Peter₁-NOM sich₁-DAT einen Kaffee machte
 a'. *Hans erzählte, dass dem Peter₁-DAT sich₁-NOM einen
 Hans told that the Peter RP a.cup.of
 Kaffee machte
 coffee-ACC made
 ‘Hans told that Peter made a cup of coffee for himself’
- b. Maria setzte die Kinder₁-ACC einander₁-DAT auf den Schoß
 b'. *Maria setzte den Kindern₁-DAT einander₁-ACC auf den Schoß
 Maria sat the children each.other on the lap
 ‘Maria sat the children on each other’s lap’
- c. Ich öffne ihr₁-DAT [über sich₁] die Augen
 c'. *Ich öffne [über sie₁] sich₁-DAT die Augen
 I open on her RP the eyes
 ‘I open her eyes to the truth’
- d. Ich habe ihr₁-DAT gestern die Wohnzimmerwand [mit sich₁ selbst] bemalt
 d'. *Ich habe [mit ihr₁] sich₁-DAT gestern die
 I have with her RP yesterday the
 Wohnzimmerwand bemalt
 living.room.wall painted
 ‘Yesterday, I painted her a picture of herself on the wall of the living room’

To summarize, the binding conditions for German should not be defined relative to lexical synsem objects, but to semantic arguments of predicates. In addition, the obliqueness hierarchy as stated in (28) does not depend on individual lexical entries, but is instead a general property of German. Before we formulate the final version of our binding theory, let us briefly discuss the relevant examples that illustrate the asymmetry in binding relations in German.

Consider first simple two-place predicates. The examples show that a nominative subject can bind less oblique objects such as, for example, the accusative object in (32a) or the dative objects in (32b). Both examples include an argu-

ment reflexive. Additionally, accusative reflexive pronouns need not be linked to a semantic argument of the verb (cf. the anticausative in (32c)). The accusative object can also be bound in resultative constructions like (32d) by the subject. In resultatives, the accusative object is linked to a semantic argument of the complex resultative predicate.

- (32) a. Heidi₁ wäscht sich₁ nie
 Heidi-NOM washes RP-ACC never
 ‘Heidi never washes herself’
- b. Helmut₁ widerspricht sich₁
 Helmut-NOM contradicts RP-DAT
 ‘Helmut contradicts himself’
- c. Das Fenster₁ öffnet sich₁
 The window opens RP-ACC
 ‘The window opens’
- d. Peter₁ trinkt sich₁ unter den Tisch
 Peter drinks RP-ACC under the table
 ‘Peter drinks himself under the table’

The nominative subject can also bind a dative object in ditransitive clauses like (33). In this case, binding across a less oblique accusative object is possible because the relation ‘x is less oblique than y’ is transitive.

- (33) Der Manager₁ überwies sich₁ das ganze Geld auf das
 The manager transferred RP-DAT the whole money to the
 Konto
 bank.account
 ‘The manager transferred all the money to his bank account’

It is a well known fact that in German accusative objects can bind dative objects but not vice versa as can be seen in (34) (cf. Grewendorf 1988, Müller 1993 and Vogel and Steinbach 1998). This is correctly predicted by the obliqueness hierarchy in (28).

- (34) a. Gestern hat man die Gäste₁ einander₁ vorgestellt
 Yesterday has one the guests-ACC each.other-DAT introduced
 ‘Yesterday the guests were introduced to each other’
- b. *Gestern hat man den Gästen₁ einander₁ vorgestellt
 Yesterday has one the guests-DAT each.other-ACC introduced

The examples in (35) illustrate that accusative and dative objects can asymmetrically bind other more oblique objects. We have already seen in (31) that free datives equal subcategorized datives in this respect.

- (35) a. Er brachte den Jungen₁ zu sich₁
 He brought the boy-ACC to RP
 'He brought the boy round'
- b. *Er brachte zu dem Jungen₁ sich₁
 He brought to the boy RP-ACC
- c. ... weil (es) den beiden Henkern₁ vor einander₁
 ... because (it) the two executioners-DAT of each.other
 graute
 dreaded
 '... because the two executioners dreaded each other'
- d. *... weil (es) vor den beiden Henkern₁ einander₁
 ... because (it) of the two executioners each.other-DAT
 graute
 dreaded

Note that an explanation that relies on R&R's (1993) binding condition B (a reflexive semantic predicate is reflexive-marked) would incorrectly predict that both sentences should be grammatical because condition B does not refer to an order of obliqueness. Thus even if we would relate our explanation to R&R's original version of the binding theory, which we discussed in Section 5.2, an additional condition on the obliqueness of arguments would be necessary.

The next kind of example can be found in P&S (1994:275f.). In German, like in English, a reflexive pronoun included in a *von*-phrase ('by'-phrase) can be bound by the subject of the sentence but not vice versa ('PAS' stands for the passive auxiliary).

- (36) a. The only barber who was shaved by himself was Figaro
- b. Kater Karlo und Zwerg Zwetschge waren die einzigen
 Kater Karlo and Zwerg Zwetschge were the only
 Ganoven, die₁ jemals von sich₁ (selbst) /* ihnen₁ ausgeraubt
 crooks that ever by RP (SELBST)/ them robbed
 wurden
 PAS
 'The only crooks who were ever robbed by themselves were Kater
 Karlo and Zwerg Zwetschge'
- c. Helmut₁ wurde wieder nur von sich₁ (selbst) /* ihm₁
 Helmut PAS again only by RP (SELBST)/ him
 gewählt
 voted.for
 'The only one who voted for Helmut was Helmut himself'

- d. Die BRD₁ sieht sich_{1/*2} von der DDR₂ betrogen
 The FRG sees RP by the GDR cheated
 (cf. Grewendorf 1983)
 ‘West Germany believes to be cheated by East Germany’

These examples clearly show that o-command must be defined relative to case (or grammatical relations) instead of thematic roles. A binding theory based on a thematic hierarchy cannot account for the reflexive pronoun in (34).³³ A similar situation can be found in embedded passives in ECM-constructions as (34d). Again, the agent of the embedded clause (*von der DDR* ‘by the GDR’) cannot bind the theme/patient, although the reflexive pronoun receives accusative instead of nominative case and is thus not excluded for case reasons.

Finally, we come to ECM- (or A.c.I.-) constructions. German has only a few ECM- (or A.c.I.-) verbs such as, for example, some verbs of perception like *sehen* (‘see’) and *hören* (‘hear’) and the verb *lassen* (‘let’/‘have s.o. do s.th.’), which assign accusative case to the embedded subject. The following brief discussion will be limited to verbs of perception.³⁴ ECM-constructions are a particularly interesting case for two reasons. First, the ECM-subject can be bound by the matrix subject. Second, the embedded object can only be bound by the ECM-subject, although the latter is not less oblique than the embedded subject. Both the binder and the reflexive pronoun are assigned accusative case.³⁵

- (37) a. In ihrem Traum sah die Frau₁ sich₁ den Geliebten
 In her dream saw the woman-NOM RP-ACC the sweetheart-ACC
 waschen
 wash
 ‘In her dream the woman saw herself washing her sweetheart’
 b. In ihrem Traum sah die Frau₁ den Geliebten₂ sich_{*1/2}
 In her dream saw the woman-NOM the sweetheart-ACC RP-ACC
 waschen
 wash
 ‘In her dream the woman saw her sweetheart washing himself’
 c. Im Traum sah der Mann₁ die Politiker₂ wieder
 In.the dream saw the man-NOM the politicians-ACC once
 mal nur sich_{*1/2} helfen
 again only RP-DAT help
 ‘In a dream the man saw the politicians once again helping only themselves’

Let us first turn to the matrix clause. Recall that R&R argue that the ECM-subject (the reflexive pronoun in (37a)) is a syntactic argument of the ma-

trix verb because it assigns accusative case to the ECM-subject. However, the ECM-subject is not only a syntactic, but also a semantic argument of the matrix verb.³⁶ Consider the following contrast: The ECM-construction in (38a) obligatorily implies that Peter sees the father. In contrast, the complementizer-initial embedded clause in (38b) does not necessarily trigger this implication. (38b) can also mean that Peter realizes that the father took the baby for a walk because he and the baby carriage are gone. The same contrast can also be found in (38c) and (38d) for the verb *hören* ('hear'). Sentence (38d) can, for example, mean that Peter was told that the president sings or will sing. This interpretation is blocked for (38c).

- (38) a. Peter sieht den Vater mit dem Kind spazieren gehen
 Peter sees the father-ACC with the child stroll go
 'Peter sees the father taking the baby for a walk'
 → Peter sees the father
- b. Peter sieht, dass der Vater mit dem Kind spazieren geht
 Peter sees that the father-NOM with the child stroll go
 'Peter sees that the father took the baby for a walk'
 - / → Peter sees the father
- c. Peter hört den Präsidenten singen
 Peter hears the president-ACC sing
 'Peter hears the president singing'
 → Peter hears the president
- d. Peter hört, dass der Präsident singt
 Peter hears that the president-NOM sings
 'Peter hears that the president sings'
 - / → Peter hears the president

Likewise, negation in the ECM-construction implies that the subject of the matrix clause does not see or hear the ECM-subject at all. As opposed to (39a), (39b) does not imply that Peter did not see Hans. Only the latter sentence can be uttered in a situation where Peter is sitting next to Hans in the living room.³⁷

- (39) a. Peter sieht den Hans nicht im Garten spielen
 Peter sees the Hans-ACC not in.the garden play
 'Peter does not see Hans playing in the garden'
 → Peter does not see Hans
- b. Peter sieht, dass der Hans nicht im Garten spielt
 Peter sees that the Hans-NOM not in.the garden plays
 'Peter sees that Hans does not play in the garden'
 - / → Peter does not see Hans

We conclude that in ECM-constructions the matrix object is not only a syntactic but also a semantic argument of the matrix verb. The ECM-subject can be bound by the matrix subject because they are co-arguments of the matrix predicate (*sehen* or *hören*) and the matrix subject is less oblique than the ECM-subject. Hence, the binding relations in the matrix clause follow from the obliqueness hierarchy proposed in (28) above.

We complete the discussion with the embedded clause of ECM-constructions. (37b) above and the similar example in (40) illustrate that the embedded object can only be bound by the ECM-subject. Recall that the ECM-subject is also a semantic argument of the embedded predicate. Hence, binding should be possible. However, the antecedent is not less oblique than the reflexive pronoun because both arguments are assigned accusative case. These examples demonstrate that *o*-command must not be defined relative to less oblique constituents. Instead, a constituent *X* *o*-commands a constituent *Y* iff *X* is not more oblique than *Y*. Thus, the antecedent must not be more oblique than the reflexive pronoun. This modification would also be necessary for the original version of P&S's binding theory provided that we assume the general obliqueness hierarchy in (28) for German. In the next chapter we give further evidence for a general obliqueness hierarchy in German.³⁸

- (40) Peter₂ sah den Barbier₁ sich_{1/*2} rasieren
 Peter saw the barber RP-ACC shave
 'Peter saw the barber shaving himself'

We are now in the position to define the final version of our binding theory for German. (41) illustrates the different kinds of arguments and the relevant binding relations we define for German in (42).³⁹

- (41) Syntactic, semantic and logophoric binding in German

	Reflexive pronoun	Binding condition	Interpretation
i.	syntactic argument	GCC, cf. (42.1)	non-argument
ii.	semantic argument	Principle A, cf. (42.2) and (42.3)	argument
iii.	logophoric	exempt from Principle A, cf. (42.2)	argument

Note that (ii) deals with the standard examples of binding – argument reflexives that are coreferent to another argument of the same predicate –, while (iii) accounts for the examples we discussed in Section 5.1. The only purely syntactic condition in (i) explains the distribution of non-argument reflexives in German, which accounts for the ambiguity of the middle marker in German. The distinction between (i) and (ii) is based on the observation that (weak) reflexive

pronouns are lexically underspecified for the feature [R]. Syntactic arguments are defined on the basis of structural case: only NPs that are structurally case-marked (or that check a structural case-feature) count as A-elements. Hence, not all semantic arguments of a verb are also syntactic arguments: dative objects, *mit*-phrases, *für*-phrases, and *von*-phrases among others are A'-elements in syntax that can be arguments of the verb in semantics. Grimshaw (1990) calls these elements argument-adjuncts (see also Section 6.2.3 below). The structural (or configurational) binding in (i) and (42.1) below will be relevant for the analysis of non-argument reflexives in the following section. [-R] reflexive pronouns that check structural case must be included in an A-chain headed by a [+R]-expression because they are subject to the GCC. The distribution of [+R] reflexive pronouns is generally controlled by principle A. Either they are locally o-commanded or they are logophoric. Our binding theory is summarized in (42).

(42) 1. *General Condition on A-Chains (GCC)*

A maximal A-chain contains exactly one link – α_1 – that is both [+R] and case-marked.

Definitions

- a. A maximal A-chain is any sequence of coindexation of syntactic arguments that satisfies antecedent government.
- b. The syntactic arguments of P are the chains that are assigned structural case in the extended projections of P.

2. *Binding principles*

Principle A: A locally o-commanded reflexive pronoun must be locally o-bound.

Principle B: A personal pronoun must be locally o-free.

Definitions

- a. Let Y and Z be different semantic arguments of the same predicate, Y referential. Then Y *locally o-commands* Z just in case the syntactic constituent Y is linked to is not more oblique than the syntactic constituent Z is linked to.
- b. Y *locally o-binds* Z just in case Y and Z are coindexed and Y locally o-commands Z. If Z is not locally o-bound, then it is said to be locally o-free.

3. *Obliqueness hierarchy in German*

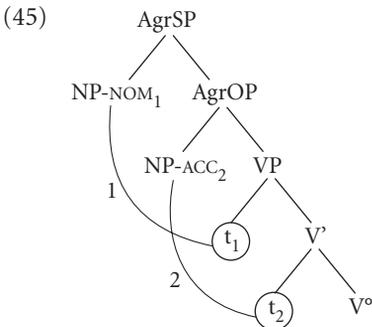
nominative (subject) > accusative (direct) object > dative (indirect) object > other oblique objects

5.5. The interpretation of accusative reflexive pronouns

Having defined the conditions on o-binding and A-chain formation, we can now turn to the interpretation of accusative reflexive pronouns in object position. In this section we turn to the first ambiguity of accusative reflexive pronouns illustrated in Figure (1) above. The accusative reflexive pronoun can, but need not, be linked to a semantic argument of the verb. The relevant examples are repeated in (43) and (44). We will argue that this ambiguity can be derived from the binding theory defined in (42) above. The second ambiguity between (44a) and (44b), which results from the interpretation of the implicit argument (i.e. argument saturation vs. argument reduction), will be discussed in the next chapter. This ambiguity is not directly related to the interpretation of the accusative reflexive pronoun.

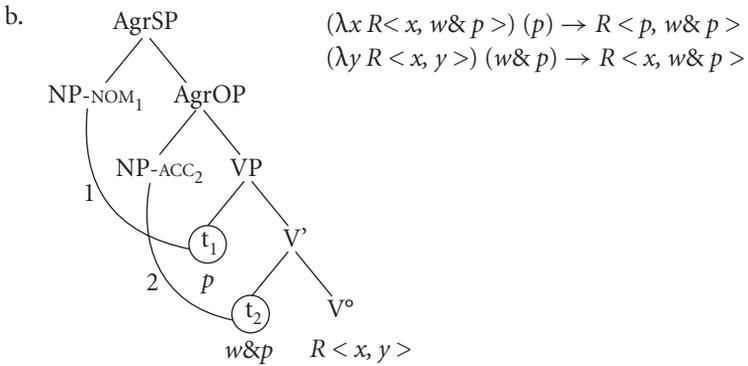
- (43) a. Peter wäscht sich (argument reflexive)
 Peter-NOM washes RP-ACC
 ‘Peter is washing himself’
- (44) a. Das Buch liest sich gut (non-argument reflexive,
 The book-NOM reads RP-ACC well argument saturation)
 ‘The book reads well’
- b. Die Tür öffnet sich (non-argument reflexive,
 The door-NOM opens RP-ACC argument reduction)
 ‘The door opens’

According to Chomsky (1995), an NP must check its (structural) case feature in the extended projection of V (cf. also Chapter 4 above).⁴⁰ In German, only nominative and accusative cases are structural. An accusative object moves to AgrOP,Spec and a nominative subject to AgrSP,Spec.⁴¹ Hence, A-movement creates two A-chains in a transitive sentence, as illustrated in the corresponding structure in (45).



In (45) both A-chains check their case-feature in the head-position and they are interpreted in the tail- (or base-)position. Both chains are headed by a [+R]-expression, which is linked via the base position to a semantic argument of the verb. Chain number 1 is interpreted in its VP-internal position t_1 , i.e. VP,Spec. This position is always linked to the first argument of the verb.⁴² Chain number 2 is interpreted in t_2 , the complement-position of V° . This position is linked to the second argument of the verb. Consider the following simple transitive sentence without a reflexive pronoun (in the following presentation semantic terms are written in italics, and all NPs are interpreted as individual type variables for the sake of simplicity).

(46) a. Peter read 'War and Peace'

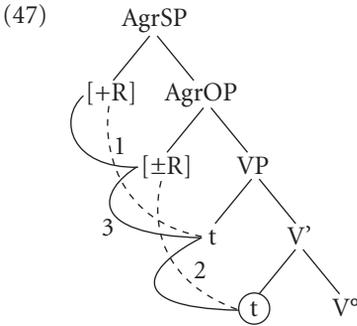


Note that in German the linking-principles for syntactic arguments are very simple:

- i. Spec of VP is linked to the first argument, and
- ii. the complement position of V° is linked to the second argument.

In the next chapter we will return to these two principles. Let us now turn to reflexive pronouns in AgrOP,Spec. Recall that reflexive pronouns are not lexically specified for the feature [R]. They can therefore be either [+R] or [-R]. According to the *General Condition on A-Chains* (GCC), only the latter must be a proper part of a maximal A-chain that is headed by another A-element which is specified as [+R]. The [-R] reflexive pronoun is forced to form a chain with the nominative subject. Otherwise the resulting syntactic structure would be ungrammatical. Thus whenever the second A-chain in (47) – chain 2 with dotted lines – is headed by a [-R]-expression, it must be coindexed with the first chain, which results in the complex A-chain 3. This complex A-chain meets the GCC because it is headed by a [+R]-expression in AgrSP,Spec. On the other hand,

chain 2 in (46) must not be coindexed with chain 1 if the former is headed by a [+R] reflexive pronoun. Otherwise this would lead to a violation of the GCC, which excludes A-chains that contain two [+R]-expressions.⁴³



As a consequence, the [-R] reflexive pronoun must be included in a complex A-chain, the head of which is linked via the chain’s VP-internal base position t_1 (i.e. the complement position of V°) to the second argument of the verb. Thus the complex A-chain 3 is always linked to the second argument of the verb. The verb’s first argument cannot be linked to syntax because VP,Spec is only an intermediate link of chain 3. Unlike [-R] reflexive pronouns, [+R] reflexive pronouns head an A-chain of their own, and both A-chains are linked to the first and second argument position respectively.

To summarize, an accusative reflexive pronoun in object position can either head its own chain or be included in another (complex) A-chain, which is headed by a [+R]-expression. According to the GCC, the former option is only available for [+R] reflexive pronouns, and the latter one for [-R] reflexive pronouns. Thus the reflexive pronoun can be linked to a semantic argument only if it heads its own chain. The ambiguity of accusative reflexive pronouns is illustrated in the second and third line of (48).

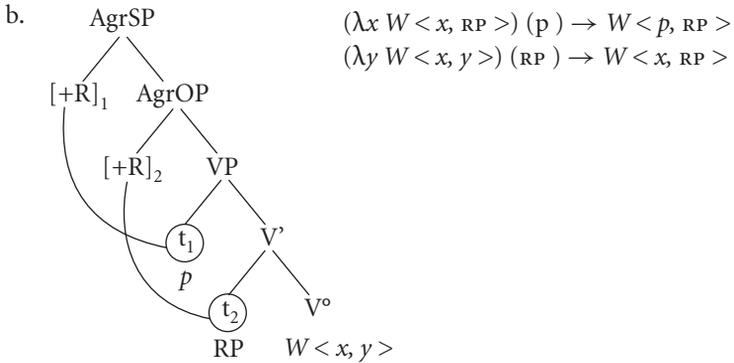
(48) A-chains and [\pm R]-expressions in German

	syntax	semantics
a. simple chain	[+R, NP] — [-R, TRACE]	1 argument
b. complex chain	[+R, NP] — [-R, RP] — [-R, TRACE] — [-R, TRACE]	1 argument
c. two chains	[+R, NP] — [-R, TRACE]; [+R, RP] — [-R, TRACE]	2 arguments
d. two chains	[+R, NP] — [-R, TRACE]; [+R, NP] — [-R, TRACE]	2 arguments

Let us first take a closer look at [+R] reflexive pronouns. The GCC predicts that the reflexive pronoun must be the head of an A-chain if it is specified

as [+R]. The resulting syntactic representation in (49) equals the one in (46) above. Both structures contain two A-chains that are each linked to a semantic argument. The reflexive pronoun is linked to the second semantic argument of the two-place verb and the subject to the first one.

- (49) a. Peter wäscht sich
 Peter washes RP-ACC
 ‘Peter is washing himself’



Hence, the [+R] reflexive pronoun is itself linked to a semantic argument and it must be bound by another argument of the same predicate. Recall the binding principles from the previous section, which are defined relative to semantic arguments. Principle A states that a locally o-commanded reflexive pronoun must be locally o-bound, i.e. it must be bound by a co-argument that is not more oblique than the reflexive pronoun itself. In (49) the subject is less oblique than the reflexive pronoun. It thus locally o-commands and locally o-binds the reflexive pronoun. Both arguments are therefore coindexed.

- (50) $W < p_i, RP_i >$

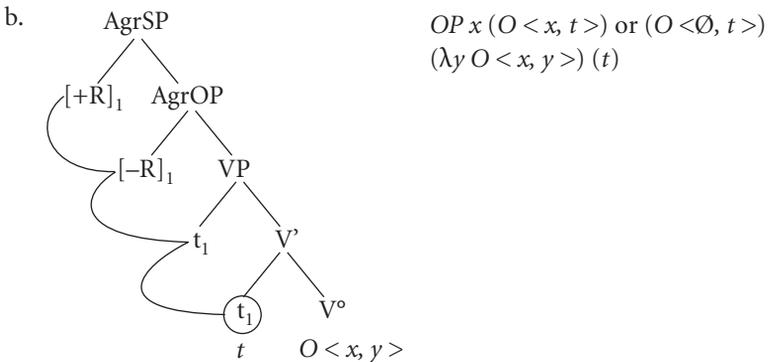
Reinhart (1983) defines a translation mechanism for bound reflexive pronouns.⁴⁴ Unlike Reinhart (1983), our approach relates binding to semantic co-arguments. Therefore, we assume that Φ in (51) is a semantic predicate. Rule (51) thus operates on a semantic predicate Φ . It λ -abstracts on the antecedent (a referential expression) and converts all arguments that are coindexed with the antecedent into variables bound by the λ -operator. The final semantic representation of sentence (49) is given in (52).

- (51) Interpretation of bound variables (following Reinhart 1983)
 $[\Phi] \Rightarrow [\beta (\lambda x (\Phi^\beta / x))]$

(52) $(\lambda x W < x, x >)$ (p)

So far, our theory predicts the correct semantic representation for argument reflexives. In the next step we derive the interpretation of non-argument reflexives. We have already seen that [-R] reflexive pronouns, unlike their [+R] counterparts, must be included in another more complex A-chain that is headed by a [+R]-expression. This complex A-chain is again interpreted in its base position, the complement of V° , which corresponds to the second argument position of the verb. Note that in (53) VP,Spec cannot be linked to a semantic argument because it is not the base position of the complex A-chain. The only [+R]-expression included in the complex A-chain is linked to the second argument. Therefore, the first argument position of the verb cannot be linked to syntax. We will argue in the next chapter that the implicit semantic argument can either be reduced or saturated. Argument reduction removes the free argument variable from the semantic representation, while argument saturation binds the argument variable ('OP' stands for operator in middle constructions and ' \emptyset ' for the deleted first argument in anticausatives).

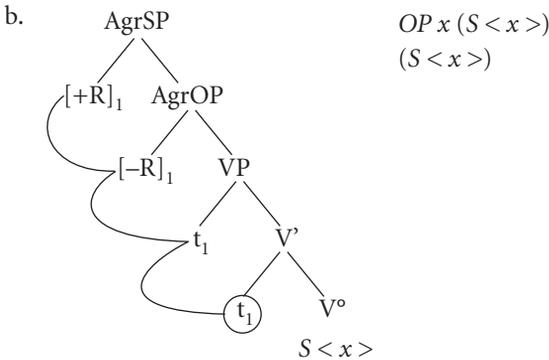
(53) a. Die Tür öffnet sich
The door opens RP-ACC
'The door opens'



Impersonal middles can be derived in the same way. In (54) the reflexive pronoun is bound by a [+R]-element, the impersonal subject *es* ('it') in Spec of AgrSP. We mentioned in Chapter 4 that this [+R]-element might be base-generated in the VP-internal subject-position because a VP must contain at least one [+R]-expression. Structure (54) contains one complex A-chain, which must be linked again to the second argument of the verb. However, the impersonal subject *es* cannot be linked to a semantic argument. Although it is not maximally underspecified, it is only a quasi-argument that is not inter-

preted in semantics. Note that the impersonal subject, which bears the default values third person singular neuter, is the nominative counterpart of the non-argument reflexive. Within the nominative paradigm, the third person singular personal pronoun *es* is the ‘weakest’ element. It can therefore be used as a pleonastic element or dummy that fulfills various syntactic functions.⁴⁵ As a consequence, the A-chain is not linked to the second argument of the verb. Note, however, that the A-chain is not superfluous in impersonal middle constructions. Its purpose is to prevent the first and sole argument of the one-place predicate, which must be bound by a semantic operator (argument saturation), from linking to syntax. Argument reduction is impossible because the sole argument of a one-place predicate cannot be deleted (cf. Chapter 6 for further discussion). In structure (54b) we omit the adverb and the PP, which will both be discussed in Chapter 7 (cf. also Section 4.1, example (11.2)).

- (54) a. Es schläft sich (gut in diesem Bett)
 It sleeps RP-ACC (well in this bed)
 ‘(In this bed) you can sleep (well)’



We conclude this section with a final remark about ECM-constructions. Our analysis predicts that the non-argument reflexive can also occur in ECM-constructions. This seems to be correct. Reflexive pronouns in ECM-constructions show the same ambiguity between an argument and a non-argument interpretation. An embedded $[-R]$ reflexive pronoun can form an A-chain with the ECM-subject, and a $[-R]$ reflexive pronoun in the position of the ECM-subject (i.e. the accusative object of the matrix clause) is governed by the matrix subject. Thus the reflexive pronoun in both positions can be included in a maximal A-chain that is headed by a $[+R]$ -expression. The examples in (55) illustrate the ambiguity between argument and non-argument reflexives for accusative reflexive pronouns in the embedded bare infinitive.

- (55) [_{CP} NP-NOM V [[+R]-NP-ACC₁ [±R]-RP-ACC₁ V]]
- a. Der Engel sah Maria₁ sich₁ kämmen
 The angel saw Maria-ACC RP-ACC comb
 ‘The angel saw Maria comb’ (argument reflexive)
- b. Peter hörte die Tür₁ sich₁ öffnen
 Peter heard the door-ACC RP-ACC open
 ‘Peter heard that the door opened’ (non-argument reflexive)
- c. Hans sah den Fjord₁ sich₁ verengen
 Hans saw the fiord-ACC RP-ACC narrow
 ‘Hans saw that the fiord narrowed’ (non-argument reflexive)

In the position of the ECM-subject non-argument reflexives are harder to find. Recall that German has only few ECM-verbs. The best example for non-argument reflexives in this position is provided by so-called *lassen*-middles (cf. Fagan 1992). *Lassen* (‘let’/‘have s.o. do s.th.’) permits non-argument reflexives in the position of the ECM-subject, as illustrated in (56c).⁴⁶ By contrast, verbs of perception like *sehen* (‘see’) do not form perfect middle constructions. Besides, they cannot undergo anticausative formation (cf. next chapter for a discussion of the semantics of anticausatives). Nevertheless, the ECM-middle construction in (56b) seems to be as acceptable as the corresponding simple middle construction (56b’).

- (56) [_{CP} NP-NOM₁ V [[±R]-RP-ACC₁ NP-ACC V]]
- a. Im Spiegel sieht der Engel sich Maria waschen
 In.the mirror sees the angel RP Maria wash
 (argument reflexive)
- b. [?]Von hier aus sieht sich der gegnerische Stürmer viel besser
 From here sees RP the opposing forward much better
 den Elfmeter schießen (non-argument reflexive)
 the penalty take
- b’. [?]Von hier aus sieht sich das gegnerische Tor viel besser
 From here sees RP the opponent’s goal much better
- c. Das Buch lässt sich einfach lesen (non-argument reflexive)
 The book lets RP easily read
 ‘The book is easy to read’

We have argued in this section that the non-argument interpretation of the accusative reflexive pronoun in the position of the accusative object depends solely on A-chain formation. According to the GCC, an A-chain must be headed by a [+R]-expression. Therefore, a [−R]-expression cannot be the head of an A-chain. A non-argument reflexive (i.e. a [−R]-expression) in the posi-

tion of the accusative object is forced to form an A-chain with the nominative subject. By contrast, argument reflexives are [+R]-expressions, which must be the head of their own chain. We have also seen that every A-chain is linked to a semantic argument of the verb. Therefore, both the subject and the accusative object can only be linked to a semantic argument if transitive reflexive sentences contain an argument reflexive. Transitive reflexive sentences introduce two argument variables into the semantic representation only if they contain a [+R] argument reflexive. Transitive reflexive sentences containing a [-R] non-argument reflexive introduce only one argument variable. Tables (57) and (58) summarize the possible interpretations of one- and two-place predicates in transitive, intransitive and transitive reflexive sentences in German (again ‘OP’ stands for semantic operator).

(57) Transitive active sentences in German

subject _{NOM}	verb	object _{ACC}	argument linking	semantics
XP ₍₁₎	V	YP/RP ₁ [+R]	subject → 1st argument object → 2nd argument	
Peter	wäscht	Hans	(non-reflexive)	V < x, y >
Peter	wäscht	sich	(reflexive)	V < x, x >
YP ₁	V	RP ₁ [-R]	subject → 2 nd argument object → ∅	
Die Tür	öffnet	sich	(anticausative)	V < ∅, y >
Das Buch	liest	sich	(personal middle construction)	V < OP x, y >
YP ₁	V	RP ₁ [-R]	subject → ∅ object → ∅	
Es	tanzt	sich	(impersonal middle construction)	V < OP x >

(58) Intransitive active sentences in German

subject _{NOM}	verb	argument linking	semantics
XP	V	subject → 1st argument	
Peter	trinkt	(implicit 2nd argument)	V < x, OP y >
XP	V	subject → 1st argument	
Peter	schläft	(unergative)	V < x >
Peter	erwacht	(unaccusative)	V << x >>
XP _{it}	V	subject → ∅	
Es	regnet	(weather verb)	V < ∅ >

5.6. Weak and strong reflexive pronouns revisited

Recall from Sections 2.3 and 5.3 that, as opposed to German, most Indo-European languages distinguish not only personal pronouns from reflexive pronouns, but also weak from strong reflexive pronouns. Weak reflexive forms are generally less specified than their strong counterparts. They are the morphologically ‘weaker’ expressions. Consider (59) for this distinction.

(59) Weak and strong reflexive pronouns

language	weak form	example	strong form	example
English	zero	(\emptyset)	complex word	(him-/her-/itself)
Russian	verbal affix	(-sja)	word	(sebjja)
French	verbal clitic	(se)	complex word	(lui-/elle-/soi-même)
Dutch	simple word	(zich)	complex word	(zichzelf)

Only the weak reflexive form is ambiguous between an argument and a non-argument reading (cf. the examples in Section 2.3 above). In addition, the weak form permits a reflexive interpretation only with certain verbs that describe actions of grooming or body care or change in body posture (cf. Kemmer 1993: Chapter 3). The relevant examples from Dutch are repeated in (60).

- (60) a. Max₁ gedraagt zich₁ / *zichzelf₁
 Max behaves SE / SELF
- b. Max₁ wast zich₁ / zichzelf₁
 Max washes SE / SELF
- c. Max₁ hoorde *zich₁ / zichzelf₁
 Max heard SE / SELF

The binding theory we defined in Section 5.4 for German, a one-form language, does not make reference to the feature [\pm REFL], which is responsible for the distinction between weak and strong reflexive pronouns in R&R’s theory. We are therefore interested in whether we can build a bridge between one-form languages and two-form languages which accounts for the different distribution of weak and strong reflexive pronouns within our framework. In a one-form language like German, a reflexive pronoun (in A-position) can but need not be linked to a semantic argument of the verb. The restrictions on focus, fronting, and coordination of the reflexive pronoun can be derived from its semantic ambiguity (cf. Chapter 4). This is slightly different in two-form languages.

Recall that traditional binding theory distinguishes between local and non-local binding. This distinction correlates with the morphological distinction between reflexive and personal pronouns. Weak and strong reflexive pronouns must both be locally bound, i.e. they are subject to the same binding principle of traditional binding theory. Additional constraints are necessary to derive the distribution of weak and strong reflexive pronouns. According to the theory developed in this chapter, only weak reflexive pronouns are not specified for [R]. They can be either syntactically (A-chain formation) or semantically (Principle A) bound. Strong reflexive pronouns are always subject to Principle A. Although both weak and strong reflexive pronouns are subject to Principle A of our binding theory, they are not always interchangeable.

Consider first that strong reflexive pronouns are always linked to an argument of the verb. Strong reflexive pronouns are lexically specified as [+R]. As opposed to this, weak reflexive pronouns can but need not be linked. The Φ -features of weak forms are maximally underspecified. Like the reflexive pronoun in German, weak forms can be [+R] and [-R]. Therefore they must be used in contexts that require a non-argument reflexive, i.e. inherent reflexive verbs, anticausatives, middle constructions, and passives (cf. Section 2.3). The strong form is thus excluded in example (60a). We turn now to examples (60b) and (60c). R&R assume that verbs like *wassen* ('wash') have two distinct lexical entries: *wassen*₁ is specified as [-REFL] and *wassen*₂ as [+REFL]. As opposed to *wassen*, *horen* ('hear') is only specified as [-REFL]. We, however, argue that the difference between verbs like *wassen*, on the one hand, and *horen*, on the other hand, need not be stipulated in the lexicon. It can be derived from our conceptual knowledge about events of washing and events of hearing. The weak form of the reflexive pronoun can only be used if the verb describes an action or event that is very likely to be reflexive, i.e. if both the hearer and the speaker expect only one participant. Whenever two (different) participants are expected, the strong form must be used. Unlike the weak form, the strong form seems to be intrinsically contrastive (and because of this it must always be linked to an argument variable).⁴⁷ The strong reflexive pronoun must be used in (60c) because *horen* is not expected to be reflexive.⁴⁸

We conclude this discussion with a final remark on the feature [REFL], although much more should be said about the morphological properties of weak and strong reflexive pronouns and their distribution in different languages. Let us assume that we made a distinction between [+REFL] and [-REFL] reflexive pronouns/anaphors in German as well, contrary to what we said in Section 5.3. Under this assumption the weak and the strong forms in German would be homophones. In addition, it is the [-REFL] form that must be used in inherent

reflexives, anticausatives, middle constructions, and with verbs like *waschen*, which are likely to be reflexive (cf. Section 5.2 above). Hence, all verbs that occur in middle constructions and anticausatives must be lexically reflexive in order to license the weak [-REFL] form. As a consequence, nearly every verb in German would have to be lexically specified for both features [+REFL] and [-REFL].⁴⁹ Nearly every verb would have to be listed in the lexicon twice (as [-REFL] and [+REFL]) in order to meet condition A of R&R's binding theory. But this kind of specification is redundant. Recall that we argued against a lexical derivation of middle constructions in German. Hence, there is no lexical rule that transforms non-reflexive verbs into lexically reflexive 'middle verbs'. The same is true for two-form languages like Russian which also have reflexive passives.⁵⁰ Note finally that R&R's version of the binding theory does not account for the fact that weak reflexive pronouns (or, in R&R's terminology, SE anaphors) are ambiguous between an argument and a non-argument interpretation.

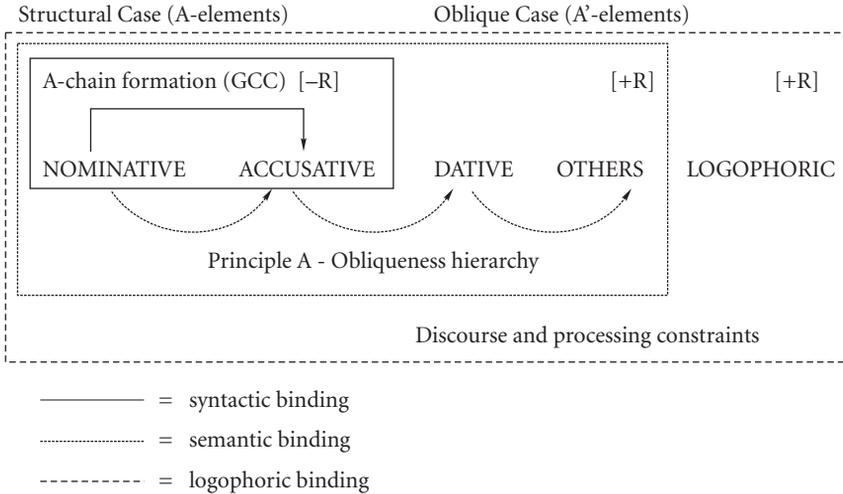
5.7. Conclusion

In the first part of this chapter we argued that binding theory should be defined relative to syntactic and semantic arguments of a verb. Only NPs that are assigned nominative and accusative case are syntactic arguments (A-expressions) in German. In addition, reflexive pronouns are not lexically specified for the feature [R]. They can therefore be bound either in syntax (i.e. [-R]-reflexives) or in semantics (i.e. [+R]-reflexives). Finally, reflexive pronouns that cannot be bound by a co-argument of the same predicate are exempt from binding. This leads to the following threefold picture of binding.

- i. syntactic binding (A-chain formation, restricted to accusative [-R]-RP)
- ii. semantic binding (o-binding, restricted to [+R]-RPs and co-arguments of a predicate)
- iii. logophoric binding (restricted to reflexive pronouns that are exempt from (i) and (ii))

These three aspects of binding are illustrated in the following figure.

(61) Syntactic, semantic, and logophoric binding in German



In the second part of this chapter we demonstrated that a theory which is based on A-chain formation and the distinction between $[\pm R]$ reflexive pronouns correctly predicts the ambiguity of accusative reflexive pronouns in object position. Furthermore, our analysis correctly accounts for both essential features of middle markers in German: A middle marker must be assigned structural case, and it must be a reflexive pronoun. Thus, we are now in the position to derive the observation we made in Chapter 2:

- (62) Only a reflexive pronoun in the position of the accusative object is a middle marker in German

Recall that it is only the accusative reflexive pronoun in object position that can be either a $[+R]$ syntactic argument or a $[-R]$ syntactic argument, which must be bound by another syntactic argument in syntax. We postulated the following two simple linking-principles for syntactic arguments in German. According to (63) every (simple or complex) A-chain is linked to exactly one semantic argument and thus receives exactly one thematic role. This corresponds to the first part of the theta-criterion. The only well-defined exception from this generalization are A-chains which are dominated by the impersonal subject *es*.

- (63) a. Spec of VP is linked to the first argument of the verb
 b. The complement of V° is linked to the second argument of the verb

According to our analysis, middle formation is primarily an operation of argument suppression rather than of argument promotion. We argued that the linking of the first semantic argument is blocked by complex A-chain formation. The promotion of the second argument is a consequence of the suppression of the first semantic argument in subject-oriented languages such as German (cf. also Fagan 1992:243). In impersonal middle constructions argument promotion is impossible because one-place predicates do not select a second argument, which can be promoted. Hence, impersonal middle constructions involve only suppression of the first semantic argument. The crucial properties of middle formation in German are summarized in (64).

- (64) Middle and anticausative formation in German: The subject and the accusative reflexive pronoun in object position form a complex A-chain,
- i. which blocks linking of the first semantic argument of the verb because an intermediate link of the complex A-chain occupies VP_{Spec}.
 - ii. which is linked to the second semantic argument of the verb if it selects two semantic arguments (personal middle constructions), or which is not linked to a semantic argument of the verb if it only selects one semantic argument (impersonal middle constructions).

In the next chapter we turn first to the difference between middle constructions and anticausatives. We also briefly discuss some consequences of the linking-principles in (65) for the analysis of unaccusatives. In the second part we give empirical evidence for a distinction between structural and oblique case in German. We argue that dative case is not structural but oblique. As a consequence, dative objects cannot undergo middle formation in German. Dative reflexive pronouns are always interpreted as a semantic argument of the verb, and they must be bound by another co-argument which must not be more oblique.

Notes

1. In the following presentation, we mostly use only the third person singular form.

2. We are not interested in personal pronouns, possessive pronouns, and R-expressions. In languages like German and English, personal possessive pronouns are ambiguous between a bound variable interpretation and pragmatic coreference (cf. e.g. Reinhart 1983 and 1991), while other languages also have reflexive possessive pronouns. In the following presentation, we ignore this issue as well as the status of Chomsky's binding principle C. Additional issues of binding theory that are irrelevant for the problem under discussion are long distance anaphors, reciprocal pronouns, distributive vs. collective interpretations of plural antecedents, or different kinds of conceptualization of binding relations – e.g. the body or body parts, personality, pictures, reflections, images or statues. For a discussion of pragmatic aspects of binding see Levinson (2000: Chapter 4).

3. In Chomsky (1981: 188) the binding principles are defined as follows:

- (A) An anaphor is bound in its governing category
- (B) A pronominal is free in its governing category
- (C) A R-expression is free

The governing category, i.e. the local domain for binding, is defined on the base of a governor and a subject available for the pronominal element. Chomsky (1986) replaces this term by the term *complete functional complex* (see Haegeman 1992 or Gärtner 1991 among others).

4. For further empirical and conceptual arguments against Chomsky's theory of binding (cf. Zribi-Hertz 1989, P&S 1994, and R&R 1993).

5. Grewendorf (1983) suggests that non-configurational aspects may play a role in these cases. Under his analysis, two different governing categories are available in certain examples and therefore each pronominal element is grammatical in one of these two governing categories.

6. Examples like (3b) have been taken as empirical evidence that the subject of so-called *psych-verbs* must be base-generated somewhere below the object to account for the binding of the reflexive pronoun in line with Chomsky's principle A (cf. Belletti and Rizzi 1988 or Stroik 1994). However, this kind of analysis predicts that the reflexive pronoun cannot be replaced by a personal pronoun. Additionally, it cannot be applied to sentence (2b) because *make* is certainly not a *psych-verb* and the object *ideal gifts for the twins* is not an experiencer argument. Under R&R's and P&S's theories of binding, these anaphors are exempt from the binding conditions.

7. Cross-linguistically, different types of reflexive pronouns are used as logophoric anaphors. This depends on the pronominal system a language has developed. Consider three closely related languages (cf. Reuland and Reinhart 1995). Dutch, for example, distinguishes weak from strong reflexive pronouns, which are both independent words (*zich* vs. *zichzelf*). The weak form *zich* is used logophorically in Dutch. As opposed to Dutch, English uses the strong form *him-/her-/itself* as logophoric anaphor because the weak form of the reflex-

ive pronoun is morphologically empty (cf. Section 2.3 and Chapter 8). In Frisian, the weak form of the reflexive pronoun is identical to the personal pronoun (in both cases *him/har*). Note that the third person feminine has an additional pronominal form *se* that can only be used as a personal pronoun, i.e. it cannot be locally bound, as opposed to *him/har*. In Frisian the weak form, which is morphologically identical to the corresponding personal pronoun, is used as logophoric anaphor. The following table summarizes this (the logophoric anaphor is underlined):

(i) Logophoric anaphors

	weak form	strong form
Dutch	<u>zich</u>	zichzelf
Frisian	<u>him/har</u> (\approx pronoun)	him-/harsels
English	\emptyset	<u>him-/her-/itself</u>

The conditions for logophoric anaphors vary from language to language as well. On the one hand, it seems to be easier to use English reflexive pronouns logophorically than e.g. German reflexive pronouns (compare (i) with (ii)). On the other hand, in German, a reflexive pronoun is obligatory in contexts that allow also the personal pronoun in Dutch.

- (i) Max₁ said that the queen invited both Lucie and himself₁ for tea
 (ii) Max₁ sagte, dass die Königin Lucie und *sich₁ / ihn₁ zum Tee eingeladen hat
 Max said that the queen Lucie and RP / him for tea invited has

8. Note that an NP-internal subject (agent or possessor) like in (i)–(iii) blocks the coindexation between an NP-internal reflexive pronoun and an NP-external antecedent in *picture noun phrases*:

- (i) ^{*/?}Lucie₁ liked [your picture of herself₁]
 (ii) ^{*/?}[Your picture of myself] would be nice on the wall
 (iii) ^{*/?}[Deine Bilder von sich₁] gefallen dem Hans₁
 Your pictures of RP please the Hans-DAT

One could argue that in (i)–(iii) the head noun *picture* or *Bilder* selects two arguments, which must be coindexed because they are subject to R&R's condition A or P&S's principle A (cf. next section). In this case, local coindexation is obligatory and prevents the logophorical use of the reflexive pronoun. Alternatively, one could argue that the reflexive pronoun is still exempt from the conditions on binding, but the intervening NP-internal subject blocks the coindexation with an antecedent outside the NP similar to example (5) below (cf. R&R 1993:681f.).

9. In the following presentation of R&R's theory we use the term reflexive pronoun, although R&R use the term anaphor. According to their theory, both kinds of reflexive pronouns have less specified Φ -features than personal pronouns, but only the strong reflexive pronoun is a reflexivizer, i.e. only the strong form is specified as [+REFL]. Thus the weak reflexive pronoun is the pronominal element that is least specified. It is neither specified as [+REFL] nor as [+R] (= referential independence) (cf. the table in (6) below). Therefore, it

does not make sense to call the weak reflexive pronoun a *reflexive* pronoun in R&R's theory. As opposed to R&R, we do not distinguish between [+REFL] and [-REFL]. We will continue using the term reflexive pronoun in order to avoid confusion. Besides, the notion 'reflexive pronoun' is more specific than 'anaphor'.

10. In R&R's framework, [R] is a purely morphosyntactic feature: 'Having this property is a necessary condition for an expression to function as an independent argument, but R itself does not have anything to do with reference' (R&R 1993:697). The property [R] depends on the internal specification of an NP:

- (i) An NP is +R iff it carries a full specification for Φ -features and structural Case

This issue will be discussed in greater detail below.

11. The same holds true for reflexive anticausatives in Dutch. Dutch, like German, has inherent reflexive verbs and also some reflexive anticausatives, whereas middle constructions are formed without a reflexive pronoun like middle constructions in English (cf. Section 2.3).

12. This table is taken from the discussion of R&R's theory in Vogel and Steinbach (1998).

13. (9) and (10) are abbreviated versions of R&R's binding theory. R&R relativize their binding conditions to an index *i*. This is necessary to exclude the licensing of a coindexation *i* by a SELF anaphor bearing the index *j*. The following example illustrates this:

- (i) *Max₁ showed myself₂ to him₁

The predicate is reflexive-marked by the anaphor *myself* and it is reflexive because two of its arguments are coindexed. Nevertheless, sentence (i) is ungrammatical. This restriction of the conditions to a certain index correctly excludes sentences like (i) because the index of the anaphor differs from the index of the coindexed arguments. In (9) and (10) the terms *reflexivity* and *coindexation* must be replaced by *i-reflexivity* and *i-coindexation* (cf. also Fox 1993). We continue referring to the simplified versions in (9) and (10) because this restriction to an index is not relevant for the problem under discussion.

14. We do not think that inherent reflexive verbs are two-place predicates with both arguments obligatorily coindexed. Unlike two-place verbs like *wassen*, which are optionally reflexive, inherent reflexive verbs equal anticausatives. Both inherent reflexives and anticausatives do not select an external argument (cf. Section 2.2). R&R's theory cannot account for the fact that weak reflexive pronouns (i.e. [-REFL] anaphors) indicate valency reduction. We come back to this issue in Section 5.6 and in Chapter 6.

15. The SELF anaphor is ungrammatical for matters of economy because it would reflexive-mark the predicate once again, but binding condition B requires only one reflexive marking (cf. also below).

16. R&R assume two different lexical entries for verbs of grooming like *wassen*. We have already seen in Section 2.3 that identical cases can be observed in many Indo-European languages. We return to this issue in Sections 5.4 and 5.6 below.

17. R&R give the following definition of chain, following Chomsky (1986a, b).

- (i) Generalized Chain definition

C ($\alpha_1, \dots, \alpha_n$) is a chain iff C is the maximal sequence such that

- a. there is an index j such that for all j , $1 \leq j \leq n$, α_j carries that index, and
- b. for all j , $1 \leq j \leq n$, α_j governs α_{j+1}

For the term government see example (33) below.

18. In R&R's version only two-member chains are relevant: "Either we define [the General Condition on A-Chains, i.e. (13)] as a condition on chains with more than one link, or we define an A-chain as consisting of at least two coindexed links" (R&R 1993:702).

19. The predicate *coindexed* is reflexive: every element X bearing an index i is coindexed with itself (cf. also Chomsky 1995, Chapter 3 on one-member chains).

20. This condition is trivially met if every syntactic argument is forced to move to some Agr-position to check its case feature. As a consequence of obligatory A-movement, every element heads its own chain, which is of course only possible for [+R]-expressions (cf. Section 5.5 below).

21. Note that indices are assigned to all NPs in syntax and must not change at the interface to semantics. Otherwise, R&R (as well as Fox) cannot exclude personal pronouns on the basis of the General Condition on A-Chains either. A predicate is not reflexive-marked by a personal pronoun, hence no coindexation of the syntactic arguments is required by condition A (cf. Chomsky 1980 and Fiengo and May 1994 for assignment of indices).

Chomsky (1995:215, Footnote 53) claims that "a theoretical apparatus that takes indices seriously as entities, allowing them to figure in operations (percolation, matching, etc.), is questionable on more general grounds. Indices are basically the expression of a relationship, not entities in their own right. They should be replaceable without loss by a structural account of the relation they annotate."

22. This modification of R&R's binding theory also renders movement of the embedded verb in ECM superfluous. On the one hand, R&R assume that the embedded verb must not stay in situ in (13b). Otherwise it would be reflexive-marked without being reflexive because the ECM-subject is a syntactic argument not only of the matrix predicate but also of the embedded predicate, which assigns a theta-role to the SELF anaphor (cf. (10b) above). R&R claim that raising the verb to the matrix predicate prevents it from being reflexive-marked (R&R 1993:708f.). According to R&R, LF-raising and LF-lowering are always optionally permitted. They propose that in Dutch the embedded verb raises at S-structure and adjoins to the matrix predicate. Thus an example like (i) has the S-structure representation in (ii).

- (i) ... dat Max zichzelf Lucie hoorde critiseren
- (ii) ... dat [_{IP} Max [_{IP} zichzelf Lucie t_i] _V hoorde; critiseren;]_j]
... that Max SELF Lucie heard criticize

On the other hand, the embedded predicate must stay in situ in (iii) – alternatively it could be lowered at LF – because it is reflexive-marked by its second argument *zichzelf*.

- (iii) Peter hoorde [Maria₁ zichzelf₁ critiseren]
Peter heard Maria SELF criticize

The verb stays in situ if two syntactic arguments must be coindexed, and it is forced to raise if the syntactic arguments must not be coindexed. Raising and lowering of the embedded

verb in ECM-constructions becomes superfluous in the modified version of R&R's theory because it no longer relies on the term *syntactic predicate*. This revised version only requires grammatical A-chains and does not depend on additional verb-movement at LF.

Besides, LF-raising does not prevent predicate formation in syntax. After raising, the direct object of the embedded clause, i.e. *Lucie*, is still a syntactic argument of the head *critiseren* because it receives accusative case via the trace t_i of the verb (cf. R&R 1993:708, Footnote 49). Hence, the predicate (i.e. *critiseren*) is available at S-structure for case-marking of its arguments (cf. definition 10b) and it is not clear why it is not available for predicate formation at LF as well (cf. definition 10a).

23. We argued in Chapter 4 that *sich selbst* in German is formed by adjunction of the adnominal focus particle *selbst* to the NP *sich*. In German, the expression *sich selbst* is not grammaticalized, as opposed to Dutch *zichzelf* or English *him-/her-/itself*. Note that it can always be replaced by the stressed simplex anaphor *sich*, although some speakers seem to prefer *sich selbst* in some contexts. The Dutch simplex anaphor *zich* cannot be stressed at all. It is the intrinsically weak counterpart to the strong anaphor *zichzelf*.

24. Note that middle constructions in German are reflexive, while Dutch middle constructions are formed without a (weak) reflexive pronoun.

25. R&R (1993 and 1995) argue that an intrinsic/nonintrinsic contrast shows up at least on the dative argument of three-place predicates in German. They give the following examples to illustrate this point.

- (i) a. Peter stellte sich / ??*sich selbst* die Statue vor ([+REFL] verb)
 Peter imagined RP-DAT / RP-DAT SELBST the statue PARTICLE
 b. ??Peter vertraute sich seine Tochter an ([-REFL] verb)
 Peter entrusted RP-DAT his daughter PARTICLE
 c. Peter vertraute seine Tochter nur *sich selbst* an
 Peter entrusted his daughter only RP SELBST PARTICLE
 'Peter only entrusted his daughter to himself'

Sich selbst is assumed to be the strong (SELF) counterpart of the weak (SE) reflexive pronoun *sich*. We already mentioned in Section 4.2.2.6 that *sich selbst*, unlike Dutch *zichzelf*, is not a strong reflexive pronoun but a simple reflexive pronoun, which is modified by the adnominal focus particle *selbst*. In (i-a) the adnominal focus particle is semantically odd because no focus alternatives can be generated (you cannot imagine something for someone else). Likewise, example (i-b) seems to be odd for pragmatic reasons. Usually, children are entrusted to their parents. And sentence (i-c) with narrow focus on the reflexive pronoun is also grammatical with stressed *sich*.

- (ii) Peter vertraute seine Tochter nur SICH an
 Peter entrusted his daughter only RP PARTICLE
 'Peter only entrusted his daughter to himself'

If we replace *anvertrauen* by another [-REFL] verb, focused dative reflexive pronouns, like their accusative counterparts, also get perfectly grammatical (cf. (iii)). Moreover, [-REFL] two-place predicates that require a dative object allow a simple reflexive as well, as can be seen in (iv). There is no evidence that German distinguishes between [\pm REFL]-elements.

- (iii) a. Peter hat sich wieder die besten Karten (selbst) gegeben
 Peter has RP-DAT again the best cards (SELBST) given
 'Again Peter gave himself the best cards'
 b. Maria hat sich den Rest gegeben
 Maria has RP-DAT the rest given
 'Maria has finished herself off'
 c. Udo gestattet sich wieder einmal gar nichts
 Udo allows RP-DAT once again absolutely nothing
- (iv) Helmut hat immer nur sich geholfen
 Helmut has always only RP-DAT helped
 'Helmut always helped only himself'

26. Note that the non-argument reflexive is always the weak [-REFL] form. Hence, every verb that can undergo middle formation must also be optionally specified for [+REFL] in the lexicon (i.e. it must be lexically reflexive) because its direct object is a SE anaphor that is specified as [-REFL]. Hence, in most Indo-European languages 'middle verbs', like inherent reflexive verbs, are also lexically reflexive. The same holds true for passive formation in languages with reflexive passives (cf. Section 5.6 for more details).

- (i) Peter liest das Buch
 Peter reads the book
- (ii) Das Buch liest sich gut
 The book reads RP-[-REFL] well

27. In German the lack of nominative reflexive pronouns can be derived from the obliqueness hierarchy we propose below. Nominative NPs are always the least oblique elements. Therefore they cannot be bound by any other co-argument of the same predicate. Note that this line of argumentation predicts that logophoric or exempt anaphors have developed on the basis of locally bound reflexive pronouns.

Things might be different for a language like Icelandic. Everaert (1990) argues that in Icelandic a nominative reflexive pronoun in VP-internal position is expected to be bound by a dative subject. The relevant example is given in (i). The dative personal pronoun *honum* locally binds the nominative NP. Instead of a potential (but nonexistent) reflexive pronoun RP, the personal pronoun *hann* must be used.

- (i) Honum₁ finnst *RP₁/hann₁ (sjalfur)(vera) skrytinn
 Him-DAT finds RP/he-NOM (self) (be) strange

Anderson (1986:69) shows that possessive pronouns have reflexive forms for both dative and nominative. They are licensed in the subject position of embedded sentences. Nominative reflexive pronouns are excluded in these cases, although they seem to be structurally licensed as well. One might argue that most languages generally lack nominative forms for reflexive pronouns (cf. also Pollard and Sag 1993 and R&R 1995 on this issue). Everaert (2000) mentions one exception. He argues that languages such as Modern Greek, Basque, and Albanian that have an inalienable possessive NP-reflexive should allow nominative reflexive pronouns (anaphors in his terminology; for Greek see Chapter 2, Footnote 35). Kiss

(2001) observes that the same kind of complex reflexive pronoun can also be found in Portuguese. This kind of reflexive pronoun differs from simple reflexive pronouns in its internal structure. It is therefore excluded from chain formation as defined in R&R (1993).

28. There are at least three issues that need further discussion.

- (i) homonymous forms within one paradigm (e.g. the personal pronoun *sie*).
- (ii) homonymous forms in two paradigms (e.g. the second person reflexive and personal pronouns *dich* and *dir*), cf. below.
- (iii) two-form languages, that have two kinds of reflexive pronouns, cf. Section 5.6.

29. See Reinhart (1991) on possessive pronouns that are interpreted either as bound variables or via pragmatic coreference.

30. Note that P&S use the term anaphor instead of reflexive pronouns. In our own definition in (42) below we replace P&S's original principle A in (25) by (i).

(i) Principle A: A locally o-commanded reflexive pronoun must be locally o-bound.

31. This might be connected to processing asymmetries between different kinds of syntactic constituents. We will see in Section 6.1.6 that the parser prefers structural case to oblique case and nominative to accusative.

32. A lexical theory could introduce a lexical rule of 'free dative insertion' that adds a free dative object to the SUBCAT-list of a basic verb. However, a lexical rule of dative insertion does not provide an argument against the general obliqueness hierarchy we propose for German because all datives (no matter whether they are subcategorized or free, i.e. introduced by a lexical rule) share the same syntactic properties.

Note that free dative objects also pose a problem for configurational binding theories that define the binding conditions on the basis of c-command and VP-internal A-positions. They are forced to base-generate free datives along with subcategorized dative objects in a position c-commanded by nominative subjects and accusative objects. However, this base position is motivated mainly by the selectional properties of a verb (the verb assigns a theta-role to this position). Below we give further arguments that dative objects cannot be analyzed parallel to accusative objects (cf. Müller 1993, Vogel and Steinbach 1995 and 1998, and Chapter 6).

33. Note that under this theory, reflexive pronouns should be ungrammatical in passives in general. This theory incorrectly predicts that reflexive pronouns cannot bear the agent-role because this would violate the thematic hierarchy. On the other hand, if the reflexive pronouns would correspond to the theme or patient of the verb, they are ungrammatical because English and German lack a nominative form for reflexive pronouns.

34. *Lassen* differs from verbs of perception in certain respects (cf. e.g. Grewendorf 1983, Wunderlich 1985, and Fanselow 1987, Chapter 4, among others). Firstly, *lassen*, unlike *sehen* and *hören*, does not select a corresponding finite complementizer-initial embedded clause.

- (i) a. *Peter ließ, dass der Mechaniker das Auto reparierte
Peter let that the mechanic the car repaired

- b. Peter sah, dass der Mechaniker das Auto reparierte
Peter saw that the mechanic the car repaired
'Peter saw that the mechanic repaired the car'

Secondly, as opposed to *sehen* and *hören*, *lassen* selects embedded passives without passive morphology.

- (ii) a. Peter ließ das Auto (von einem Mechaniker) reparieren
Peter let the car (by a mechanic) repair
'Peter had the car repaired (by a mechanic)'
b. Peter sah das Auto (von einem Mechaniker) repariert werden
Peter saw the car (by a mechanic) repaired PAS
'Peter saw the car being repaired (by a mechanic)'

Thirdly, only *lassen* selects bare infinitives (iii), resultative constructions (iv), and so-called *lassen*-middles (v).

- (iii) a. Der Chef lässt arbeiten
The boss lets work
'The boss makes people work'
b. *Der Chef sieht arbeiten
The boss sees work
- (iv) a. Der Pfarrer lässt die Kinder in Ruhe
The minister lets the children quiet
'The minister leaves the children alone'
b. *Der Pfarrer sieht die Kinder in Ruhe
The minister sees the children quiet
- (v) a. Das Buch lässt sich leicht lesen
The book lets RP easily read.
'The book is easy to read'
b. *Das Buch sieht sich leicht lesen
The book sees RP easily read

Wunderlich (1985) argues that the ECM-subject is also a semantic argument of *lassen*. We will argue below that the same is true for perception verbs. Therefore, the ECM-subject can be bound by a less oblique co-argument, i.e. the subject of the matrix clause.

- (vi) Peter lässt sich waschen
Peter lets RP wash
'Peter has himself washed'

35. This issue is more complex. Some data are very subtle and require more discussion (cf. for example Reis 1976 and Grewendorf 1983 for detailed analyses). In the following we present only the core cases.

36. See also Pollard and Sag (1994:132), who argue that equi verbs select an embedded VP, the unexpressed subject of which is also a semantic argument of the equi verb itself.

37. Besides, both sentences permit a narrow scope reading of the negation. In this case only the constituent *im Garten* ('in the garden') is in the scope of the negation and the sentences mean that it is not in the garden but somewhere else where Peter saw Hans playing.

38. Alternatively, one could exempt the reflexive pronoun in (40) from binding because it is not locally o-bound by a less oblique co-argument. This proposal would predict that *sich* in (40) is a logophoric reflexive pronoun that should be subject to processing and discourse constraints (cf. P&S 1994:266f. and Section 5.1). However, (i-a) and (i-b) illustrate that binding of the embedded reflexive pronoun by the matrix subject is only marginally possible even if the intervening ECM-subject is excluded from binding ('PP' stands for personal pronoun). Moreover, coindexation between a third person reflexive pronoun in the embedded infinitive and a first or second person ECM-subject also seems to be marginally possible, as is illustrated in (i-c).

- (i) a. Die Königin₁ lässt nur mich^{??}sich₁ / sie₁ waschen
The queen lets only me_{RP} / PP wash
- b. Die Katzen₁ lassen mich immer wieder^{??}sich₁ / sie₁ waschen
The cats let me again.and again_{RP} / PP wash
- c. ^{??}Sie sah mich₁ sich₁ waschen
She saw me_{RP} wash

Reflexive pronouns in infinitives, nominalizations, and impersonal passives seem to be slippery areas which require further research. Besides, note that the binding relation between the ECM-subject and the embedded object cannot be reversed because a reflexive ECM-subject must always be bound by the matrix subject.

39. Note that our binding theory can in principle also be implemented into Chomsky's classical version of the binding theory. In this case (41ii) would correspond to Chomsky's principle A, whereas (41i) would be a special case of local binding (A-chain formation). Recall, however, that we presented many arguments in favor of our modified version of binding theory (e.g. logophors, non-argument reflexives, morphological economy, and dative objects). Further research is necessary to get a clear picture of all (dis-)advantages that each version of binding theory has. In the following discussion, we are only interested in syntactic binding, i.e. (41i) and condition (42.1), which would be more or less the same in an extended version of classical binding theory.

40. In Chapter 4 we argued that our approach to reflexivity does not depend on a special analysis of structural case. All we need is a (syntactic) distinction between structural and oblique case. We follow Chomsky (1995:Chapter 3) because this approach enables us to account for the differences between structural and oblique case in a straightforward manner (we turn to the syntactic analysis of oblique case forms in the next chapter).

41. A-movement can take place either before or after Spell-Out depending on the case feature: strong features must be checked before Spell-Out, weak features need not be checked before Spell-Out and according to Procrastinate must not be checked before Spell-Out (cf. Chomsky 1995).

42. Recall that we assume that the arguments of a two-place predicate are ordered pairs.

43. Condition (42.1) states that a maximal A-chain is any sequence of coindexation of syntactic arguments that satisfies antecedent government. The syntactic arguments are themselves chains. In (38) they consist of two members that are coindexed. In case two syntactic arguments (i.e. chains) are coindexed, all four members bear the same index. Alternatively, one can define maximal A-chains in the following way: (i) A maximal A-chain is any sequence of coindexation of A-positions that satisfies antecedent government and (ii) an A-position is any position/link of a chain to which structural case is assigned. This slightly revised definition yields the same result: a [-R]-expression in an A-position must not be the head of the A-chain it is part of.

44. Reinhart's (1983:160) original version is limited to S'-expressions: $[S' \Phi] \Rightarrow [S' \beta (\lambda x (\Phi^{\beta/x}))]$. This definition follows the binding theory in Chomsky (1981), which is defined on the basis of (syntactic) governing categories. Our theory of binding is, however, defined in terms of semantic predicates. We therefore omit this restriction.

45. *Es* ('it') can fulfill several rather different functions in German. It is used as impersonal subject in impersonal middle constructions, with weather verbs (i-a), and in some active sentences that do not select a subject (i-b).

- (i) a. ... weil es regnet
 ... because it rains
 b. ... weil es in dieser Stadt viele Autos gibt
 ... because it in this town many cars gives
 '... because there are many cars in this town'

It is also an expletive element that can optionally occur in the middle field if the corresponding clausal complement is extraposed.

- (ii) a. ... weil es₁ mir sehr gut gefallen hat, [dass ihr gekommen seid]₁
 ... because it me very much pleased has that you come are
 b. ... weil es₁ der Hans allen erzählt hat, [dass die Party um acht beginnt]₁
 ... because it the Hans everybody told has that the party at eight begins

Thirdly, *es* can also be used as so-called 'Vorfeld-*es*' in sentence-initial position.

- (iii) Es steht ein Männlein im Walde
 It stands a little.man in.the forest
 'A little man is standing in the forest'

Note finally that *es*, unlike other personal pronouns, cannot be stressed or coordinated. It seems to be intrinsically 'weak'. For further discussion see Hall (1998), Cardinaletti and Starke (1994), and Gärtner and Steinbach (2000).

46. The embedded predicate *lesen* ('read') is interpreted as passive in this case, although it has no passive morphology. Recall from Footnote 34 above that embedded passives of *lassen* A.c.I.-constructions must not be marked for passive.

47. Note that the strong forms in Dutch and English consist of a pronominal part (*zich* or *him/her/it/...*) and the adnominal intensifier *self*. Historically, the adnominal intensifier has been a focus particle. This can still be seen in German, which has not incorporated the intensifier into the pronominal element (cf. Section 4.2.2.6). Hence, it is very likely that the

strong form of the reflexive pronoun intrinsically forms a contrast to other type-identical salient alternatives. The minimal alternative to the reflexive interpretation would be the non-reflexive interpretation, which is only expected with verbs like *horen*.

48. Recall that the weak reflexive pronoun can also be used in the position of the ECM-subject in ECM-constructions. As opposed to (60c), ECM-constructions describe complex events in which someone sees/hears someone doing something. One could argue that ECM-constructions are not reflexive in a strict sense because the ECM-subject is a semantic argument of both the matrix and the embedded verb, as we argued above. However, this issue requires further research.

49. The only exception might be inherent reflexive verbs, which are always specified as [+REFL].

50. Note that in Russian, passives, anticausatives, and middle constructions are formed with the weak form *sja* (which is specified as [-REFL]).

Suppressed arguments and dative objects

In the previous chapter we argued that the first ambiguity of transitive reflexive sentences results from the underspecification of reflexive pronouns and A-chain formation. An accusative reflexive pronoun in object position can but need not be linked to a semantic argument. Middle constructions, anticausatives, and inherent reflexives involve the non-argument reflexive, which is a [-R]-expression. [+R] reflexive pronouns yield the reflexive interpretation. In the first part of this chapter we turn to the difference between middle constructions and anticausatives. We will argue that in each construction a different semantic operation applies to the unbound argument variable, i.e. the implicit first argument. The second part deals with dative objects. A-chain formation is a necessary prerequisite for the non-argument interpretation of reflexive pronouns. A-chain formation itself is limited to A-elements, i.e. NPs that are assigned structural case. We have already mentioned that only nominative and accusative are structural in German. Therefore, oblique case forms like dative objects are excluded from middle formation. We provide empirical evidence to support this distinction. We will see that dative objects differ from accusative objects in various respects. All of the evidence indicates that structural case differs (not only syntactically) from oblique case. Since dative case in German is oblique, dative reflexive pronouns cannot be included in a complex A-chain, and thus no ambiguity can arise. They are always linked to an argument variable of the verb.

6.1. The difference between middle constructions, anticausatives, and unaccusatives

Recall from Chapter 5 that the semantic interpretation of an anticausative like (1a), which contains a non-argument reflexive, is (1b). According to the linking-principles for syntactic arguments, the head of the complex A-chain, the subject *die Tür* ('the door'), is linked to the second argument of the verb *öffnen* ('open') via the base position of the complex A-chain. The first argument

of the predicate is not linked to syntax because VP,Spec is occupied by an intermediate link of the complex A-chain. As a consequence, the semantic representation in (1b) contains an unbound argument variable. Middle constructions equal unaccusatives in this respect.

- (1) a. Die Tür öffnet sich
 The door opens_{RP}
 ‘The door opens’
 b. $O < x, t >$

But what can we do with an unbound semantic argument variable? The next subsection investigates this issue, and Subsection 6.1.2 discusses some consequences of the linking-principles we proposed in Chapter 5.

6.1.1 Argument saturation and argument reduction

We follow Chierchia (1989) and Reinhart (1996) in assuming that two operations on unbound semantic argument variables are available. They can either be bound by a semantic operator (OP) or can be completely removed from the semantic representation. The former operation is called argument saturation, the latter argument reduction (cf. Chierchia 1989). Both operations are illustrated in (2).

- (2) a. $(\lambda y P < x, y >) (a) \rightarrow (\lambda y OP x P < x, y >) (a)$ (Saturation)
 b. $(\lambda y P < x, y >) (a) \rightarrow (\lambda y P < y >) (a)$ (Reduction)

Argument reduction is much more restricted than argument saturation and depends on the lexical meaning of the verb. The class of verbs that permit reduction is a subclass of the verbs that permit saturation. Reduction changes a two-place predicate (a relation between two arguments) into a one-place predicate (a property of one argument). Saturation, on the other hand, introduces a semantic operator that binds the free argument variable.¹ Argument reduction is responsible for the anticausative and inherent reflexive interpretations, whereas argument saturation yields the middle interpretation.² We will argue in Chapter 7 that in middle constructions the free argument variable is bound by a generic operator. In this section we are concerned with argument reduction.

Note that only some two-place verbs permit the anticausative interpretation. For example, the first argument of *zeichnen* (‘draw’) in (3a) can only be saturated, but not reduced, while *öffnen* (‘open’) in (3b) forms a perfectly

grammatical anticausative. Sentence (3b) permits both saturation and reduction because the adverb *leicht* is ambiguous.

- (3) a. Das Bild zeichnet sich leicht
 The picture draws RP easily/*a little
 ‘The picture draws easily’ (middle interpretation only)
- b. Die Tür öffnet sich leicht
 The door opens RP easily/a little
 ‘The door opens a little’ or (anticausative and middle interpretation)
 ‘The door opens easily’

Reinhart (1996) argues that both verbs differ in one respect. The subjects of *zeichnen* and *öffnen* are lexically specified for the basic semantic feature [+causing-change]. But only the subject of *zeichnen* in (3a) is additionally specified for [+mental state involved]. Therefore, *öffnen* permits all kinds of [+causing-change] subjects, e.g. agents, instruments, or other causing entities because the verb does not obligatorily select the feature [+mental state involved]. As opposed to *öffnen*, the very similar verb *zeichnen* only selects agents, which fulfill both specifications, [+causing-change] and [+mental state involved]. Note that Reinhart’s specification corresponds to Dowty’s (1991) contributing properties for the agent proto-role. *Zeichnen* has the following two entailments for its subject: (i) *volitional involvement in the event or state* and (ii) *causing an event or change of state in another participant* (cf. Dowty 1991:572). *Öffnen*, on the other hand, has only the second entailment for its subject.

- (4) a. Peter/ dieser Schlüssel/ der Sturm hat die Tür geöffnet
 Peter/ this key/ the storm has the door opened
 ‘Peter/this key/the storm opened the door’
- b. Peter/ *dieser Stift/ *der Wind hat dieses Bild gezeichnet
 Peter/ this pencil/ the wind has this picture drawn
 ‘Peter drew this picture’

The basic intuition is that the anticausative interpretation of a basically two-place predicate requires that the event described by the verb can be conceptualized as taking place without an explicitly mentioned cause. The opening of a door, for example, can be perceived as taking place all by itself. This does not hold true for the drawing of a picture. (5) illustrates this difference with additional examples.³

- (5) a. Die Straße verengt sich schnell (anticausative)
 The street narrows RP quickly
 ‘The street narrows quickly’
- b. Der See wärmt sich schnell auf (anticausative)
 The lake warms RP quickly up
 ‘The lake warms up quickly’
- c. Das Bier trinkt sich schnell (*anticausative/
 The beer drinks RP quickly middle interpretation only)
 ‘The beer drinks quickly’
- d. Das Buch liest sich schnell (*anticausative/
 The book reads RP quickly middle interpretation only)
 ‘The book reads quickly’

This restriction on the anticausative interpretation of two-place predicates is part of the lexical meaning of a verb. The anticausative interpretation of *trinken*, *zeichnen*, and *lesen* contradicts our knowledge about drinking, drawing, or reading events. Thus mental state verbs (or verbs that entail volitional involvement in the event or state of their first argument) are excluded from the semantic operation of argument reduction that applies to two-place predicates. Reduction of the first argument is only possible if it is not specified as [+mental state involved] (i.e. if the verb does not entail volitional involvement for this argument). This can be stated in the following way (cf. Reinhart 1996: 19).

(6) Argument reduction

$$P < x, y > \& \neg (x = [+mental\ state\ involved]) \rightarrow P \ll y \gg$$

Like anticausatives, inherent reflexive verbs seem to be derived from an underlying two-place representation. The reflexive pronoun indicates that the syntactic subject is linked to the second argument of the verb. They differ, however, from the former in one crucial respect. Inherent reflexives only permit the anticausative interpretation. Their first argument must obligatorily be reduced. Inherent reflexive verbs are inherent anticausative verbs. The first argument (the cause of the event) of these basically two-place verbs can neither be linked to syntax nor can it be bound by a semantic operator.

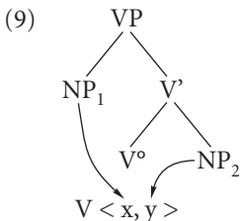
- (7) a. Peter erkältet sich
 Peter-NOM catches.a.cold RP-ACC
 ‘Peter catches a cold’
- b. *Peter erkältet Maria
 Peter-NOM catches.a.cold Maria-ACC

This very special property of inherent reflexive verbs may either follow from their meaning or it must be stipulated in the lexicon. Under the assumption that first-language acquisition takes place without negative evidence, this restriction must follow from the meaning of inherent reflexive verbs. Imagine that children have only the input in (7a). How can they learn that the German verb *erkälten* ('catch a cold') must be used inherently reflexively? Children do not have access to the information that sentences like (7b) are ungrammatical. What they can conclude from (7a) is that the verb *erkälten* basically selects two arguments. This follows from every theory that treats the reflexive pronoun either as an indicator of valency reduction or as a semantic argument of the verb. Together with the meaning of the verb, children must learn that it is impossible to express the first argument of the verb, which must obligatorily be reduced. Alternatively, one could, of course, argue that all inherent reflexive verbs are idiomatic expressions (or frozen forms), which must be learned as a whole. More research on inherent reflexive verbs in German and other Indo-European languages and their semantics, historical development, and acquisition is necessary in order to decide this issue conclusively.

6.1.2 Anticausatives and unaccusatives

The analysis of non-argument reflexives in Chapter 5 is based on two linking-principles for syntactic arguments which are repeated here in (8).⁴ (9) illustrates the linking of the first and the second argument to the VP, Spec and the V-complement position, respectively.

- (8) a. Spec of VP is linked to the first argument of the verb
 b. The complement of V^o is linked to the second argument of the verb



Our analysis predicts that unaccusatives and unergatives share the same VP-structure. The linking-principles in (8) contradict a theory that reflects the lexical distinction between unergatives and unaccusatives in syntax. We refer the reader to Abraham (2000) for a detailed discussion of various syntactic analyses of unaccusativity. Let us follow the common assumption that the lex-

ical representation of unaccusatives like *ankommen* ('arrive') differs from that of unergatives like *lachen* ('laugh'). We call the sole argument of unergative predicates 'external' and that of unaccusative predicates 'internal'. The external argument has typical proto-agent properties, while the internal argument has typical proto-patient properties (cf. Grimshaw 1990 and Dowty 1991).⁵

- (10) a. $P < x >$ (unergative)
 b. $P \ll x \gg$ (unaccusative)

For the unaccusative in (10b), two different VP-structures are at hand. Either we analyze unaccusatives parallel to unergatives in syntax, as (11a) illustrates, or the sole argument of unaccusatives corresponds to the complement-position of V° in (11b). In the latter case, VP,Spec is empty or does not project.⁶

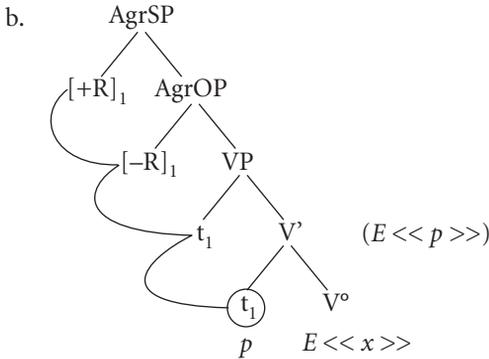
- (11) a. [_{VP} NP V°]
 b. [_{VP} [_{V'} NP V°]

Structure (11a) is in line with our derivation of non-argument reflexives. The sole syntactic argument contained in the VP, the nominative NP, must always be linked to the sole (and hence *first*) argument of the one-place predicate, regardless of whether this argument is external or internal in the lexical representation. Matters are a little more complicated if we choose structure (11b), which requires a slight modification of the linking-principles in (8). According to this modification, the specifier position would be linked to the *external* and the complement position of V° to the *internal* argument of the predicate.

- (8') *Linking-principles for a syntactic representation of unaccusativity*
 a. Spec of VP is linked to the external argument of the verb
 b. The complement of V° is linked to the internal argument of the verb

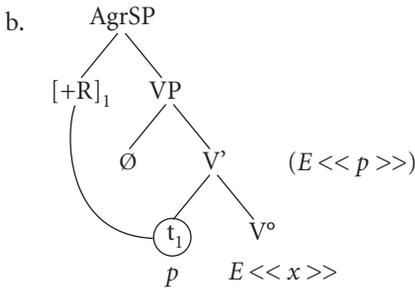
As a consequence, unaccusative predicates are expected to have two grammatical syntactic realizations. The internal argument can be linked either to an NP in the complement position or to a complex A-chain. Hence, unaccusatives should be syntactically intransitive *and* transitive reflexive. This issue is illustrated in (12) and (13).

- (12) a. *Peter erwacht sich
 Peter awakes RP



The structure in (12) contains a complex A-chain. Like subjects in middle constructions and anticausatives, the subject in (12) can in principle be interpreted in the complement position. The derivation in (12b) should therefore be grammatical, which it is not. If we accept structure (11b) above and the modified linking-principles, we expect sentence (12a) to yield the same interpretation as the unaccusative in (13).

- (13) a. Peter erwacht
 Peter awakes



This may be seen as indirect evidence that German does not distinguish between unaccusatives and unergatives in syntax. All intransitive sentences have the same underlying VP-structure in (11a). This VP contains only one NP, which is always linked to the first semantic argument of the one-place verb. In addition, our analysis predicts that non-reflexive anticausatives such as, for example, *rollen* ('roll') in (14) are basically unaccusative one-place predicates. In (14), the causative variant (14a) is derived from the underlying anticausative/unaccusative verb in (14b) by causativization, i.e. by addition of an external argument. In this respect, verbs like *rollen* are the mirror image of reflexive anticausatives such as *öffnen* ('open') in (15). The latter are basically

two-place predicates, and the (one-place) anticausative variant is derived from the underlying two-place representation by means of argument reduction. Of course, further research on the semantic differences between these two kinds of predicates is necessary (cf. also Wunderlich 1993).

- (14) a. Peter rollt den Ball (non-reflexive anticausative)
Peter rolls the ball
b. Der Ball rollt
The ball rolls
- (15) a. Peter öffnet die Tür (reflexive anticausative)
Peter opens the door
b. Die Tür öffnet sich
The door opens_{RP}
'The door opens'

6.2. Dative objects in German

The binding theory we defined in Chapter 5 predicts that the non-argument interpretation of reflexive pronouns is restricted to syntactic arguments that can be included in a complex A-chain that is headed by another syntactic argument. Thus only reflexive pronouns that are assigned (or check) structural case are able to undergo middle formation. Recall the definition of the notion syntactic argument in (42.1), Chapter 5, here repeated as (16).

- (16) The syntactic arguments of P are the chains that are assigned structural case in the extended projection of P.

In this section, we give empirical evidence for the distinction between structural and oblique case in German. We argue that only nominative and accusative are structural in German, whereas dative case is oblique. As a consequence, dative objects cannot undergo middle formation. However, two-place verbs that c-select a dative object can undergo middle formation in principle. In the impersonal construction (17c) the dative object preserves its case and the accusative reflexive pronoun indicates valency reduction as usual.⁷

- (17) a. Ich widerspreche dem neuen Lehrer
I contradict the new teacher-DAT
'I contradict the new teacher'
- b. Der neue Lehrer widerspricht sich leicht
The new teacher-NOM contradicts_{RP} easily
(*middle interpretation)

- c. Dem neuen Lehrer widerspricht es sich leicht
 The new teacher-DAT contradicts it RP easily

Maling (1998 and 2001) argues that dative case is not to blame. Instead, the relevant restriction on middle formation should be defined in terms of thematic roles: goal arguments must not undergo middle formation, i.e. they cannot be promoted to subject. By contrast, our analysis predicts that middle formation is primarily an operation of argument suppression rather than of argument promotion. Complex A-chain formation blocks the linking of the first semantic argument. Promotion of the second argument is only a consequence of suppression of the first argument in subject-oriented languages such as German. Recall that in impersonal middle constructions argument promotion is blocked and only argument suppression applies because one-place predicates do not select a second argument, which can be promoted to subject. Thus, the properties of the promoted argument are only of secondary importance for middle formation in German. We agree with Fagan (1992:243), who claims that “middles cannot be characterized cross-linguistically as involving the promotion of an object to subject or as patient-subject constructions”. We will argue in Chapter 7 that an important semantic restriction on the promoted second argument (or some other nominal or adverbial expression in impersonal middle constructions), namely ‘responsibility’, is a consequence of the generic interpretation of middle constructions. This restriction is not an essential part of the morphosyntactic operation of middle formation (i.e. A-chain formation). By contrast, the morphosyntactic properties of the middle marker are crucial for middle formation. In the following subsections, we illustrate that it is no accident that dative objects are excluded from middle formation on principle because dative reflexive pronouns are not middle markers in German. Only the accusative reflexive pronoun in object position has the relevant morphosyntactic properties: it can be a [-R]-expression and it is assigned structural case. Dative reflexive pronouns lack an essential property of the middle marker in German: structural case. Recall that only NPs assigned structural case are subject to the basic condition on middle formation in German, the General Condition on A-Chains. We will argue that in German marked (or oblique) case forms such as dative differ from structural case forms in syntax. Dative objects are not subject to the GCC, or more general, oblique case forms cannot be (easily) transformed into structural case forms by lexical or syntactic operations.

The difference between structural and oblique case in middle formation is nicely illustrated by the following minimal pair in (18a and b). The meaning of the verbs *treffen* and *begegnen* is almost identical and corresponds to the mean-

ing of the English verb *meet*. However, they do not assign the same case to their objects. *Treffen* assigns accusative to its object, whereas *begegnen* assigns dative. Not surprisingly only the accusative object of *treffen* can undergo middle formation (i.e. can be promoted to subject), as (18a and b) illustrate (cf. also the examples in (37) in Section 3.2.1), while *begegnen* selecting a dative object only receives a middle interpretation in the impersonal middle construction in (18c). In addition, the promoted arguments in (18d and e) both have typical goal properties. Nevertheless, both arguments can undergo middle formation because they receive accusative case in the active counterpart. Besides, although dative objects cannot be promoted to subject in personal middle constructions, they can receive a subjectlike interpretation in impersonal middle constructions. It is the dative object *dem neuen Lehrer* in (17a) above that is ‘responsible’ for the event described by the verb *widersprechen*. Note finally that a thematic explanation requires a clear definition of all thematic roles which are necessary for linguistic explanations (cf. Dowty 1989 and 1991 for a discussion of this problem).

- (18) a. Nette Menschen treffen sich hier überall
 Nice people-NOM meet RP-ACC here everywhere
 ‘You can meet nice people all over this place’ (middle interpretation)
 ‘Nice people meet all over this place’ (reflexive interpretation)
- b. Nette Menschen begegnen sich hier überall
 Nice people-NOM meet RP-ACC/-DAT here everywhere
 ‘You can meet nice people all over this place’ (*middle interpretation)
 ‘Nice people meet all over this place’ (reflexive interpretation)
- c. Netten Menschen begegnet es sich hier überall
 Nice people-DAT meets it-NOM RP-ACC here everywhere
 ‘You can meet nice people all over this place’ (middle interpretation)
- d. Dieser Wagen belädt sich schneller wie der andere
 This wagon-NOM loads RP more.quickly than the other
 ‘This wagon can be loaded more quickly than the other one’
- e. Menschen in abgelegenen Gegenden informieren sich nicht
 People-NOM in remote areas inform RP not
 so schnell wie die anderen
 as quickly as the others
 ‘People in remote areas cannot be informed as quickly as other people’

The distinction between structural and oblique case and the morphosyntactic properties of oblique case forms are clearly language-specific. We do not claim that all languages draw the same distinction between structural and oblique

case. Neither do we claim that promotion of dative objects is excluded in all languages.

The differences between nominative and accusative case, on the one hand, and dative case, on the other hand, which will be discussed in the following subsections, can be combined in two groups. The first group subsumes differences related to morphology. Syntactic differences are subsumed under the second group. Essential parts of this section relate to joint work with Ralf Vogel and the analysis proposed in Vogel and Steinbach (1995 and 1998). We are concerned primarily with case assigned by the verb (or checked in the extended projection of the verb) and exclude case assignment by prepositions and nominals. (19) summarizes these differences, which will be discussed in the following two subsections.

- (19) Morphological and syntactic differences between accusative and dative object case

Morphology (Section 6.2.1)	Syntax (Section 6.2.2)
morphological marking	word order
uninflectable indefinite NPs	binding
sentential complements	middle constructions
free relatives	tough movement
nominalization	passive
idioms	extraction
reflexive pronouns	free datives
inherent reflexive verbs	coherent infinitives
	topic drop
	sentence processing

6.2.1 Morphological differences between structural and oblique case

This subsection deals with several phenomena that can be related to differences in the morphological specification of accusative/nominative case on the one hand and dative case on the other hand (cf. the left column in (19) above). Let us first briefly discuss case morphology in German, before we turn to several examples that can be related to the morphological distinction between marked and unmarked case.

6.2.1.1 *Marked and unmarked case forms*

German draws a clear distinction between unmarked structural case and marked oblique case. Consider the following paradigm, which illustrates the case pattern of definite NPs (first line) and pronouns (second line). Except for the masculine singular form, accusative case is always morphologically identical to nominative case. Thus nominative and accusative are equally unmarked on the assumption that nominative case is the unmarked form in a language like German (cf. e.g. Bittner and Hale 1996 and Weerman 1996). Dative case does not pattern with the unmarked structural case forms. Only the feminine singular form of the definite article is identical to the genitive, which is also an oblique case. Besides, only the oblique forms contain nominal affixes, which are underlined.^{8,9}

(20) Structural and oblique case pattern in German: definite NPs and pronouns

	masculine	singular feminine	neuter	plural
nominative	der Mann er	die Frau sie	das Kind es	die Männer/Frauen/Kinder sie
accusative	den Mann ihn	die Frau sie	das Kind es	die Männer/Frauen/Kinder sie
dative	dem Mann ihm	der Frau ihr	dem Kind ihm	den Männern/Frauen/Kindern ihnen
genitive	des Mannes seiner	der Frau ihrer	des Kindes seiner	der Männer/Frauen/Kinder ihrer

The difference between morphologically marked and unmarked case may be reflected in the phrase structure of the respective nominal constituents. According to Bittner and Hale (1996), Bader et al. (1996), and Bayer et al. (2001) unmarked (i.e. structural) case forms simply project DPs or NPs, whereas marked (i.e. oblique) case forms are KPs. We return to this issue below.

- (21) a. [DP D° [NP N°]] unmarked case (nominative and accusative)
 b. [KP K° [DP D° [NP N°]]] marked case (dative and genitive)

6.2.1.2 *Uninflectable indefinite NPs*

German has a small class of uninflectable indefinite NPs as, for example, *genug* ('enough') and *nichts* ('nothing'). Gallmann (1995) points out that these indefinite expressions can only be used as accusative but not as dative objects. This is illustrated by example (22).

- (22) a. Sie hat genug verkauft
 She has enough-ACC sold
 ‘She sold enough’
- b. *Feuchtigkeit schadet genug
 Humidity harms enough-DAT
- c. Ich koche heute nichts
 I cook today nothing-ACC
 ‘I do not cook anything today’
- d. *Dieser Unmensch hat das Kind nichts ausgesetzt
 This monster has the child nothing-DAT exposed.to

6.2.1.3 Sentential complements

A similar contrast is reported in Fanselow and Felix (1987:85f.). They observe that complement clauses can only be assigned nominative or accusative case. Most verbs that select propositional complements assign nominative or accusative case to their complement, but a few verbs also assign dative or genitive case (we illustrate this issue only for dative case; for examples with genitive case see Fanselow and Felix 1987 and Vogel and Steinbach 1995).

- (23) a. Hans leugnete den Diebstahl des Autos
 Hans denied the theft-ACC of.the car
 ‘Hans denied the theft of his car’
- b. Die Darstellung entspricht nicht den Tatsachen
 The presentation fits not the facts-DAT
 ‘The presentation does not fit the facts’

Fanselow and Felix observe that only verbs assigning (nominative and) accusative case to their propositional object can realize this object as a CP. Dative objects cannot be sentential. They draw the conclusion that complement clauses can only be assigned structural case. Oblique case must not be assigned to clauses, as is illustrated in (24b) and (25b).

- (24) a. Hans leugnete, dass er das Auto gestohlen hat
 Hans denied that he the car stolen has
 ‘Hans denied that he stole the car’
- b. *Die Darstellung entspricht nicht, dass dieser Verlust uns so schwer traf
 The presentation fits not that this loss us so
 heavily hit

We have already seen that structural case is morphologically unmarked. Hence, complement clauses, which do not inflect for case in German, are compati-

ble with the zero morphology of the structural cases. Accusative clauses like (24a), as well as nominative clauses like (25c), are therefore grammatical in German. As opposed to structural cases, dative and genitive are morphologically marked. This is what rules out dative and genitive complement clauses. A sentential complement that is assigned dative case usually requires an additional expletive pronominal that inflects for dative case and is coindexed with the extraposed clause as in (25a). Alternatively, these sentential complements can also be realized as nominative subjects of the so-called *kriegen*-‘passive’ (or dative-passive, cf. Section 6.2.2.5 below) as in (25c). Thus the sentential complement of dative assigning verbs has two ways of avoiding dative case. The latter example is from Webelhuth (1990).

- (25) a. Die Darstellung entspricht dem nicht, dass dieser Verlust
 The presentation fits that-DAT not that this loss
uns schwer traf
 us heavily hit
 ‘The presentation does not fit the fact that we were badly hit by this loss’
- b. *Wir messen große Bedeutung bei, dass Reagan
 We measure great significance PARTICLE that Reagan
wiedergewählt wird
 re-elected PAS
 re-elected PAS
- c. Dass Reagan wiedergewählt wird, bekam eine große Bedeutung
 That Reagan re-elected PAS got a great significance
 beigemessen
 attributed
 ‘We attribute great significance to Reagan’s re-election’

Note that in Icelandic, unlike in German, CPs might occur in dative position. Maling (p.c.) points out that in Icelandic propositional arguments in dative position can be realized as CPs if the argument is assigned the theme role. As opposed to propositional theme arguments, propositional goal arguments obligatorily require an expletive pronoun, which can morphologically realize dative case (thanks to Joan Maling and Hans-Martin Gärtner for discussion). See also Maling (1998 and 2001) for a detailed discussion of the differences between direct and indirect objects in English, German, and Icelandic.

6.2.1.4 *Free relatives*

Relative pronouns in free relatives may come into a case conflict because they receive case twice. Case assignment in the matrix clause may differ from case as-

signment in the embedded relative clause, as illustrated in (26).¹⁰ In (26a), the matrix verb assigns nominative, while the embedded verb assigns accusative. According to Vogel (2000), such case conflicts are resolved by two constraints in German:¹¹ (i) The relative pronoun receives the case that is assigned in the embedded relative clause if the matrix case is structural. Thus structural case can be overwritten. This is illustrated in (26a), (26b), and (26c). In (26c) the matrix accusative is ‘outranked’ by the embedded dative. (ii) The relative pronoun does not receive case if the matrix case is oblique because oblique case cannot be overwritten and accusative does not outrank dative, as can be seen in (26d). Free relatives that are assigned oblique case in the matrix clause are only grammatical if the relative pronoun is assigned the same oblique case in the relative clause, as is illustrated in (26e). ‘M: CASE’ stands for the case assigned to the relative pronoun in the matrix clause, ‘E: CASE’ for the case assigned in the embedded clause and ‘Rel: CASE’ for the case the relative pronoun receives.

(26) M: NOM & E: ACC; Rel: ACC

- a. Hier sitzt, *wer / wen das Gericht verurteilt hat
 Here sits who-NOM / whom-ACC the court convicted has
 ‘Whoever the court convicted sits here’

M: ACC & E: NOM; Rel: NOM

- b. Ich lade ein, *wen / wer mir gefällt
 I invite PARTICLE whom-ACC / who-NOM me pleases
 ‘I invite whoever pleases me’

M: ACC & E: DAT; Rel: DAT

- c. Ich lade ein, *wen / wem ich geholfen habe
 I invite PARTICLE whom-ACC / whom-DAT I helped have
 ‘I invite whoever I helped’

M: DAT & E: ACC; Rel: –

- d. Ich helfe, *wem / *wen du eingeladen hast
 I help whom-DAT / who-ACC you invited have

M: DAT & E: DAT; Rel: DAT

- e. Ich helfe, wem du vertraust
 I help whom-DAT you trust
 ‘I help whoever you trust’

Once again, structural case differs from oblique case. Only the former can be overwritten, whereas the latter does everything to preserve its case.

6.2.1.5 *Nominalization*

This point includes three related observations. First, verb-object-compounds are grammatical only if the object receives accusative but not if it receives dative.¹² Dative objects are excluded in principle, no matter whether they are the second or third semantic argument of the verb. Sentence (27e), for example, contains a two-place predicate, which assigns dative case to its second object *Kinder* ('children'). Nevertheless, nominalization is also ungrammatical.

- (27) a. Das Bücherschenken macht Spaß
 The books-ACC.presenting makes fun
 'Presenting books is fun'
 b. Kuchenbacken ist lustig
 Cake-ACC.baking is funny
 'Baking cake is funny'
 c. *Das Kinderschenken macht Spaß
 The children-DAT.presenting makes fun
 d. *Gästenbacken ist lustig
 Guests-DAT.baking is funny
 e. *Beim Kindernhelfen wurde Lady Di entdeckt
 At.the children-DAT.helping was Lady Di discovered

One might argue that nominalization is a lexical process (cf. e.g. Chomsky 1970) that excludes morphologically marked constituents. Recall that Bittner and Hale (1996) assume that datives project a KP. Alternatively, one might argue that dative objects, unlike accusative objects, are not licensed in a syntactic position adjacent to the verb (i.e. the complement of V^o). We return to these two proposals in Section 6.2.3 below.

Secondly, Bader et al. (1996) mention another difference between structural and oblique case, which is also related to nominalization. Nominative and accusative, unlike dative, alternate with a postnominal genitive in nominalizations. Again, only structural case permits conversion into another case (cf. also Maling 1998: 19f. and 2001).¹³

- (28) a. Das Publikum applaudiert
 the audience-NOM applauds
 a'. das Applaudieren des Publikums
 the applauding of.the audience
 b. die Sänger umjubeln
 the singers-ACC cheer
 b'. das Umjubeln der Sänger
 the cheering of.the singers

- c. den Sängern applaudieren
 the singers-DAT applaud
- c'. *das Applaudieren der Sänger
 the applauding of.the singers

Third, so-called 'Rektionskomposita' such as (29a) are less productive with objects assigned dative case (cf. 29b) than with objects assigned accusative case (cf. 29a) (for discussion see Rivet 1999). Although incorporation of dative objects is not completely impossible, as illustrated in (29d), it is much more restricted and less productive than incorporation of the accusative objects in (29c). Again this difference between accusative and dative objects might be related to morphological and/or syntactic differences between structural and oblique case forms.

- (29) a. Wetterbeobachter, Biertrinker, Altenpfleger,
 weather.observ-ER, beer.drink-ER, old.people.car-ER.
 Geldgeber, Briefeschreiber
 money.giv-ER, letter.writ-ER
- b. *Armenspender, *Kindernhelfer, *Altengeber,
 poor.donat-ER, children.help-ER, old.people.giv-ER,
 *Freundenschreiber
 friend.writ-ER
- c. Weintrinker, Biertrinker, Milchtrinker, Schnapstrinker,
 wine.drink-ER, beer.drink-ER, milk.drink-ER, schnapps.drink-ER,
 Wassertrinker, ...
 water.drink-ER, ...
- d. Arzhelfer, *Krankenhelfer, *Altenhelfer,
 doctor.help-ER, sick.person.help-ER, old.people.help-ER,
 *Kindernhelfer, ...
 children.help-ER, ...

6.2.1.6 *Idioms*

Vogel and Steinbach (1995:114) mention that a certain kind of idiom which can be compared to *take care of* or *take advantage of* in English can only be formed with accusative objects. Examples with dative, which are expected to be grammatical, are ungrammatical.

- (30) a. Abstand halten: Maria hielt Abstand von Peter
 Maria kept distance-ACC of Peter
 'Maria kept her distance from Peter'

- b. Rücksicht nehmen: Maria nahm Rücksicht auf Peter
Maria took consideration-ACC on Peter
'Maria showed consideration for Peter'
- c. *Wohlfahrt spenden: Maria hat ihr Geld Wohlfahrt gespendet
Maria has her money-ACC charity-DAT donated
- d. *Pfad folgen: Maria folgte Pfad zu Peter
Maria followed path-DAT to Peter

The accusative object in (30a) and (30b) seems to be (prosodically) incorporated into the verb, which is only possible if the incorporated NP is not marked for case and/or adjacent to the verb. Dative case, unlike accusative case, is morphologically marked, and tends to preserve its case morphology. In Chapter 4 we argued that accusative objects are base generated in the complement position of V° , which is adjacent to the verb. Steinbach and Vogel (1998) argue that dative objects are adjuncts in syntax. Hence, dative objects never occur in a base position that is structurally adjacent to the verb (cf. also the previous subsection).

6.2.1.7 Reflexive pronouns

In Section 2.3 we mentioned that dative reflexive pronouns developed very late in German. Until the end of the 17th century, German had only one pronominal form for dative case. This still holds true for some German dialects. As opposed to dative reflexive pronouns, accusative reflexive pronouns are attested for very early stages of German.

6.2.1.8 Inherent reflexive verbs

At first sight some German verbs selecting a dative reflexive pronoun might be analyzed as inherently reflexive dative verbs. However, a closer inspection reveals that these verbs differ from genuine inherent reflexive verbs selecting an accusative reflexive pronoun. Unlike the accusative reflexive pronoun of inherent reflexive verbs, the dative reflexive pronoun either receives a thematic role assigned by the verb or it can be omitted. First, consider dative reflexive pronouns which are assigned a theta-role. Verbs like *sich-DAT etwas vornehmen* ('intend to do something') or *sich-DAT etwas aneignen* ('appropriate something') assign the theta-roles possessor or goal, which are typical thematic roles for dative objects, to their dative reflexive pronoun. By contrast, inherent reflexive verbs like *sich-ACC schämen* ('be ashamed') do not assign a theta-role to the reflexive pronoun. Hence, the former are not genuine inherent reflexive verbs, although their subject and dative object are necessarily coindexed for

semantic reasons. The second kind of dative reflexive pronoun, which can be omitted, can be found with verbs of perception such as (*sich-DAT*) *etwas anhören* ('listen to something') or (*sich-DAT*) *etwas ansehen* ('look at something'). In this case we observe a semantic difference between the variants with and without a reflexive pronoun. Only the overt reflexive pronoun induces the additional meaning that the experiencer subject perceived the object completely, purposefully and with concentration. Again, these verbs differ from genuine inherent reflexive verbs. The latter do not permit optional reflexive pronouns at all. Unlike the dative reflexive pronoun, the accusative reflexive pronoun is always obligatorily required and it neither receives a theta-role nor does it trigger an additional semantic effect. In sum, German does not have inherent reflexive verbs selecting a dative reflexive pronoun (cf. also Vogel and Steinbach 1995).

6.2.2 Syntactic differences between structural and oblique case

This subsection discusses further differences between structural accusative objects and oblique dative objects, which relate to syntax. These differences concern word order, binding, valency change, and sentence processing.

6.2.2.1 Word order

Recall from Chapter 4 that the linearization of arguments in the middle field depends on various constraints on unmarked word order.¹⁴ Dative NPs can precede nominative and accusative NPs in the unmarked word order in certain contexts because the unmarked position of dative objects is sensitive to animacy: an NP that refers to an animate entity precedes an NP that refers to an inanimate entity.¹⁵ As opposed to dative objects, the unmarked position of accusative objects is 'structurally' fixed. The following example illustrates this difference between dative and accusative objects. *Begegnen* ('meet') in (31a) assigns dative, and *treffen* ('meet') in (31b) accusative. The meaning of both verbs is almost identical.¹⁶

(31) unmarked: DAT > NOM and NOM > DAT

- a. Auf dem Markt ist ein Nomade einem Römer begegnet
 At the market is a nomad-NOM a Roman-DAT met
 'At the market a nomad met a Roman' (unmarked order)
- b. Auf dem Markt ist einem Römer ein Nomade begegnet
 At the market is a Roman-DAT a nomad-NOM met
 'At the market a nomad met a Roman' (unmarked order)

unmarked: only NOM > ACC

- c. Auf dem Markt hat ein Römer einen Nomaden
 At the market has a Roman-NOM a nomad-ACC
 getroffen
 met
 'At the market a Roman met a nomad' (unmarked order)
- d. Auf dem Markt hat einen Nomaden ein Römer
 At the market has a nomad-ACC a Roman-NOM
 getroffen
 met
 'At the market a Roman met a nomad' (marked order)

As opposed to dative objects, accusative objects usually follow the nominative subject. A small class of accusative verbs such as *begeistern* ('fill with enthusiasm') in (32a and b), which do not assign the theta-role agent to their first argument, also permit two unmarked orders: nominative > accusative and accusative > nominative. However, the corresponding dative objects differ again from the accusative ones. Unlike the accusative object, the dative object of a non-agentive verb always precedes the nominative subject in the unmarked word order because the constraint on animacy cannot be outranked by the constraint on agentivity in (32).

(32) unmarked: NOM > ACC and ACC > NOM

- a. Es hat ein Lied einen Jungen begeistert
 It has a song-NOM a boy-ACC filled.with.enthusiasm
 'A boy was enthusiastic about a song' (unmarked order)
- b. Es hat einen Jungen ein Lied begeistert
 It has a boy-ACC a song-NOM filled.with.enthusiasm
 'A boy was enthusiastic about a song' (unmarked order)

unmarked: only DAT > NOM

- c. Es ist einem Jungen ein Stein aufgefallen
 It is a boy-DAT a stone-NOM attracted.attention
 'A boy noticed a stone' (unmarked order)
- d. Es ist ein Stein einem Jungen aufgefallen
 It is a stone-NOM a boy-DAT attracted.attention
 'A boy noticed a stone' (marked order)

Gärtner and Steinbach (1997) observe a similar contrast between dative and accusative objects. In sentence-initial position, dative objects can refer to inanimate entities more easily than accusative objects. Note that discourse linking

of personal pronouns becomes easier if they refer to animate entities, which seem to be more salient. This holds true especially for sentences with marked word order. Unlike dative objects, accusative objects are usually marked in sentence-initial position (cf. Section 4.2 and Cardinaletti and Starke 1994).¹⁷

- (33) a. Er steht seit Stunden an der Bushaltestelle
 He-NOM stands for hours at the bus.stop (he = the bus/Peter)
 ‘Peter has been standing for hours at the bus stop’ or
 ‘The bus has been standing for hours at the bus stop’
- b. Ihn hat Hans an der Bushaltestelle gesehen
 Him-ACC has Hans at the bus.stop seen (him = *the bus/Peter)
 ‘Hans saw Peter at the bus stop’
- c. Ihr fehlt eine Zinke/ ein Schuh
 Her-DAT lacks a prong/ a shoe (her = the fork/Maria)
 ‘Maria lacks a shoe’ or
 ‘The fork lacks a prong’

6.2.2.2 Binding

In the previous chapter we argued that binding is subject to an obliqueness hierarchy. More oblique arguments cannot bind less oblique arguments. Therefore, dative objects are asymmetrically bound by accusative objects (and subjects) and they asymmetrically bind more oblique objects. We repeat the relevant examples in (34) and (35).

- (34) a. Gestern hat man die Gäste₁ einander₁ vorgestellt
 Yesterday has one the guests-ACC each.other-DAT introduced
 ‘Yesterday the guests were introduced to each other’
- b. *Gestern hat man den Gästen₁ einander₁ vorgestellt
 Yesterday has one the guests-DAT each.other-ACC introduced
- c. Der Arzt hat den Patienten₁ sich₁ im Spiegel gezeigt
 The doctor has the patient-ACC RP-DAT in.the mirror shown
 ‘The doctor showed the patient to himself in the mirror’
- d. *Der Arzt hat dem Patienten₁ sich₁ im Spiegel gezeigt
 The doctor has the patient-DAT RP-ACC in.the mirror shown
- (35) a. ... weil den beiden Henkern₁ vor einander₁ graute
 ...because the two executioners-DAT of each.other dreaded
 ‘... because the two executioners dreaded each other’
- b. *... weil vor den beiden Henkern₁ einander₁ graute
 ...because of the two executioners each.other-DAT dreaded

Besides, dative objects can serve as A' -binders. And in this case, they are able to (A' -)bind an accusative object, provided that they c-command it. This is illustrated by the following examples from Vogel and Steinbach (1995:107). These examples include quantifier-pronoun relations, *each...other* constructions, and negative polarity items.

(36) QNP ... Pronoun

a. Ich verweigerte jedem₁ Arbeiter seinen₁ Gehaltsscheck
 I denied each worker-DAT his paycheck-ACC
 'I denied each worker his paycheck'

b. *Ich verweigerte seinen₁ Gehaltsscheck jedem₁ Arbeiter
 I denied his paycheck-ACC each worker-DAT
each ... other

c. Ich gab jedem Arbeiter [die Adresse des anderen]
 I gave each worker-DAT the address-ACC of.the other
 'I gave each worker the other's address'

d. *Ich gab [dem Trainer des anderen] jeden Löwen
 I gave the trainer-DAT of.the other each lion-ACC

negative polarity

e. Ich gab niemandem /*jemandem [auch nur ein
 I gave no.one /someone-DAT even only one
 Buch]
 book-ACC

'I did not give a book to anyone'

f. *Ich gab [auch nur ein Buch] niemandem
 I gave even only one book-ACC no.one-DAT

6.2.2.3 Middle constructions

It goes without saying that dative objects are excluded from middle formation. Dative reflexive pronouns cannot indicate valency reduction. It is only the accusative reflexive pronoun in object position that can be called a middle marker in German.

6.2.2.4 Tough-movement

This is also the case with tough-movement constructions. Again only accusative objects can be promoted to subject, as can be seen in (37a) and (37b). The dative NP of a corresponding active sentence must not be substituted by a nominative NP in the tough-movement construction. (37d) equals an impersonal middle construction.¹⁸

- (37) a. Der Roman ist leicht zu lesen
 The novel-NOM is easy to read
 ‘The novel is easy to read’
- b. *Den Roman ist leicht zu lesen
 The novel-ACC is easy to read
- c. *Der Peter ist nicht zu helfen
 The Peter-NOM is not to help
- d. Dem Peter ist nicht zu helfen
 The Peter-DAT is not to help
 ‘You cannot help Peter’

6.2.2.5 *Passive and ‘D.c.I.’*

The third difference related to valency reduction concerns passive. It is a well known fact that dative objects, unlike accusative objects, cannot be passivized. Again, they cannot be promoted to subject, and it is therefore not at all surprising that they are only grammatical in the impersonal passive in (38c) (‘PAS’ stands for the passive auxiliary).

- (38) a. Das Auto wurde gewaschen
 The car-NOM PAS washed
 ‘The car was washed’
- b. *Der Mann wurde geholfen
 The man-NOM PAS helped
- c. Dem Mann wurde geholfen
 The man-DAT PAS helped
 ‘Someone helped the man’

Note, however, that some authors claim that dative objects can also be structurally passivized. As opposed to accusative objects, dative objects require the passive auxiliary *kriegen* or *bekommen* instead of *werden*.

- (39) Der Vermieter kriegt einen Brief geschickt
 The landlord gets a letter sent
 ‘Someone sent the landlord a letter’ or
 ‘A letter is sent for the landlord’ or
 ‘The landlord manages to send a letter’

Free datives can be ‘passivized’ as well, although they are not selected by the verb.

- (40) Maria kriegt das Zimmer geputzt
 Maria gets the room cleaned
 'The room is cleaned for Maria'

Kriegen-passive is very controversially debated. So far it has not become clear whether sentences like (39) and (40) should be analyzed as a passive (either in syntax or in the lexicon) or as a predicative construction (cf. for example Hölhe 1978, Haider 1984, Reis 1985, Wunderlich 1985, and Kathol 1995). Apart from that, Vogel and Steinbach (1998) argue that (39) and (40) may provide evidence that dative case can be absorbed in *kriegen*-passives. But case absorption may not be an exclusive property of structural case. In contrast, case movement (i.e. movement into a case position) seems to be an exclusive property of structural case. German only has movement into a structural nominative position (passive and raising) and into a structural accusative position (ECM or A.c.I.), but no movement into a (structural) dative position (e.g. ECM with dative case or D.c.I.). Moreover, Burzio's Generalization correlates the assignment of the external theta-role (to the nominative subject) with accusative case assignment. By contrast, assignment of dative case to an object does not depend on the external theta-role (cf. 38c). Note finally that Bader et al. (1996) observe that accusative is the default case assigned to objects. One-place predicates like *schlafen* ('sleep') may select so-called cognate objects, which are always assigned accusative case. This case assignment seems to be 'the result of the presence of a structurally defined [case] position' (Bader et al. 1996: 11).

- (41) a. Peter schlief [einen tiefen Schlaf] /*[einem tiefen Schlaf]
 Peter slept a deep sleep-ACC / a deep sleep-DAT
 'Peter slept like a log'
 b. Peter rannte [das Rennen seines Lebens] /*[dem Rennen
 Peter ran the race-ACC of.his life / the race-DAT
 seines Lebens]
 of.his life
 'Peter ran the race of his life'

In sum, there is a clear asymmetry between nominative and accusative, on the one hand, and dative, on the other hand, with respect to case movement/case assignment.

6.2.2.6 Free datives and multiple datives

German has so-called *free datives*, which can be inserted in sentences rather freely. They are typically interpreted as beneficiary or possessor, but they often

have more than one interpretation. The ambiguity of free datives is illustrated in (42).

- (42) Hans hat seinem Bruder das Buch auf den Tisch gelegt
 Hans has his brother-DAT the book-ACC on the table put
 ‘Hans put the book on his brother’s table’ or
 ‘Hans put the book for his brother on someone’s table’ or
 ‘Hans put the book on someone’s table because his brother wants him to do so’

In addition, the examples in (43) show that more than one dative object can be licensed within one clause. Multiple occurrences of dative objects might be rare but they are not ungrammatical. They seem to be restricted semantically because each dative requires a different interpretation.

- (43) a. Ich habe dir das Schnitzel dem Oliver auf den
 I have you-DAT the schnitzel-ACC the Oliver-DAT on the
 Teller gelegt
 plate put
 ‘I put the schnitzel for you on Oliver’s plate’
 b. Dem Peter habe ich gestern Abend seinem Auto
 The Peter-DAT have I yesterday evening his car-DAT
 einen neuen Motor eingebaut
 a new engine-ACC built.in
 ‘For Peter’s benefit, I inserted a new engine into his car’ or
 ‘Because of Peter’s order, I inserted a new engine into his car’
 c. Der David hat mir der Claudia schon zu viele
 The David has me-DAT the Claudia-DAT already too many
 Komplimente gemacht
 compliments made
 ‘In my view, David has already paid Claudia too many compliments’
 d. Hilf mir bitte mal deinem Vater in der
 Help me-DAT please PARTICLE your father-DAT in the
 Küche
 kitchen
 ‘I want you to help your father in the kitchen, please’

Free or multiple occurrences of accusative (or nominative) objects cannot be found in German. Only very few verbs exist that select two accusative objects, e.g. *lehren* (‘teach’) or *abfragen* (‘test’). Multiple accusatives are limited to these exceptions, and they are not productive anymore (cf. Chapter 3, Footnote 37).

6.2.2.7 *Extraction*

Although intuition is not always entirely clear, accusative NPs are obviously more transparent for extraction than dative NPs.¹⁹ WH- and PP-extraction out of accusative objects is generally much better than extraction out of dative objects (cf. also Müller 1993 and Pafel 1995).²⁰

- (44) a. *_{[PP Über wen]_i} hat der Verleger [einem Buch t_i] keine
 About whom has the publisher a book-DAT no
 Chance gegeben?
 chance given
- b. _{[PP Über wen]_i} hat der Fritz der Anna [ein Buch t_i]
 About whom has the Fritz the Anna-DAT a book-ACC
 gegeben?
 given
 ‘Who did Fritz give Anna a book about?’
- c. *_{[PP Über Optionalität]_i} habe ich [einen Aufsatz über
 About optionality have I an article-ACC about
 Scrambling] [einem Buch t_i] hinzugefügt
 scrambling a book-DAT added
- d. _{[PP Über Scrambling]_i} habe ich [einem Buch über
 About scrambling have I a book-DAT about
 Optionalität] [einen Aufsatz t_i] hinzugefügt
 optionality an article-ACC added
 ‘I added an article about scrambling to a book about optionality’

6.2.2.8 *Coherent infinitives*

Some verbs selecting a *zu*-infinitive can form a morphosyntactic unit with its infinitival complement, which is called ‘coherent infinitive’ (cf. Bech 1983; Grewendorf 1988; and Stechow and Sternefeld 1988). The complex verb, which consists of the matrix verb and the *zu*-infinitive, seems to be one single verb in syntax, and thus assigns only one nominative and one accusative (recall from Section 2.2.2.6 that German does not have multiple nominatives and accusatives). Therefore, verbs selecting a coherent infinitive are expected to be intransitive. They cannot assign accusative case to an additional complement, as illustrated in (45a). However, Haider (1988) shows that dative objects can occur in the matrix clause. Verbs that select a dative object are able to form a coherent infinitive, as (45b) illustrates.²¹ This difference is further evidence for an analysis that distinguishes between structural and oblique case.

- (45) a. *... weil es sie jemand zu lesen überredet
 ... because it-ACC her-ACC someone-NOM to read persuaded
 hat
 has
- b. ... weil es ihr jemand zu lesen versprochen
 ... because it-ACC her-DAT someone-NOM to read promised
 hat
 has
 '... because someone promised her that he would read it'

6.2.2.9 *Topic drop*

Topic-drop is the zero-realization of a fronted constituent, as illustrated in (46a) below. Interestingly, topic-drop fails to be available in a number of environments. First, as discussed by Cardinaletti (1990:79), the null-pronominal occupying CP,Spec under topic-drop cannot be construed as a first or second person object. Neither, secondly, can it stand in for a dative, as (46c) illustrates. Even if the salient discourse referent is itself presented in dative case in the preceding discourse segment, zeroing a dative object via topic drop is ill-formed (cf. also Sternefeld 1985 and Naumann 2001). As opposed to the dative object in (46c), the accusative object in (46b) and the nominative subject in (46a) can be dropped in sentence-initial position (cf. Gärtner and Steinbach 2000 for further discussion).

- (46) a. Ø-NOM komm gleich (nominative)
 come soon
 'I'm coming'
- b. A: Was ist denn mit dem Kennedy?
 What is PARTICLE with the Kennedy
 'What about Kennedy?'
 B: Ø-ACC kenne ich nicht (accusative)
 know I not
 'I don't know him'
- c. A: Und wieso hat den Asylanten niemand geholfen?
 And why has the asylum.seekers no.one helped
 'Why didn't anyone help the asylum-seekers?'
 B: *Ø-DAT hilft hier doch nie einer (dative)
 helps here PARTICLE never one
 'No one ever helps them over here'

6.2.2.10 Sentence processing

Bader et al. (1996) demonstrate in an off-line study and an ERP-experiment that processing difficulties arise if an object NP in clause-initial position which is not morphologically marked for case (i.e. ambiguous between accusative and dative case) must be assigned dative instead of accusative. A garden-path effect arises, especially if the distance between the sentence-initial NP and the verb that assigns either accusative or dative is long enough. This is illustrated in (47).

- (47) a. Dirigenten, die ein schweres Werk einstudiert haben,
 Conductors-ACC who a difficult opus rehearsed have
 kann ein Kritiker ruhig umjubeln
 can a critic savely cheer
 'A critic may well cheer conductors who rehearsed a difficult opus'
- b. #Dirigenten, die ein schweres Werk einstudiert haben, kann
 Conductors-DAT who a difficult opus rehearsed have can
 ein Kritiker ruhig applaudieren
 a critic savely applaud

The syntactic structures of both sentences in (47) do not crucially differ. Thus the garden-path effect in (47) is solely related to case assignment. The first sentence contains a verb that assigns accusative case and is much easier to parse than the second one, which contains a verb assigning dative. Bader et al. argue that this difference can be explained on the basis of the same distinction that we draw: the parser prefers assignment of structural case over oblique case (in their terminology *abstract* case is preferred over *lexical* case). The lexicon must only be reaccessed in sentences like (47b) which contain an NP which turns out to be assigned lexical dative case. This results in a garden-path effect. The relevant assumptions from Bader et al. are summarized in (48).

- (48) a. If possible, prefer structural Case over oblique Case
 b. If possible, prefer nominative Case over accusative Case ²²

6.2.3 The syntax of dative objects

All the examples discussed in Sections 6.2.1 and 6.2.2 indicate that German makes a distinction between structural and oblique case. Only nominative and accusative are structural in German. This distinction is language-specific. Other languages such as, for example, Icelandic or Basque might have structural dative case (cf. Gallmann 1992, Joppen and Wunderlich 1994, Smith 1994, or Zaenen et al. 1985). We also found evidence for an additional asymmetry

between nominative and accusative case: nominative is ranked higher than accusative just as dative case is ranked higher than other oblique cases.²³ This distinction supports the picture that we gave at the end of Chapter 5.

- (49) nominative > accusative > dative > others

The differences between accusative and dative objects can be explained under the assumption that (i) structural case is morphologically unmarked, whereas oblique case is morphologically marked and (ii) structural and oblique cases differ in syntax. Analyses like those proposed in Fanselow (1995), Gallmann (1992), Sabel (1995), Wegner (1991), and Wunderlich (1992), who treat dative (or at least certain instances of dative) as structural case, incorrectly predict that accusative and dative objects behave more or less alike.

The difference between structural and oblique case can be implemented in various ways. Müller (1993), for example, argues for a derivational account. Dative objects move from their VP-internal Θ -position into the specifier of μP , a VP-shell, for case reasons. In this position they receive dative case. Unlike accusative case, dative case is not assigned in the VP-internal base position by the verb.

- (50) $[\mu\text{P}_{\text{DAT}_1} [\text{VP}_{\text{ACC}} [\text{V}' \text{t}_1 \text{V}^o]]]$
-

Müller claims that in German, $\mu\text{P}_{\text{Spec}}$ is an A' -position per definition. With this he can account for the A' -properties of dative objects and the asymmetry between structural and oblique case. One could, for example, argue that A-movement (i.e. passivization, middle formation, or tough-movement) is excluded for dative objects because this would lead to a violation of the *principle of unambiguous binding* (cf. Müller and Sternefeld 1993).²⁴ Müller's analysis is based on Chomsky's (1981) theory of binding. According to this theory, a dative reflexive pronoun must be c-commanded by its nominative or accusative antecedent. Recall from Chapter 5 and Section 6.2.2.2 above that nominative and accusative NPs asymmetrically bind dative NPs. In order to account for this asymmetry, Müller assumes that (dative) reflexive pronouns need not be assigned case. A dative reflexive pronoun stays in its VP-internal base position and can thus be bound by an accusative object, which c-commands the reflexive pronoun in this position (cf. the structure in (50) above).

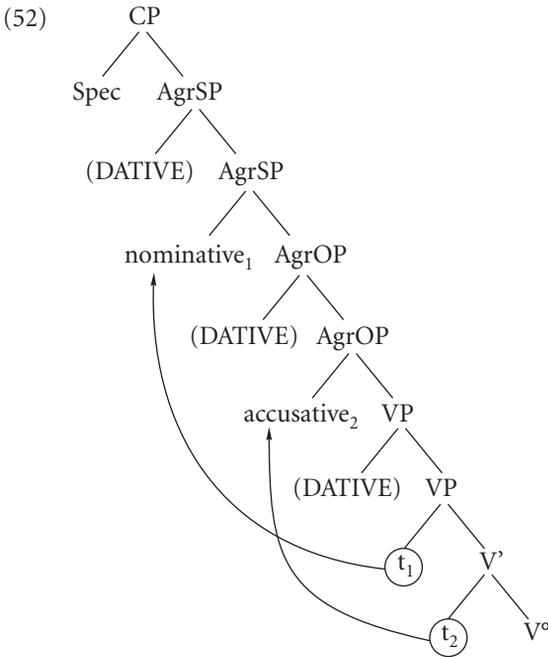
In sum, Müller's analysis might account for many of the differences between accusative and dative objects. Nevertheless, we reject the assumption of

a μ P for two reasons. First, the stipulation that (dative) reflexive pronouns need not be assigned case cannot be maintained. We have already seen that oblique case forms are morphologically marked. Following Bittner and Hale (1996) they have to be analyzed as KPs. Moreover, in the first and second person singular the dative form of reflexive pronoun (*mir, dir*) clearly differs from the accusative form (*mich, dich*). Thus dative reflexive pronouns are morphologically case marked (at least in the first and second person).²⁵ Additionally, even reflexive pronouns are expected to be subject to the case filter. Second, Müller incorrectly predicts that free datives must not be bound by an accusative object because they are inserted directly into μ P,Spec. However, as seen in Chapter 6, free datives can be bound by accusative objects. We repeat the examples in (51).

- (51) a. Maria setzte die Kinder₁ einander₁ auf den Schoß
 Maria sat the children-ACC each.other-DAT on the lap
 ‘Maria sat the children on each other’s lap’
 b. *Maria setzte den Kindern₁ einander₁ auf den Schoß
 Maria sat the children-DAT each.other-ACC on the lap

We therefore propose a different analysis of dative objects. One might argue that the phrasal category of dative objects differs from that of accusative objects and nominative subjects. Only the former project a KP. Nominative and accusative simply project DPs. Thus, oblique case forms are syntactically more complex than structural case forms. This hypothesis might account for certain asymmetries between structural and oblique case forms. Apart from that, one could argue that only arguments which are linked to DPs can undergo argument structure alternations such as passivization, middle formation, and tough-movement. This line of argumentation can be found in Bittner and Hale (1996), Bader et al. (1996), and Bayer et al. (2001). Alternatively, one might argue that all dative objects are adjuncts in syntax. As opposed to Müller (1993), Vogel and Steinbach (1998) propose that dative objects do not move into an A'-position but are base-generated as adjuncts. Dative objects are thus analyzed as argument-adjuncts in the sense of Grimshaw (1990) and Jackendoff (1990). Note that these two alternative approaches do not exclude each other. Dative objects might be syntactic adjuncts because they are KPs. Vogel and Steinbach argue that dative objects are adjoined either to VP, to AgrOP or to AgrSP (cf. structure (52) below). The insertion into one of these positions depends on the constraints regulating word order in the German middle field. The position of accusative objects (as well as nominative subjects) is structurally fixed. Accusative objects must check their (structural) case feature in the extended projection of the verb (cf. Vogel and Steinbach 1995 and 1998 for a more detailed

discussion of this issue). In (52) TP and the heads of the functional projections are omitted.



This analysis correctly predicts that dative objects cannot undergo ‘middle formation’. A-chain formation as defined in Chapter 5 is impossible for dative objects because they are A'-elements in German. Dative reflexive pronouns cannot be bound by the subject in syntax, and the non-argument interpretation is therefore excluded. A dative reflexive pronoun is always linked to a semantic argument of the verb, and it must be bound by a less oblique co-argument of the predicate, i.e. an argument that is linked either to the nominative subject or to the accusative object. Reduction of the first argument and promotion of the second argument is generally restricted to arguments that are linked to structural case positions. Of course, a wide-ranging study of structural and oblique case forms and their morphological, syntactic, and semantic properties is necessary for a better understanding of the interaction of case and valency change/argument structure alternations.²⁶ For the present study of middle voice in German, the illustration that the distinction between structural and oblique case is independently motivated will suffice.

6.3. Conclusion

The first part of this chapter dealt with the difference between middle constructions and anticausatives. We argued that the implicit first argument can either be saturated or reduced and that saturation is lexically restricted to arguments that are not specified as [+mental state involved]. Then, we compared unaccusatives to middle constructions and showed that our analysis provides an indirect argument against a syntactic analysis of unaccusatives. In the second part we gave various empirical arguments in support of the distinction between structural and oblique case. Unlike nominative and accusative case, dative case is oblique. Dative objects cannot undergo middle formation because they are not syntactic arguments.

Notes

1. Argument saturation also applies to implicit objects/second arguments. As opposed to implicit subjects, implicit objects are not morphosyntactically marked in German because they do not change the linking principles. In (i) the subject is still linked to the first semantic argument of the predicate as required by the linking principles.

- (i) Peter trinkt \Rightarrow D < p, y > \rightarrow OPy D < p, y >
Peter drinks
'Peter drinks / is drinking'

The implicit argument is bound either by the existential quantifier or by a generic operator. We come back to argument saturation immediately (cf. also Section 3.2).

2. Argument saturation also yields the passive interpretation in languages that have reflexive passives (cf. Section 2.3 and Chapter 7).

3. The German verb *schneiden* ('cut') is an interesting example.

- (i) Peter hat das Brot geschnitten
Peter has the bread cut
'Peter cut the bread'

Schneiden refers to an event that is not necessarily volitional. You can cut yourself by accident. Reinhart's analysis predicts that the first argument of *schneiden* is not intrinsically specified as [+mental state involved]. Hence, we expect instrument subjects (cf. ii) as well as argument reduction (cf. iii) to be grammatical with *schneiden*.

- (ii) Das Messer schnitt tief ins Fleisch
The knife cut deep in.the meat

- (iii) Peter hat sich gestern (an einem spitzen Stein) geschnitten
 Peter has RP yesterday (at a sharp stone) cut
 ‘Peter was cut by a sharp stone’

4. In a case-based linking theory, we can state the following linking-principles for active sentences:

- (i) a nominative subject is linked to the first argument of the verb
 (ii) an accusative object is linked to the second argument of the verb

We refer the reader to Vogel (1998) for a more detailed discussion of this issue.

5. No problem arises if both kinds of one-place predicates have the same lexical semantic representation in (10a). However, this analysis would have to neglect the semantic differences (cf. next footnote).

6. For a purely lexical analysis of unaccusatives in German see e.g. Haider (1985) or Wunderlich (1985). In contrast to these two authors, Grewendorf (1983 and 1989) claims that unaccusatives and unergatives also differ in syntax. Fagan (1992) argues against a syntactic and a lexical distinction between these two types of one-place predicates. See also Abraham (2000) for a discussion of syntactic analyses of unaccusativity and the correlation between ergativity and unaccusativity. We also refer the reader to Perlmutter (1978), Burzio (1986), and Levin and Rappaport Hovav (1995) for a broader discussion of this issue.

Recall from Section 2.1 that unaccusatives differ in certain respects from unergatives, although the diagnostics do not always yield a clear classification. Unaccusatives typically have proto-patient entailments for their subjects, while unergatives have more proto-agent entailments for their subjects. These differences are clearly semantic and at least for German there is no clear evidence for an additional syntactic distinction between unergative and unaccusative one-place predicates (cf. also Steinbach 2000). Besides, this subsection illustrates that middle constructions provide an additional indirect argument against a syntactic analysis of unaccusativity.

7. Besides, dative and accusative reflexive pronouns that are assigned case by a preposition are excluded from middle formation because prepositional objects are also oblique in German (cf. also Section 2.4).

8. Many German dialects have an even more restricted pattern. They only distinguish between unmarked (structural) and marked (oblique) forms. The following paradigm of the definite determiner in Zurich German, a German dialect spoken in Switzerland, is taken from Cooper (1994: 15). Swabian is almost identical to Zurich German in this respect.

- (i) Structural and oblique case pattern in Zurich German

	masculine	singular feminine	neuter	plural
nom/acc	de	d	s	d
dat	em	de	em	de

9. Some nouns additionally distinguish between weak and strong forms. In this case, the masculine singular nominative form of the noun differs from the corresponding accusative and dative forms. The noun *Beamter* ('civil servant') is one example. The nominative singular form is *der Beamte/ein Beamter*, while the accusative and dative form is *den Beamten/einen Beamten* and *dem Beamten/einem Beamten*. In addition, the old dative form of masculine and neuter singular contains the nominal case affix *-e*, i.e. *dem Manne* and *dem Kinde*.

10. Free relatives are always grammatical when both the matrix and the embedded case are identical.

- (i) a. Auf dieser Liege schläft, wer müde ist (M: NOM & E: NOM; Rel: NOM)
 On this couch sleeps who-NOM tired is
- b. Ich sehe, wen du siehst (M: ACC & E: ACC; Rel: ACC)
 I see who-ACC you see
- c. Ich helfe, wem du hilfst (M: DAT & E: DAT; Rel: DAT)
 I help whom-DAT you help

11. Such case conflicts are resolved quite differently in various languages. Note that some speakers of German judge examples such as (26b) as ill-formed. These speakers do not allow a case form which is more oblique to be overwritten by a case form which is less oblique. Only more oblique case forms can overwrite less oblique ones. Hence, accusative can only overwrite nominative, whereas dative can overwrite both nominative and accusative. Nominative cannot overwrite any other case form. Speakers of this variant of German only accept embedded nominatives if both the accusative and the nominative wh-pronoun are homophones. The wh-pronoun *was* ('what') in (i) is either nominative or accusative. Therefore, this example is well-formed for all native speakers of German. For a detailed discussion see Vogel (2000).

- (i) Ich erzähle, was immer mir gefällt
 I tell what ever me pleases

Speakers who accept (26b) draw a distinction between structural and oblique case, while the judgments of speakers who do not accept (26b) rely on the general obliqueness hierarchy proposed for German in Chapter 4, (28). See also Section 6.2.3, especially Footnote 23, (iv). Our analysis of dative objects can account for both variants of German.

12. Note that the complex nominal is one phonological word, which only receives one primary accent.

13. Note that the postnominal genitive can also realize the agent role in (28b') and (28c'). With this interpretation example (28c') is grammatical.

14. Only the unmarked word order permits maximal focus spreading/projection (cf. e.g. Höhle 1982: 126).

15. This constraint is rather weak. Therefore, all of the other intervening constraints must be neutralized. Especially the constraint based on agentivity is very strong: the NP that refers to an agent precedes other constituents.

16. For a more detailed discussion see Reis (1987), Vogel and Steinbach (1998), Haider and Rosengren (1999), and Gärtner and Steinbach (2000).

17. Accusative pronouns in clause-initial position may also refer to inanimate entities provided the sentence is embedded in an appropriate context. Dative pronouns do not require this additional context (cf. Gärtner and Steinbach 1997 for further discussion).

- (i) a. Ihr Geld ist ja nicht weg, meine Damen und Herren. Es haben jetzt nur andere
Your money is indeed not away my ladies and gentlemen. It have now only others
'Indeed, your money isn't gone, ladies and gentleman. It's only that others have it now'
- b. Das wissen nicht nur die Experten, es wissen auch die Laien
That know not only the experts, it know even the laymen
'Not only the experts know that, even the laymen do'

18. Unlike impersonal middle constructions, 'impersonal' tough-movement constructions must not have an impersonal subject. In this respect they are like impersonal passives in German (cf. Section 2.1.2).

19. It has often been claimed that extraction out of scrambled objects is impossible. However, extraction from a 'scrambled' direct object still seems to be much better, if not perfectly grammatical, than extraction from a dative object. Example (i) is from Fanselow (1995).

- (i) Worüber hätte [einen solchen Schmähartikel t] selbst der Peter nicht aus Wut
About what would have [a such diatribe-ACC t] even the Peter not in anger
verfassen können
write can
'About what would even Peter not have been able to write such a diatribe in anger'

Even extraction out of subjects is grammatical. Consider the following examples from Vogel and Steinbach (1998).

- (ii) [Von Thomas Mann]_i hat mich noch [kein Roman t_i] überzeugt
By Thomas Mann has me-ACC yet no novel-NOM convinced
'No novel by Thomas Mann convinced me yet'
- (iii) [Von Thomas Mann]_i habe ich noch [keinen Roman t_i] gelesen
By Thomas Mann have I-NOM yet no novel-ACC read
'I have not read any novel by Thomas Mann yet'
- (iv) *[Von Thomas Mann]_i habe ich noch [keinem Roman t_i] neue Einsichten abgewonnen
By Thomas Mann have I-NOM yet no novel-DAT new insights won from
'I didn't get new insights from any novel by Thomas Mann yet'

There is a clear contrast between extraction from datives, on the one hand, and extraction from accusatives, on the other hand, at least if we deal with extraction within a clause and not across clause boundaries.

20. This contrast may be related to processing asymmetries, which are discussed below. A parser seems to prefer accusative objects over dative objects for the reconstruction of the fronted constituent.

21. Scrambling the embedded object in front of the matrix subject is only possible with coherent infinitives. According to this criterion, both sentences in (45) are coherent constructions. Besides, coherent infinitives are also grammatical with two dative objects (cf. Vogel and Steinbach 1998).

- (i) ... weil einem kranken Schüler der Rektor dem Lehrer zu helfen erlaubte
 ... because a sick student-DAT the headmaster-NOM the teacher-DAT to help allowed
 '... because the headmaster allowed the teacher to help a sick student'

22. The second assumption can be derived from the fact that every sentence that contains an accusative object also contains a subject. ECM-constructions may be the only exception. In ECM-constructions the subject of the embedded sentence is assigned accusative case. But even in this case, a subject assigned nominative is present in the matrix clause. Moreover, we saw in the previous section that in subject oriented languages like German implicit or reduced accusative objects do not require morphosyntactic marking, while implicit or reduced subjects do (e.g. in passives, anticausatives, or middle constructions). Thus only the omission of the subject is morphosyntactically marked.

23. This asymmetry follows from the syntactic analysis of nominative and accusative case which is standard in GB-theory: Nominative NPs always c-command accusative NPs. For the analysis of subjects in HPSG see Pollard and Sag (1994). Note that in German finite verbs only agree with a nominative subject. Moreover, only nominative case seems to depend on the specification of tense. Nearly all [+finite] clauses obligatorily require a nominative NP. The examples in (i)–(iii) might be exceptions to this generalization.

- (i) Jetzt wird (*es) geschlafen
 Now PAS (*it) slept
- (ii) Mir ist schlecht
 Me-DAT is sick
 'I feel sick'
- (iii) Seid ruhig!
 Be quiet

The analysis illustrated in (48) makes various classifications possible. First, structural case can be distinguished from oblique case, i.e. (iv-a). This is the classification we are interested in. Second, the subject (nominative) can be distinguished from the objects, i.e. (iv-b). This classification accounts for the exceptional status of the nominative subject in German. And finally, nominal objects can be distinguished from prepositional objects, i.e. (iv-c).

- (iv) a. {[nom, acc], [dat, others]}
 b. {[nom], [acc, dat, others]}
 c. {[nom, acc, dat], [others]}

Further investigation into the interaction of various morphological, syntactic, and semantic properties of arguments will be necessary for a better understanding of nominative, accusative, and dative case in German. See also the discussion in Weerman (1996) and Dürscheid (1999).

24. The principle of unambiguous binding demands that every intermediate trace of a movement chain must be of the same type as the head of the chain, i.e. either A or A'.

25. In addition, MHG and some dialects of Modern German allow dative personal pronouns, which are also clearly case marked, to be locally bound.

26. We are aware of the fact that this analysis of dative objects also requires a modified account of their semantics. In our framework, dative objects receive a semantic interpretation like other oblique case forms as e.g. *von*-PPs (by-phrases) or *mit*-PPs (with-phrases, see e.g. Strigin 1995), which are also adjuncts in syntax. Many oblique case forms can be linked to a semantic argument of the verb. Structural case-positions (or VP-internal argument positions) are only one possibility of argument realization/linking.

An explanation of the (verb-independent) semantics of free datives is also independently needed. This possibly leads to a unified analysis of the semantics of dative (and other oblique) objects in general. Wegener (1985) observes that all datives seem to have some underspecified meaning in common, which can be roughly outlined as follows: the entity the dative object refers to seems to be 'personally affected' by the event/action. Consider the following two examples.

- (i) Arsene Lupin hat Cäsars Toga/*dem Cäsar die Toga gestohlen (aus dem Museum)
Arsene Lupin has Caesar-GEN toga/the Caesar-DAT the toga stolen (from the museum)
- (ii) Peter hat den Brief dem Bundeskanzler/an den Bundeskanzler geschickt
Peter has the letter the chancellor-DAT/to the chancellor sent

Caesar cannot be affected by the theft because he is dead. Therefore, the dative, but not the genitive, is odd in (i). In the second example (ii), only the dative object implies that the letter is necessarily meant for the chancellor. With the PP, the chancellor is understood as the addressee, but the letter is not necessarily meant for him. 'Personal affectedness' may also be the reason why dative NPs rarely refer to inanimate entities.

Similar examples are embedded V2-clauses and certain kinds of parentheticals in German (cf. Reis 1995). We argued in Chapter 1 that embedded V2-clauses cannot be selected by the verb. Instead they are licensed by general semantic and pragmatic conditions. Steinbach (1999c) argues that parenthetical constructions are yet another example for 'non-standard' argument linking (cf. also Vogel 1998 for further examples).

Middle constructions revisited

In this chapter we finally return to middle constructions. The analysis proposed in the previous chapters implies that middle constructions neither exist in the lexicon nor in the syntax. We argued in Chapters 5 and 6 that non-argument reflexives are not linked to a semantic argument themselves. Instead, they mediate the linking of the subject to the second argument (position) of the predicate. The first semantic argument does not project to syntax and must therefore either be bound by a quantifier or be deleted. Following Chierchia (1989), we called the first operation on implicit arguments *argument saturation* and the second one *argument reduction*. Middle constructions are the output of argument saturation. Hence, the specific meaning of middle constructions results from the interpretation of complex A-chains, on the one hand, and the semantic operation of argument saturation, on the other hand. Syntactically, middle constructions are simple transitive reflexive sentences. Consequently, we cannot account for the quasi-obligatory adverbial modification in middle constructions and their so-called ‘generic’ interpretation in the lexicon or in syntax. These properties of middle constructions should follow from their semantics (and possibly their pragmatics). In this chapter we want to outline how these problems can be handled in a postsyntactic approach. We turn to genericity first. Adverbial modification is briefly discussed in the second part of this chapter, Section 7.2. The final section deals with adjunct middles in German. It will turn out that adjunct middles make use of the interpretation of complex A-chains and the generic quantification.

7.1. Middle constructions and genericity

Recall that we argued in Section 3.2.1 that middle constructions are *characterizing sentences* in the terminology of Krifka et al. (1995). As opposed to Fellbaum and Zribi-Hertz (1989), Fagan (1992) and Ackema and Schoorlemmer (1994), we do not assume that ‘middle verbs’ are individual-level predicates. Middle constructions differ in several respects from clauses that

contain an individual-level predicate. First, middle constructions, unlike sentences containing individual-level predicates, permit temporal modification.¹ Second, in middle constructions locative PPs can modify either the subject (NP-modification) or the event described by the verb (VP-modification). Individual-level predicates do not permit the latter interpretation. Third, middle constructions can be modified by adverbs of quantification. Fourth, middle constructions do not necessarily describe a permanent property of their subject (which is linked to the second argument of the verb). And finally, some adverbs clearly modify the whole event in middle constructions. The relevant examples are repeated in (1)–(5), for individual-level predicates see Section 3.2.1.

- (1) Heute Abend verkaufen sich die Bücher wie warme Semmeln
 This evening sell RP the books like hot cakes
 ‘This evening the books sell like hot cakes’
- (2) ... weil sich die Bücher in diesem Laden gut verkaufen
 ... because RP the books in this shop well sell
 ‘... because the books in this shop sell well’ or
 ‘... because in this shop the books sell well’
- (3) a. Dieses Buch liest sich immer wieder gut
 This book reads RP always again well
 ‘This book always reads well’
 b. In Ostfriesland wandert es sich nur selten gut
 In East-Frisia wanders it RP only rarely well
 ‘In East-Frisia you can only rarely hike well’
- (4) Der Bach hat sich gestern Abend ausnahmsweise mal
 The Bach has RP yesterday evening exceptionally PARTICLE
 ganz gut gespielt
 quite well played
 ‘Exceptionally, this piece by Bach played well last night’
- (5) ... weil sich der Rasen schnell mäht
 ... because RP the lawn quicky mows
 ‘... because the lawn mows quickly’

Recall that the frequency adverbs in (3) quantify either over events (situations or happenings) or over individuals (cf. e.g. Cohen 1996). The latter usually involve subjects that refer to kinds. Fagan (1992:154) argues that in middle constructions these adverbs only quantify over individuals. However, quantification over individuals is clearly excluded in (3) because the subject in (3a) and the locative expression in (3b) do not refer to kinds. In (3) the frequency

adverbs quantify over the event or situation variable, which must be provided by the stage-level predicate of the middle construction. In addition, middle constructions are morphosyntactically simple active sentences. They provide no morphosyntactic evidence that all ‘middle verbs’ change from stage-level to individual-level predicates.

Recall from Chapters 5 and 6 that middle constructions contain an unbound semantic variable, which must be bound by a semantic operator. In personal middle constructions like (6), the syntactic subject is linked to the second argument of the verb. The first argument cannot be linked to syntax because VP,Spec is occupied by an intermediate trace of the complex A-chain. As opposed to anticausatives, middle constructions do not involve deletion of the implicit argument. Therefore, the free argument variable x in (6b) must be bound by a semantic operator. We called this semantic operation argument saturation.

- (6) a. Das Buch liest sich schnell
 The book reads RP quickly
 ‘The book reads quickly’
 b. read (s, x, b) & quick (s)

We propose that the implicit argument (and the situation variable) can be bound either by an existential quantifier or by a generic operator. Existential quantification of the implicit first argument yields the passive interpretation and generic quantification the middle interpretation. In Section 2 we saw that middle constructions and passives are morphosyntactically identical in many Indo-European languages. In these languages constructions with weak reflexive markers (i.e. the middle voice) receive both the passive and the middle interpretation, which only differ in the semantic operator that binds the implicit argument. The same ambiguity between existential and generic quantification can also be found in sentences that contain an implicit object. Consider the two readings of the German sentence in (7), which are paraphrased in (i) and (ii).

- (7) Peter näht in der Küche
 Peter sews in the kitchen
 (i) ‘Peter is sewing something in the kitchen now’ (existential)
 (ii) ‘Whenever Peter sews something he does this in the kitchen’ (generic)

Again the implicit semantic argument can be existentially or generically bound, and sentence (7) can be used to describe a specific situation or a habit of Peter. It is a well-known fact that most sentences in German can report either a particular situation or a regularity because German, unlike English, does not make

an aspectual distinction between episodic and generic sentences. Therefore, it is not surprising that implicit arguments (i.e. unbound argument variables) can be bound by an existential quantifier or a generic operator. Both unselectively bind any free variable in their scope. Turning to the first semantic argument, we find the same ambiguity between existential and generic binding. However, in this case German has two different constructions for existential and generic quantification. Unlike many Indo-European languages, German does not use the same construction for both kinds of quantification. Instead, German has two morphosyntactically different constructions for the passive and the middle interpretation.² Unlike middle constructions, passives are not reflexive.

- (8) a. Der Bericht schreibt sich schnell (middle construction)
 The report writes RP quickly
 ‘The report writes quickly’
- b. Der Bericht wurde schnell geschrieben (passive)
 The report was quickly written
 ‘The report was quickly written’

German shows a division of labor with respect to the interpretation of the implicit first argument. Passives are responsible for existential quantification, and middle constructions for generic quantification.

So far, our analysis of the semantic ambiguity of transitive reflexive sentences we developed in Chapters 5 and 6 is compositional. However, this does not hold true for the generic interpretation of middle constructions. As far as we can tell, this semantic aspect of middle constructions can neither be attributed to the reflexive pronoun (middle marker) nor to the adverbial modification. In many languages, reflexive constructions can also receive a passive interpretation. In Section 2.3 we have mentioned that the passive interpretation of the middle voice correlates with the degree of grammaticalization (cf. Chapter 2.3, Footnote 36). Middle markers with less phonological and morphological substance seem to trigger the passive interpretation more easily than middle markers with more phonological and morphological substance. Recall that in Greek, Russian, French, and Italian the middle markers are bound morphemes, while in German the middle marker is a free morpheme. In addition, anticausatives and simple reflexives are not generic statements, although they also contain a reflexive pronoun. The same holds true for the (manner) adverbs usually modifying middle constructions. They do not necessarily trigger a generic interpretation, as can be seen, for example, in the passive in (8b). Hence, the generic reading of middle constructions seems to be a construction-

specific property. In this respect, middle constructions in German equal conditional sentences, which also have construction-specific semantic properties.

We follow Krifka et al. (1995) and Cohen (1996) who analyze the generic operator as a dyadic semantic operator that binds any free variable in its scope and relates two open formulas, the restrictor and the nuclear scope.³ Cohen argues that the topic of the sentence is always mapped into the restrictor and the comment (including the focus) into the nuclear scope.⁴ The definition of topic varies, but most linguists agree that the topic is an (improper) part of the non-focus (cf. Vallduví 1990 for a detailed discussion). Intuitively, the topic is that which the sentence is about. In middle constructions the topic is most likely the subject of the sentence.⁵ Consider the following example. Recall that the subject of middle constructions is linked to the second argument position of the verb. In addition, it is mapped to the restrictor of the semantic representation in (9c). The adverb *leicht* ('easily') is the focus, and the rest of the sentence can be called the background. The focus and the background are together mapped to the nuclear scope.

- (9) a. Wie liest sich Krieg und Frieden?
 How reads_{RP} War and Peace
 'How does War and Peace read?'
 b. Krieg und Frieden liest sich [leicht]_F
 War and Peace reads_{RP} easily
 'War and Peace is easy to read'
 c. GEN_{S,X,Y} [y = war-and-peace] [read(s,x,y) & easy(s)]

In (9), the generic operator takes sentential scope. It binds the 'topic', the implicit argument, and the situation variable. (9) is thus a characterizing or habitual sentence, according to Krifka et al. (1995). Simplifying somewhat, the generic operator can be analyzed as the phonologically empty counterpart of the frequency adverb *usually*. The generic sentence in (9) is evaluated with respect to a set of (salient) alternatives. Cohen (1995) argues that the set of alternatives is usually determined by the focus. Recall from Chapter 4 that the focus semantic value of a sentence is a set of alternatives. The alternatives to the focus in (9b) are for example {hard, badly, well, quickly, excellently, ...}. Hence, sentence (9b) would be true if a situation in which someone reads *War and Peace* is very likely to be a situation in which *War and Peace* is easy to read for this person.⁶

This analysis can also be applied to impersonal middle constructions. Impersonal middle constructions usually contain an additional locative, instrumental, or temporal adverbial expression, which is the topic of the respective

sentence. Recall that the impersonal subject *es* is not linked to a semantic argument in impersonal middle constructions. Therefore, the locative adverbial phrase *in diesem Bett* is mapped into the restrictor in example (10). The set of alternatives is again determined by the adverbial expression. (10b) says that it is generally true for sleeping situations in this bed that they are comfortable (i.e. they are more likely do be comfortable than e.g. uncomfortable).

- (10) a. Wie schläft es sich in diesem Bett?
 How sleeps it_{RP} in this bed
 ‘How can you sleep in this bed?’
- b. In diesem Bett schläft es sich [bequem]_F
 In this bed sleeps it_{RP} comfortably
 ‘In this bed you can sleep comfortably’
- c. GEN_{S,X,Y} [in-this-bed(y)] [sleep(s,x,y) & comfortable(s)]

This analysis enables us to derive several observations discussed in the second chapter. First, we can account for Fagan’s (1992) observation that a middle construction usually attributes a property to its subject. The topic of a sentence is the element which the sentence is ‘about’. The tripartite structure in (9c) and (10c) predicates the nuclear scope over the restrictor. That is, for the restrictor of a generic sentence, what is described by the nuclear scope generally holds true. Recall that sentence (9b) would be true if a situation in which someone reads *War and Peace* is very likely to be a situation in which *War and Peace* is easy to read for this person. Hence, *War and Peace* has the property that it is most probably easy to read. The attribution of a property to the middle subject follows directly from the generic interpretation of middle constructions. The stipulation that middle verbs are individual-level predicates that describe a permanent property of their subject (i.e. their second semantic argument) is thus unnecessary. Besides, it is also not entirely correct for two reasons. First, we have already seen that middle constructions can be modified by temporal and local adverbs, as (1), (2), and (4) above illustrate. These examples do not attribute a permanent property to their subject. Second, middle constructions can also describe a permanent property of some other constituent, as long as it is mapped into the restrictor. In impersonal middle constructions like (10b), the property of being comfortable is attributed to an adjunct.

Secondly, the ‘responsibility’ of the syntactic subject also seems to be closely related to the generic interpretation of middle constructions. Recall that some middle constructions are unacceptable because the second semantic argument (i.e. the syntactic subject of the middle construction) cannot be under-

stood to be responsible for the event described by the verb. This is illustrated by the following minimal pairs.

- (11) a. *These books buy well
 a'. *Diese Bücher kaufen sich gut
 b. These books sell well
 b'. Diese Bücher verkaufen sich gut

In the previous chapters we argued that middle constructions are morphosyntactically simple (transitive) active sentences. Hence, one might argue that the second argument of the verb inherits some prototypical semantic properties of the subject of active sentences. In particular, it might inherit the 'responsibility' for the event described by the verb. By contrast, this is not possible in passives. However, we think that the responsibility of the subject also results from the generic interpretation. First, responsibility clearly depends on the context, as (12) illustrates.

- (12) a. Bei fachlich geschultem Personal kauft sich die richtige
 With qualified personnel buys RP the right
 Software letztlich doch schneller als im Discounter
 software in.the.end PARTICLE faster than in.a discount.store
 'In the end the right software buys faster with qualified personnel than
 in the discount store'
- b. Standardgrößen kaufen sich leichter als Sondergrößen
 Standard.size buys RP more.easily than extra.size
 'Standard size is easier to buy than extra size'

Second, it need not be the syntactic subject of the middle construction that is 'responsible'. In impersonal middle constructions, it is usually a locative, instrumental, or temporal adverbial expression, as can be seen in example (10) above. Even in personal middle constructions like (13) another constituent might be 'responsible' for the event described by the verb. In (13), it is clearly the car wash that is responsible for the washing-event. The intrinsic properties of the syntactic subject *der Wagen* ('the car') are irrelevant.

- (13) In dieser Waschstraße wäscht sich der Wagen viel besser
 In this car.wash washes RP the car much better
 als in der anderen
 than in the other
 'In this car wash the car washes much better than in the other'

The ‘responsibility’ of some constituent therefore should also be related to the genericity of middle constructions. Recall that the nuclear scope of the generic sentence is predicated over the restrictor (i.e. the topic). Hence, some intrinsic property of the entity referred to by the restrictor must be ‘responsible’ for the generic statement described by the middle construction. Consider again example (9b). If a situation in which an arbitrarily chosen person reads *War and Peace* is very likely to be a situation in which *War and Peace* is easy to read for this person then *War and Peace* must have some property that is responsible for this. Most likely *War and Peace* is written in such a way that it is easy to read for most people. The semantic properties of the restrictor will also be relevant for the interpretation of adjunct middles, which will be discussed in Section 7.3 below.⁷

Thirdly, the responsibility of a constituent for the generic statement described by the middle construction also excludes subject oriented adverbials because the entity referred to by the restrictor cannot be responsible for events that are done on purpose, intentionally, or deliberately. This is in line with Fellbaum and Zribi-Hertz’ (1989:24) observation that “the properties [of the subject-theme, i.e. the expression mapped into the restrictor,] referred to by the adverb are agent-independent.”

Fourthly, the ungrammaticality of the middle construction in (14) can easily be explained if we follow Kratzer (1995), who assumes that individual-level predicates do not supply a situation variable.

- (14) *Müller heißt es sich nicht so leicht
Müller calls it RP not that easily

Fifthly, the so-called ‘modal’ meaning of middle constructions can also be derived from the semantic representation of middle constructions given in (9c) and (10c) above.⁸ Cohen (1996) argues that generics express probability judgments, which are statements of hypothetical relative frequency. The exact truth conditions of generics may vary across speakers and contexts. In addition, the evaluation of generic statements fundamentally depends on contextually salient alternatives. Generic statements are always evaluated with respect to a set of alternatives.⁹ Although giving an exact definition of the set of salient alternatives is not easy, we want to emphasize that a generic statement like (9) is generally true iff the probability that *War and Peace* is easy to read is greater than the probability that it is, for example, difficult to read.¹⁰ But this is exactly the modal meaning that is involved in middle constructions.

Finally, this analysis can also account for the ‘arbitrary’ interpretation of the implicit argument (the ‘implicit subject’) in middle constructions. The

first semantic argument of the verb is always bound by the generic quantifier. Generic quantification, unlike universal quantification, usually allows for exceptions, and it does not “capture a mere accidental generalization” as might be possible for universal quantification (cf. Krifka et al. 1995:44). Thus the meaning of the middle construction in (9b) above can be rendered as follows: in appropriate situations in which an arbitrarily chosen person reads *War and Peace*, this novel is easy to read for that person. Sentence (9b) does not entail that the novel is easy to read for everybody nor does it entail that a specific person exists for whom it is easy to read. The arbitrary reference might be restricted to salient persons. In (9b) this might be persons who are able to read and who have normal reading experience. That is, illiterates, literary critics, professors of literary studies, and first-graders might be excluded.¹¹

We conclude the discussion with a final remark on temporal specification and the implicit argument. Middle constructions are interpreted generically, i.e. they are habitual or characterizing sentences. Both the free argument variable and the situation variable are bound by the generic quantifier in middle constructions, while in passives they are bound by the existential quantifier. In middle constructions generic quantification can be restricted to specific periods of time, as can be seen, for example, in (15). Recall that the generic quantifier in middle constructions does not only quantify over situations, but also over the first argument of the verb. That is, in middle constructions, unlike in most ‘normal’ habitual sentences, the generic operator has the privilege to bind two unbound variables, the situation variable and the first argument variable, and to quantify over two unbounded sets. By contrast, most generic statements are only about an unbounded set of situations (cf. Cohen 1996:80f.). Therefore, sentences that set an explicit limit on the set of situations are expected not to receive a generic interpretation.¹² Middle constructions seem to be more liberal in this respect. Although sentence (15) restricts the set of situations to a specific period of time, it does not include an explicit limit. According to our analysis, (15) is true for a potentially unbound set of salespersons and thus also for a potentially unbound set of situations in which these salespersons sell the books this afternoon.

- (15) Unsere Bücher verkaufen sich heute Nachmittag wie warme
 Our books sell RP today afternoon like hot
 Semmeln
 cakes
 ‘This afternoon our books sell like hot cakes’

The same holds true for the ‘Bach-middle’ in (16a). Although its meaning is very similar to that of the corresponding passive in (16b), the middle construction does not imply that there was (exactly) one performance of this piece of music by one or more musicians. Instead, (16a) involves generic quantification over situations that happened last night and over (potentially salient) musicians. Thus only the middle construction means that such situations were very likely to be situations in which the piece by Bach was played well. By contrast, the passive in (16b) refers to a specific situation which happened last evening. Note that the adverb *ausnahmsweise* (‘exceptionally’) in (16a and b) entails that this piece of music is usually hard to play.¹³ As a consequence, both the situations the verb refers to and the arbitrary reference of the first semantic argument can only be explicitly restricted in passives, as (16d) and (17c) below illustrate. Consider first the middle construction in (16c), which sounds odd because it restricts the number of situations in which the piece by Bach was played well to exactly one. This explicit limit on the set of situations conflicts with the inherent generic interpretation of middle constructions. (16c) can only receive the following rather strange generic reading: whenever someone was playing this piece by Bach, s/he was playing it well only once.

- (16) a. Der Bach hat sich gestern Abend ausnahmsweise mal
 The Bach has RP yesterday evening exceptionally PARTICLE
 ganz gut gespielt
 quite well played
 ‘Exceptionally, this piece by Bach played well last night’
- b. Der Bach wurde gestern Abend ausnahmsweise mal
 The Bach PAS yesterday evening exceptionally PARTICLE
 ganz gut gespielt
 quite well played
 ‘Exceptionally, this piece by Bach was played well last night’
- c. [?]Der Bach hat sich gestern Abend genau einmal ganz gut
 The Bach has RP yesterday evening exactly once quite well
 gespielt
 played
- d. Der Bach wurde gestern Abend genau einmal ganz gut
 The Bach PAS yesterday evening exactly once quite well
 gespielt
 played
 ‘Last night this piece by Bach was played well exactly once’

The same condition seems to restrict the linking of the first argument in middle constructions. In (17a) the implicit argument can be linked to the *für*-PP ('for'-PP) *für kleine Kinder* ('for small children'). However, (17b) illustrates that the *für*-PP cannot refer to a specific entity or individual in middle constructions. Middle constructions including a first argument with specific reference are judged to be unacceptable because the implicit argument is always bound by the generic operator. The *für*-PP might therefore restrict the range of the generic operator to a subset of the arbitrarily chosen set of entities or individuals, but it might not set an explicit limit on this set. (17d and e) illustrate the same point. In both sentences we try to link the implicit argument of the middle construction to *Hans*, which is, however, impossible.

- (17) a. Ich finde, dass sich diese Bücher auch für kleine Kinder
 I think that RP these books also for small children
 leicht lesen
 easily read
 'I think that these books are also easy to read for small children'
- b. ???Ich finde, dass sich dieses Buch für Maria leicht liest
- c. Dieses Buch wurde von Maria gelesen
 This book PAS by Maria read
 'This book was read by Maria'
- d. ???Das Lied singt sich gut mit Hans als Sänger
 The song sings RP well with Hans as singer
- e. ???Wenn Hans das Lied singt, dann singt sich's gut
 When Hans the song sings then sings RP.it well

7.2. Adverbial modification in middle constructions

Although most middle constructions require some adverbial modification, we also find examples without adverbial expressions. We gave a few examples in Section 2.1, here repeated in (18). Of course, all examples in (18) are highly context-dependent. Nevertheless they are not ungrammatical. See also Hale and Keyser (1986 and 1987), Roberts (1985), Ackema and Schoorlemmer (1994), Iwata (1999), Ágel (1997:181), or den Dikken (1997) for the same observation. The English examples in (18i and j) are taken from Fellbaum (1986).¹⁴

- (18) a. Welche Tür öffnet sich?
Which door opens RP
'Which door can be opened?'
- b. Nimm diese Tür da. Die öffnet sich!
Take that door over.there. It opens RP
'Take that one. It can be opened'
- c. Nur keine Angst. Dein Ohring wird sich finden
'Don't worry'. Your earring will RP find
'Don't worry. We will find your earring'
- d. Dieses Kleid hat keinen Reißverschluss. Es knöpft sich
This dress has no zipper. It buttons RP
zu
PARTICLE
'This dress has no zipper. You have to button it'
- e. Jetzt ist es schwer, aber es vergisst sich alles
Now is it hard, but it forgets RP everything
'It is hard now, but you will forget everything'
- f. 'When asking what Americans consider to be crucial criteria for
accepting a manuskript you always get the same simple answer:'
Dass es uns gefällt und dass es sich verkauft
That it us pleases and that it RP sells
'That we like it and that it sells'
- g. Hier lebt es sich, sagt der Zander
Here lives it RP, says the pikeperch
'The pikeperch says this is a nice place to be'
- h. So, es hat sich ausgeplaudert
Well, it has RP PARTICLE.chatted
'Well, chatting is over'
- i. This meat doesn't cut
- j. I thought we were out of gas, but the car DRIVES

Impersonal middle constructions require an additional adverbial expression, which can be mapped into the restrictor. The typical manner adverb is also optional in the impersonal construction, as (18g and h) illustrate. The second adverbial is usually a locative, instrumental, or temporal PP (cf. Section 7.1 above, Fagan 1992: 48 and 189 and Abraham 1993).

- (19) a. [In diesem Bett]_{Adverbial 1} schläft sich's [gut]_{Adverbial 2}
In this bed sleeps RP.it well
'In this bed you can sleep well'

- b. [?][In diesem Bett]_{Adverbial 1} schläft sich's
 In this bed sleeps RP.it
- c. [?]Es schläft sich [gut]_{Adverbial 2}
 It sleeps RP well

Fagan (1992:190) argues that the second adverbial of impersonal middle constructions is “not required by the rule of Middle Formation itself. In general, it appears in impersonal middle [construction]s for semantic/pragmatic reasons.” Unlike Fagan, we argue that both adverbials are required for pragmatic reasons. Native speakers agree that both (19b) and (19c) sound odd, but it is hard to tell the alleged ungrammaticality of example (19b) from the pragmatic oddity of (19c). Besides, Fagan also discusses some middle constructions without adverbial modification and concludes that “although middles typically appear with some sort of adverbial modification, since the purpose of a middle is to describe how some activity can be carried out with respect to a given object, pragmatic considerations [...] allow the ‘how’ of middles to be expressed in ways that do not involve an overt adverbial expression” (Fagan 1992:189). In our opinion a pragmatic approach enables us to explain both the ‘adverbial effect’ (Iwata 1999:529), i.e. the fact that most middle constructions seem to select some kind of adverbial, and the observation that some middle constructions are grammatical even in the absence of an adverbial.¹⁵ “The obligatory presence of these adverbials is not so much a matter of syntactic subcategorization requirements as one of informativeness. As is well-known, even in the absence of adverbials, middles are acceptable provided that non-given information is somehow supplied, for instance, through negation [...], sentential stress on the verb [...], or emphatic *do* [...].” (Iwata 1999:528). Furthermore, a pragmatic approach also accounts for the fact that corresponding constructions in Greek, Russian, Italian, and French are grammatical without adverbial expressions. Unlike their German counterparts, middle constructions in these languages are ambiguous between an eventive and a generic reading (cf. Chapter 2).

Recall that none of the theories we discussed in Chapter 3 gives a satisfactory explanation for the adverbial modification. Hoekstra and Roberts (1993), and similarly den Dikken (1997), try to derive the modification by an adverb in middle constructions in terms of theta-theory. As we argued in Chapter 3, this approach cannot be maintained. Lexical theories like Fagan (1992) and Bierwisch (1997) simply stipulate that ‘middle verbs’ obligatorily select an adverb. However, this stipulation does not offer a conclusive explanation of the adverbial modification in middle constructions either.

The following presentation relates to the discussion of focus in Chapter 4. The assertion of a sentence *S*, given a common ground *CG*, is (*pragmatically licensed*) if it is informative and compatible with *CG*.¹⁶ The relevant definitions are repeated in (20). *CG'* is the common ground that results from adding the proposition *S* to the old common ground *CG* ($CG' = CG \cap [S]$; [*S*] is the meaning of the sentence *S*, i.e. the set of possible worlds that make *S* true).¹⁷ (20a) states that the resulting common ground *CG'* must not be identical to the old common ground *CG*, and condition (20b) requires that the intersection between *CG* and the proposition added to *CG* must not be empty, i.e. that the new proposition is compatible with *CG*. *CG* is determined by the previous discourse, the conversational setting, and by knowledge about the world shared by the speaker and the hearer.

- (20) a. $CG' \neq CG$ (informativity)
 b. $CG' = \emptyset$ (compatibility)

The assertion of a sentence *S* is (*pragmatically licensed*) if it satisfies both conditions in (20). This is illustrated by the following example. We use questions to specify the previous discourse, i.e. the background of the corresponding answer. Recall from the previous section that middle constructions are generic statements. When we talk about books, we are usually interested in (among other things) how these books can be read. This can be expressed by means of a middle construction like (21b).

- (21) a. Wie liest sich dieses Buch?
 How reads _{RP} this book?
 'How does this book read?'
 b. Das Buch liest sich [gut/schwer/schnell/wie ein Kriminalroman]_F
 The book reads _{RP} well/difficult/quickly/like a crime story
 'The book reads well/not easily/quickly/like a crime story'

In example (21) the *CG* is determined by question (21a). The assertion in (21b) maps (or *updates*) the common ground *CG* into *CG'*, which contains the new information that this book reads e.g. *well*. Furthermore, the intersection between *CG* specified by (21a) and the proposition (21b) is not empty. Thus both conditions in (20) are fulfilled. (21) exemplifies the most common use of middle constructions. By contrast, the utterance of a middle construction like (22b) without an adverbial simply states that *dieses Buch* ('this book') has the property that it can be read. Neglecting focus for the moment, such a sentence would be true if a situation in which someone reads *this book* is very likely to be a situation in which this person *reads this book*. This information is,

however, usually part of our knowledge about books because books are made for reading. According to condition (20a), CG must not include this information. Hence, it has to be under discussion whether *dieses Buch* ('this book') can be read altogether, possibly because it is poorly written or very difficult to read/understand. In this context sentence (22b) with verum focus on the finite verb is licensed because verum focus confirms the truth value of the sentence. The corresponding question is given in (22a).

- (22) a. Liest sich dieses Buch?
 Reads RP this book
 'Can this book be read?'
 b. Ja, dieses Buch [liest]_F sich
 Yes, this book reads RP
 'Yes, this book reads'

The following examples illustrate the same point. The manager of a publishing company may doubt whether his or her customers will buy a special edition or the books of some author. In this context a salesperson can utter (23b) or (23c) in response to question (23a) because it is of interest to the manager, whether or not people buy a special edition or the books of a particular author (cf. also the English example in (18j) above). The same holds true for sentence (23d), which does not include a manner adverb but a concessive adverb. Again, the middle construction only states that this book can be sold, although it might be poorly written (this example is attested by a friend).

- (23) a. Kauft überhaupt irgendjemand diesen Schund?
 'Does anybody buy that trash at all?'
 b. Ja, das Buch [verkauft]_F sich
 Yes, the book sells RP
 'Yes, the book sells'
 c. Nur das erste Buch von Vera Hint verkauft sich. Die
 Only the first book of Vera Hint sells RP. The
 anderen sind Ladenhüter
 others are shelf-warmers
 'Only the first book of Vera Hint sells. The others are shelf-warmers'
 d. Aber es [i.e. dieses Buch] verkauft sich trotzdem
 But it [i.e. this book] sells RP nevertheless
 'Nevertheless, it sells anyway'

Another possibility is, to ask for a specific object which can be, for example, read, opened, or drunk. Assuming that you have to choose between several

doors and you are interested in the doors that can be opened, you might ask a question like (24a). In this case condition (20a) requires that there must be type identical and contextually salient alternatives to *DIESE Tür* ('this door'), otherwise CG would be identical to CG'.

- (24) a. Welche Tür öffnet sich?
 Which door opens RP
 'Which door can be opened?'
 b. [Diese]_F Tür öffnet sich
 This door opens RP
 'This door opens'
 c. Welches Buch liest sich?
 Which book reads RP
 'Which book can be read?'
 d. [Dieses]_F Buch liest sich
 This book reads RP
 'This book reads'

Consider also example (25b). Again, narrow focus on the definite determiner implies that the meaning of the first sentence, i.e. this (kind of) beer can be drunk, must not be part of CG, although it is part of our knowledge that beer is made for drinking, i.e. that a beer usually can be drunk. Therefore, sentence (25b) is only licensed if it is under discussion whether this (kind of) beer is drinkable or tastes awful.

- (25) a. Welches Bier kann man hier trinken?
 Which.(kind.of) beer can one here drink?
 b. [Dieses]_F Bier trinkt sich. Die anderen schmecken
 This.(kind.of) beer drinks RP The others taste
 furchtbar
 awful

In these contexts middle constructions without adverbial modification such as (22b), (23b–d), and (24b and d) are acceptable because they are (pragmatically) licensed. However, they can only be uttered in these very specific contexts. With respect to most books we are still more interested in the way a book can be read and not whether it can be read at all. Therefore, (22), (23), and (24c and d) are only possible in the contexts provided by the corresponding questions. These contexts must be accommodated if these sentences are uttered out of the blue. Therefore, such middle constructions usually sound odd

if they are not embedded in the appropriate contexts. The same holds true for the examples in (18) above.

Note that sometimes an additional pragmatic effect can be observed in adverbless middle constructions. Imagine a club where people are in high spirits. The DJ is playing excellent music and everybody is dancing. It is obvious that one can dance in this club (this follows from the conversational setting). In this situation sentence (26a) yields a special meaning that can be described as follows: There is extremely good dancing in this club. This interpretation may result from conversational implicatures. This meaning is also available for sentence (25b) and (26b).

- (26) a. Hier tanzt sich's
 Here dances RP:it
 'Here you can dance'
- b. Hier lebt es sich, sagt der Zander
 Here lives it RP, says the pikeperch
 'The pikeperch says this is a nice place to be'

This treatment of adverbial modification implies that middle constructions without adverbs are (pragmatically) licensed only in very special contexts. Hence they are (correctly) expected to be very rare. By contrast, middle constructions with adverbial modification are licensed more easily. They can be applied to common grounds that do not challenge the fact that e.g. beer is drinkable or books are readable. Furthermore, they are more informative because their meaning is more specific. This argumentation can also be correlated to the observation that middle constructions with negation are judged to be more acceptable than middle constructions without any modification. Usually it is more informative to deny that an entity does not have the property it is assumed to have. This can be seen in (27a) and (27b) for German and in (18i), here repeated as (27c), for English. The same holds true for the subjunctive in (27d). Questions are yet another example. They explicitly introduce the appropriate context. Question (27e), for example, implies that there are at least two doors, one of which is probably locked. This follows again from the conditions in (20). Recall that the question word corresponds to the focus (cf. also Section 4.2.2).

- (27) a. Dieses Brot schneidet sich einfach nicht
 This bread cuts RP simply not
 'This bread does not cut'

- b. ...ein Telefonbuch fand sich nicht
... a phonebook found RP not
'... a phonebook could not be found'
- c. This meat doesn't cut
- d. Sein Buch könnte sich verkaufen
His book might RP sell
'His book might sell'
- e. Welche Tür öffnet sich?
Which door opens RP
'Which door opens?'

Passives and anticausatives, unlike middle constructions, are always perfectly acceptable without any adverbial modification. This is due to the fact that these constructions are usually not generic statements (characterizing sentences). They refer to specific events. But the common ground CG does not imply that, for example, a book that can usually be read is/was also actually read by some person. Hence, passives and anticausatives are always informative without additional modification. Recall from the previous section that the middle voice can trigger an eventive (passive-like) interpretation in languages like e.g. Greek, Russian, French, and Italian. In these languages, the middle marker is more grammaticalized than in German. Not surprisingly, adverbial modification is optional in these languages as soon as the middle voice receives an eventive reading (cf. Abraham 1995:16). We conclude that the (quasi-obligatory) adverbial modification in middle constructions clearly correlates with the generic interpretation discussed in the previous section.

Note finally that a similar pragmatic effect can be observed in examples like (28), which contain an implicit object. All three sentences are ambiguous between an episodic and a generic reading. Sentence (28a) for example either refers to a particular event of drinking or it means that Peter usually drinks. The second interpretation involves alcohol, i.e. it means that Peter is an alcoholic. That this interpretation is not an intrinsic property of habitual drinking is illustrated in (28b). A little child is usually not supposed to be an alcoholic. The habitual interpretation of sentence (28b) can be rendered as: the little child did not drink anything for some time, but now s/he has started drinking again. In (28a), the interpretation that Peter is an alcoholic thus seems to follow from pragmatic reasoning. First, people normally drink a lot every day. Hence, sentence (28a) does not provide any interesting information. Second, alcohol is the most salient beverage (not only in Western cultures). In addition, not everybody regularly drinks alcohol. According to these assumptions, sentence (28a) is pragmatically licensed if it means that Peter is an alcoholic. This argumen-

tation also applies to sentence (28c), which means that Peter sniffs drugs or adhesive. Sentence (28b), on the other hand, is licensed without the specific interpretation of (28a) because it is a known fact that babies refuse to drink now and then.¹⁸

- (28) a. Peter trinkt wieder
Peter drinks again
b. Das Baby trinkt wieder
The baby drinks again
c. Peter schnüffelt
Peter sniffs

We conclude that the adverbial modification in middle constructions can be derived from the conditions on assertions to be pragmatically licensed. There is no need to stipulate a special kind of (lexical) adverb selection or some (syntactic) theta-identification mechanism. Syntactically, middle constructions are simple transitive reflexive sentences.

7.3. Adjunct middles

The last section of this chapter deals with adjunct middle constructions in German. Hoekstra and Roberts (1993), Ackema and Schoorlemmer (1994) and Abraham (1995b) discuss adjunct middles in Dutch, which are quite productive. Unlike Dutch adjunct middles, their German counterparts seem to be less productive. Adjunct middles in German are much more restricted. They are only licensed in very special contexts, and at first sight they sound somewhat odd to many native speakers. Judgements may vary from speaker to speaker and from context to context. Note finally that adjunct middles always correspond to an impersonal counterpart, as (29) illustrates.

- (29) a. [?]Die neuen Wanderschuhe laufen sich hervorragend
The new hiking.boots walk RP excellently
a'. Es läuft sich hervorragend in den neuen Wanderschuhen
It walks RP excellently in the new hiking.boots
'With the new hiking boots you can walk excellently'
b. [?]Dieser Füller schreibt sich sehr gut
This pen writes RP very well
b'. Es schreibt sich sehr gut mit diesem Füller
It writes RP very well with this pen
'With this pen you can write well'

Impersonal middle constructions are less restricted than the corresponding adjunct middle constructions. (30) illustrates that not every adjunct can be promoted to subject. Adjunct middles are always a proper subclass of the corresponding impersonal counterpart.

- (30) a. Es schläft sich gut in diesem Bett / in Berlin
 It sleeps_{RP} well in this bed / in Berlin
 'In this bed/in Berlin you can sleep well'
- b. ?Dieses Bett / *Berlin schläft sich gut
 This bed / Berlin sleeps_{RP} well

In addition, the active counterparts of adjunct middle constructions are ungrammatical. The subject of the adjunct middle construction must be realized as an adjunct in this case. It cannot be linked to the accusative object in the active.

- (31) a. Ich laufe *die neuen Wanderschuhe / in den neuen
 I walk the new hiking boots / in the new
 Wanderschuhen hervorragend
 hiking.boots excellently
 'I walk excellently in the new hiking boots'
- b. Er schreibt *diesen Füller / mit diesem Füller sehr gut
 He writes this pen / with this pen very well
 'He writes very well with this pen'
- c. Jürgen schläft *das Bett / in diesem Bett gut
 Jürgen sleeps the bed / in this bed well
 'Jürgen sleeps well in this bed'

Interestingly, the meaning of an impersonal middle construction and that of the corresponding adjunct middle are not completely identical. Only the impersonal construction in (32a) is ambiguous between two interpretations that are equally available. By contrast, the corresponding adjunct middle in (32b) shows a clear preference for one of these two interpretations. (32a) can mean either that you had better take these shoes (instead of others) if you have to walk during a rainstorm (because these shoes are made for rainstorms), or that these shoes should mainly be put on for walks in rainstorms (instead of walks in the sunshine) because they are more comfortable in a rainstorm (they are possibly softer because of the rain). (32b), on the other hand, clearly favors the second interpretation. Sentence (32b) can also yield the first interpretation, which is, however, less salient.

- (32) a. In diesen Schuhen läuft es sich bei einem Unwetter
 In these shoes walks it _{RP} during a rainstorm
 bequemer
 more.comfortably
 ‘With these shoes you can walk more comfortably during a rainstorm’
- b. Diese Schuhe laufen sich bei einem Unwetter
 These shoes walk _{RP} during a rainstorm
 bequemer
 more.comfortably
 ‘These shoes are more comfortable during a rainstorm’

The same preference for one interpretation can also be observed in (33b). Again, one interpretation is salient in the second sentence, while both interpretations are equally available in (33a). The impersonal middle construction in (33a) can either mean that in summer your car is better than e.g. mine or that one can drive your car much better in summer than in winter. Again, the latter interpretation is the preferred interpretation for (33b).

- (33) a. Mit deinem Wagen fährt es sich im Sommer viel besser
 With your car drives it _{RP} in summer much better
 ‘With your car one can drive much better in summer’
- b. Dein Wagen fährt sich im Sommer viel besser
 Your car drives _{RP} in summer much better
 ‘In summer your car drives much better’
- c. Ich fahre deinen Wagen
 I drive your car
 ‘I drive your car’

Unlike (32b), sentence (33b) is not an adjunct middle construction because the argument linked to the subject in (33b) can also be linked to the accusative object in the corresponding active sentence (33c). Hence, the preference for a specific interpretation in (32b) and (33b) is not a specific property of adjunct middle constructions but of personal middle constructions in general. Recall from Section 7.1 that the topic of the sentence is mapped to the restrictor. In simple personal middle constructions (including adjunct middles), the subject of the sentence is most likely to be the topic and thus mapped to the restrictor, as illustrated by the simplified semantic representation in (34) (cf. Footnote 5 above). The relation denoted by the preposition must be semantically reconstructed in adjunct middles. In (32b) the relevant prepositions are either *in* or *with*. We turn to this issue immediately.

- (34) GEN_{S,X,Y} [these-shoes(y)] [walk(s,x) & in(s,y) & rainstorm(s)
& more-comfortable(s)]

The value of the comparative adverb *bequemer* ('more comfortably') is evaluated with respect to a set of salient alternatives, which is usually provided by the focus. We already mentioned that in personal middle constructions the subject is usually the topic. Therefore, the temporal adverbial expression is to provide this set of alternatives in (32b) and (33b) (it might be the focus or the S-topic), and the adverbs in (32b) and (33b) are evaluated with respect to a set of alternatives to the PPs *bei einem Unwetter* ('during a rainstorm') and *im Sommer* ('in summer'). Sentence (32b) would be true if a situation in which someone walks with these shoes during a rainstorm is more likely to be comfortable than a situation in which s/he walks with these shoes in the sunshine. Likewise, the salient meaning of (33b) includes the focus *summer* and the alternatives {*winter, fall, spring*}. This interpretation is, however, only preferred if the personal middle construction is uttered out of context. The second interpretation is also available if we prevent the subject from being the topic of the sentence. The question in (35a) puts the focus on the subject and restricts the set of alternatives to *my car* and *your car*. This time sentence (33b) repeated as (35b) means that in summer your car is better than e.g. mine. This is the first reading described above (cf. example (32a)).

- (35) a. Welcher Wagen fährt sich im Sommer viel besser, deiner
Which car drives RP in summer much better yours
oder meiner?
or mine?
- b. Dein Wagen fährt sich im Sommer viel besser
Your car drives RP in summer much better

Consider impersonal middle constructions now. The non-referential impersonal subject, which is not linked to a semantic argument of the verb, cannot be the topic of the sentence. Therefore, another element must be mapped into the restrictor. Recall from Section 7.1 that in impersonal middle constructions a locative, instrumental, or temporal adverbial expression is usually mapped into the restrictor. The impersonal middle constructions in (32a) and (33a) include two adverbial PPs (a temporal and an instrumental one), both of which can in principle be mapped into the restrictor. Again, the value of the comparative adverbs *bequemer* ('more comfortably') and *viel besser* ('much better') is evaluated with respect to a set of salient alternatives provided by the focus. Both adverbial expressions are equally likely to be the topic and the focus of the

sentence, and we expect that two interpretations are in principle equally available, which is confirmed by the data. Note finally that the impersonal middle construction and the corresponding adjunct middle in (32) only receive one interpretation if we omit the adverbial PP *bei einem Unwetter*. In (36) no ambiguity arises because we cannot choose between different sets of alternatives. The set of alternatives can only be determined by the expression that is mapped into the restrictor, i.e. the PP *in diesen Schuhen* or the subject NP *diese Schuhe*.

- (36) a. In diesen Schuhen läuft es sich viel besser
 In these shoes walks it_{RP} much better
 ‘With these shoes you can walk much better’
 b. Diese Schuhe laufen sich viel besser
 These shoes walk_{RP} much better

In sum, adjunct middle constructions and impersonal middle constructions are not completely identical in meaning. This might be one reason why languages like Dutch and German have adjunct middle constructions. They enable us to talk directly ‘about’ the object which is used as instrument or location in the situation described by the verb. That is, the NP that is usually contained in a PP becomes the topic of the sentence and is thus mapped into the restrictor. This ‘promotion to topic’ seems to be possible if the object is of great importance for the action one performs. Consider, for example, sentence (37a and b), which might be uttered by a professional skier and by a tennis player, respectively.¹⁹

- (37) a. Die neuen Skier fahren sich hervorragend
 The new skis ski_{RP} excellently
 ‘With the new skis you can ski excellently’
 b. Die neue Halle / der neue Belag spielt sich sehr gut
 The new sports.hall / the new covering plays_{RP} very well
 ‘In the new gym/on the new covering you can play very well’

So far, we have seen why adjunct middles might exist. In the final part of this section we want to investigate how they are licensed. Ackema and Schoorlemmer (1994) argue that only A-marked PPs can undergo adjunct middle formation. But what does it mean for a PP to be A-marked?²⁰ Ackema and Schoorlemmer observe that mainly instrumental and locative PPs undergo middle formation. Furthermore, only instruments or locations that play a crucial role for the situation or action described by the verb can be promoted to subject. They are usually designed for this very special situation and they are typically used in such situations. This is illustrated in the following examples. The corre-

sponding impersonal middle constructions in (38a', b', and c') are not subject to such restrictions.

- (38) a. [?]Dieser Schuh / ^{/??}der neue Belag / ^{*}die Mütze läuft sich
 This shoe / the new covering / the cap walks _{RP}
 besser
 better
- a'. In diesem Schuh / auf diesem Belag / mit dieser Mütze läuft
 In this shoe / on this covering / with this cap walks
 es sich besser
 it _{RP} better
 'With this shoe/on this covering/with this cap you can walk better'
- b. [?]Diese Wolle / ^{/??}diese Nadel / ^{*}Geduld strickt sich besser
 This wool / this needle / patience knits _{RP} better
- b'. Mit dieser Wolle / mit dieser Nadel / mit Geduld strickt es
 With this wool / with this needle / with patience knits it
 sich besser
_{RP} better
 'With this wool/with this needle/with patience you can knit better'
- c. [?]Der Füller / ^{/??}das weiße Papier / ^{*}die neue Schreibtischlampe
 The pen / the white paper / the new desk.lamp
 schreibt sich besser
 writes _{RP} better
- c'. Mit diesem Füller / mit dem weißen Papier / mit der neuen
 With this pen / with the white paper / with the new
 Schreibtischlampe schreibt es sich besser
 desk.lamp writes it _{RP} better
 'With this pen/with the white paper/with the new desk lamp you can
 write better'

In German, adjunct middle constructions seem to be restricted by the following two constraints:

- i. The function of the instrument or location in the action/situation denoted by the verb is obvious so that the relation denoted by the preposition in the active counterpart can easily be reconstructed.
- ii. Certain properties of the instrument or location are important (i.e. 'responsible') for the way the action/situation described by the verb is carried out.

Instruments or locations that are typical for the situation described by the verb are very good candidates for adjunct middle formation. Their function in the situation is obvious, and their quality may influence the action/situation described by the verb. Consider the following meaning postulate, which is relevant for example (38c). It is part of our knowledge about the world that some writing utensils (traditionally pens) are always involved in writing situations and that a pen is typically an instrument that people generally use for writing. By contrast, writing situations do not imply that there is, for example, a desk lamp involved and that desk lamps are typically used for writing.²¹

- (39) a. $\forall s (\text{WRITE}(s) \rightarrow \exists x (\text{INSTR}(s, x)))$
 b. $\text{GEN}_{s,x} [\text{PEN}(x)] [\text{WRITE}(s) \ \& \ \text{INSTR}(s,x)]$

The second constraint, which states that properties of the instrument/location are of importance for the action/situation, holds true especially if *professionalism* is an issue. For professional tennis players or sprinters, the quality of the new surface or their new shoes may be as important as the quality of the piano for piano players (cf. the examples in (37) above). But even for non-professionals it is true that the state of a bed may directly affect their sleep.

We conclude that adjunct middle constructions are the only possibility to directly attribute a property to an entity which is otherwise contained in a PP.²² This is, however, possible only under very special conditions which depend on our knowledge about specific events or situations, the instruments or locations typically involved in these events or situations, and the special context of utterance. This is summarized in (i)–(iii):

- i. Impersonal and personal adjunct middle constructions are not always semantically identical;
- ii. The function of the instrument or location in the event/situation is obvious (i.e. the preposition can be omitted and – semantically – reconstructed);
- iii. The function and quality of the instrument is important for the event/situation described by the verb (*professionalism*).

(ii) and especially (iii) may be the reason for the varying judgements on the acceptability of adjunct middle constructions and for the fact that adjunct middles are not very common in German. Adjunct middle constructions make use of the grammatical processes of A-chain formation and A-chain interpretation, but they are licensed beyond the pure structural interpretation of transitive reflexive sentences. The subject of the adjunct middle is not linked to the second argument but to an instrumental or locative argument that is licensed by meaning postulates like (39). Thus the interpretation of adjunct mid-

dle constructions involves accommodation, which is only possible in certain contexts.²³

In contrast to some PP-adjuncts, dative objects cannot form ‘adjunct’ middle constructions because they are not subject to the licensing conditions that permit adjuncts to undergo middle formation. First, the referent of a dative object is usually not in this very special connection with the event described by the verb that is required by (ii) and (iii). They do not express entities (e.g. instruments or locations) that are conceptually related to the action/event denoted by the verb. Secondly, unlike NPs that are contained in PPs, dative objects are always bare NP- (or KP-)objects in syntax (cf. Section 6.2). Dative NPs can easily be the topic of the impersonal middle construction that is mapped into the restrictor. No transformation is necessary.

- (40) a. Dem Papst widerspricht es sich nicht so leicht
 The pope-DAT contradicts it RP not that easily
 ‘You cannot contradict the pope that easily’ (middle interpretation)
- b. Der Papst widerspricht sich nicht so leicht
 The pope-NOM contradicts RP not that easily
 *‘You cannot contradict the pope that easily’ (*middle interpretation)
 ‘The pope does not contradict himself that easily’
 (reflexive interpretation)

Hence, promotion of the dative object to the (nominative) subject position would not change anything. The impersonal construction in (40a) receives the same interpretation as the adjunct middles above. There is no semantic reason for dative objects to undergo middle formation. Therefore, dative objects are excluded from adjunct middle formation as well as from A-chain formation.

Notes

1. In English middle constructions like (1) can be progressive (cf. Chapter 2, Footnote 27).
2. Recall from Section 2.3 that the picture is not always that clear. On the one hand, some ‘medio-passive’ languages, i.e. languages with a reflexive passive that is formally identical to the middle construction, also have an additional non-reflexive (periphrastic) passive construction. On the other hand, in languages like Italian, which draw a formal distinction between middle constructions and passives, middle constructions can also be interpreted like passives, i.e. they can also receive an eventive reading.
3. Krifka et al. (1995) call the nuclear scope *matrix*.

4. As opposed to Cohen (1996), Krifka et al. (1995) argue that both the topic and the background are mapped into the restrictor. Thus only the focus goes to the nuclear scope. For the present discussion this will make no difference (cf. also Krifka 1995 and Rooth 1995).

5. Note that the subject is not necessarily the topic of the sentence, although “in English and languages of similar typology, the grammatical relation ‘subject’ is a weak indicator of ‘Topic’” (Dowty 1991:564). Unlike English, German has yet another position, the so-called ‘Vorfeld’ (sentence-initial position), which is an even stronger indicator of ‘Topic’ (cf. Gärtner and Steinbach 2000). In most middle constructions the subject occupies the sentence-initial position. See also the discussion of adjunct middles in Section 7.3 below.

Focus on the subject of the middle construction is an interesting example. According to Krifka et al. (1995), the subject of the middle construction in (i-b) is mapped into the nuclear scope and the whole background including the verb and the adverbial expression is mapped into the restrictor. (i-c) would be true if a situation in which something is easy to read for someone is likely to be a situation in which this person reads *War and Peace* given a set of contextually salient alternatives like e.g. {*Der Zauberberg, Frankenstein, American Pastoral, ...*}.

- (i) a. Was liest sich leicht?
 What reads _{RP} easily
 b. [Krieg und Frieden]_F liest sich leicht
 c. GEN_{S,X,Y}; [read(s,x,y) & easy(s)] [y = war-and-peace]

Alternatively, we could follow Cohen (1996:157), who argues that sometimes focused elements are mapped to the restrictor. Note finally that the subject is always bound by the generic quantifier no matter whether it is mapped into the restrictor or the nuclear scope.

6. The exact definition of the meaning of the generic quantifier and the set of contextually salient alternatives is a difficult task. We refer the reader to Krifka et al. (1995:43f.) and Cohen (1996).

7. Sometimes the entity which is responsible must be contextually reconstructed. Consider the following example. In this case it is most likely only that part of the book I read last night which is responsible for the reading event.

- (i) Gestern Abend las sich das Buch ganz gut
 Yesterday evening read _{RP} the book quite well

8. See Fagan (1992:22 and 194) for the notion of modality.

9. The following middle construction is, for example, evaluated with respect to people that are able to drive a car.

- (i) Dieses Auto fährt sich gut
 This car drives _{RP} well

Example (ii) is evaluated with respect to a set of alternatives that contains most likely other alcoholic drinks like e.g. {*wine, whiskey, ...*} because situations in which someone normally drinks e.g. coffee, tea, or milkshakes are not typical situations in which someone drinks beer or wine.

(ii) John drinks [beer]_F

10. Note that some middle constructions, like (i), express the modal notion of necessity instead of possibility (cf. Fagan 1992:23f.). This specific meaning is not only found in middle constructions, as can be seen in (ii). For further discussion see Krifka et al. (1995:49f.) and Cohen (1996:Chapter 2).

(i) Ich schreibe mich mit 'k'
I write RP with 'k'
'My name is spelt with a 'k''

(ii) Two and two equals four

11. The first semantic argument of most verbs in middle constructions is either 'actor' or 'experiencer' (cf. Dowty's 1991 proto-patient properties). However, we saw in Chapters 2 and 3 that middle formation in German is not restricted to verbs selecting actors. We would expect that the implicit argument in middle constructions can refer to a non-human entity if the verb does not entail volitional involvement or sentience for its first argument. This seems to be confirmed by the following examples. None of the sentences implies that the action can only be performed by human beings. Recall from Section 3.2.1 that Fagan (1992) claims that the implicit argument must be [+human, +generic]. The second example (ii) is from Abraham (1995a).

- (i) a. Die Hemden verpacken sich jetzt besser
The shirts pack RP now better
'Now the shirts can be packed better'
- b. Die Kotflügel verschrauben sich mittlerweile ganz gut
The wings screw.together RP now quite well
'Now the wings screw together quite well'
- c. Die Milch füllt sich jetzt besser ab
The milk fills RP now better VERBAL-PARTICLE
'Now the milk can be bottled better'
- (ii) Diese Uhr stimmt auch nicht. Es geht sich eben schwer richtig,
This clock correct.is PARTICLE not. It works RP PARTICLE hardly correctly
wenn die Feder einen Sprung hat
when the spring a fault has
'... with a broken spring, a clock cannot work'

Note, however, that arbitrary reference to human beings is always the preferred option in middle constructions for two reasons: (i) human beings are generally more salient discourse referents than non-humans (cf. also Section 4.2.3 on personal pronouns in sentence-initial position). (ii) only human beings are typical proto-agents. Therefore, they are the best candidate for the first argument position of most verbs. This asymmetry is also reflected in all thematic hierarchies: agent is ranked higher than instrument. The following two examples from Abraham (1995a) illustrate that the implicit first argument can also refer to animals or plants.

- (iii) Nimm doch dem Hund den Maulkorb ab, es bellt sich so schlecht damit
 take PARTICLE the dog the muzzle off it barks RP so badly therewith
 ‘Take off the dog’s muzzle. It is tough barking with the muzzle on’
- (iv) Diese Nelken sind nicht mehr schön. Es welkt sich eben schnell bei dieser Hitze
 These carnations are no longer nice. It wilts RP PARTICLE quickly in this heat
 ‘... Everything wilts quickly in this heat’

12. Consider the following examples. Only sentence (i-a) is a generic statement. Sentence (i-b) cannot be interpreted as a habitual statement because it is very likely that Peter goes to work only once a day. Hence, sentence (i-b) describes a single event. The boundaries between eventive and habitual statements might not always be that clear, as can be seen in (ii). Both examples are ambiguous between an eventive and a habitual reading.

- (i) a. Peter fährt mit der U-Bahn zur Arbeit
 Peter goes with the underground to work
 ‘Peter goes to work with the underground’
 b. Peter ist gestern Morgen mit der U-Bahn zur Arbeit gefahren
 Peter is yesterday morning with the underground to work gone
 ‘Yesterday morning Peter went to work with the underground’
- (ii) a. Peter tanzt heute Abend (ausnahmsweise) mit Maria
 Peter dances tonight (exceptionally) with Maria
 ‘(Exceptionally,) Peter dances with Maria tonight’
 b. Gestern Abend hat Maria (ausnahmsweise) Rotwein getrunken
 Yesterday evening has Maria (exceptionally) red.wine drunk
 ‘(Exceptionally,) Maria drunk red wine yesterday night’

13. The situation is different in example (i-a), which explicitly limits the size of the set of situations to 56. The meaning of this example seems to be identical to the corresponding passive in (i-b) (cf. also Fagan 1992:241 for similar examples). A discussion of the corresponding English verb *sell* can be found in Iwata (1999:548f.).

- (i) a. 1968 verkaufte sich diese Continental Executive Limousine immerhin 56 mal
 (In) 1968 sold RP this Continental Executive Limousine at least 56 times
 b. 1968 wurde diese Continental Executive Limousine immerhin 56 mal verkauft
 (In) 1968 PAS this Continental Executive Limousine at least 56 times sold

We think that (i-a) is not a middle construction but an anticausative. The verb *verkaufen* (‘sell’) does not necessarily select an agent, as can be seen in (ii) and (iii). Example (ii) and (iii-b) are from the *Frankfurter Rundschau*, 29.9.2000 and 16.11.2000.

- (ii) Aber [diese Schlagzeile] verkauft so wenige Bild-Zeitungen
 But this headline sells as few Bild-newspapers
 wie der steif aufgerichtete Körper einer Dressurreiterin
 as the rigidly straightened body of-a dressage-rider

Hence, *verkaufen* is not excluded from argument reduction (cf. Section 6.1). Transitive reflexive sentences containing the main verb *verkaufen* are therefore often ambiguous between a middle and an anticausative reading.

- (iii) a. [?]Dein Wagen hat sich gerade verkauft
Your car has RP right-now sold
b. [...] weit mehr Empörung verdient allerdings das Label,
[...] much more indignation deserves however the label
unter dem sich der Film verkaufen will
under which RP the film sell wants

14. Recall that in some cases the reflexive or anticausative interpretations, which are more easily available, may interfere with the middle interpretation. Beyond this, there are usually alternatives to middle constructions with similar meaning that are less ambiguous. Hence, it may take some time to grasp the meaning of middle constructions without adverbial modification (cf. Chapter 2).

15. In Chapter 3 we mentioned that verbs like *wohnen* ('live') raise the same problem. The analysis outlined in the following can be applied to these verbs as well.

16. See also Blutner (1996) for a definition of the term *pragmatically licensed*, which incorporates the insights of Gricean pragmatics.

17. An utterance generally maps a common ground CG to a common ground CG'. Therefore, it is a function from common grounds to common grounds. The utterance *updates* an old common ground and the new common ground CG' can be called an *update*.

18. Sentence (28a) can also yield this interpretation. Let's assume that Peter is in hospital after an accident or that he refuses to eat and drink because he is on hunger strike. In these situations the meaning of sentence (28a) does not involve alcohol.

19. The following adjunct middle construction is attested by a friend and was uttered by a badminton player who had bought a new piece of sportswear and was wearing it for the first time. He was not sure how he could play with his new trousers on. After the match he used the middle construction in (i).

- (i) Die neue Hose hat sich recht gut gespielt
The new trousers have RP quite well played
'With the new trousers on you can play quite well'

20. According to Ackema and Schoorlemmer's (1994) analysis, an A-marked preposition can incorporate into the verb in the lexicon. After incorporation, the complement of the preposition is the internal argument of the new complex verb that consists of the verb and the preposition. This NP can undergo middle formation as usual. Note that the rule of p-incorporation is rather complex. In Dutch p-incorporation in the lexicon is limited to lcs's that undergo middle formation. Prepositions can only incorporate into middle verbs. It is, however, unclear why the optional lexical rule of p-incorporation depends on the rule of middle formation. Secondly, this rule asymmetrically deletes only the morphological and phonetic content of the preposition, but not of the verb. In Dutch, p-incorporation is also p-'deletion'. Thirdly, the A-marking of a PP does not only depend on the PP itself, but also

on the NP selected by the preposition. In (30) above the locative PP is only A-marked if it contains an NP like *das Bett* ('the bed') but not if it contains an NP like *Berlin*. In (i) only the NP *die Wolle* ('the wool') turns the PP into an argument of the verb, but not the NP *das Bett* ('the bed') or *die Hose* ('the trousers') (cf. also (38) below for further examples).

- (i) Die Wolle / *das Bett / *Geduld strickt sich gut
The wool / the bed / patience knits RP well

Hence, the question whether or not a PP can be considered an argument of the verb depends (at least partly) on the knowledge about walking, sleeping, and knitting situations. A LCS approach requires at least two lexically different kinds of locative modifiers for e.g. *sleep*. In addition, we have to specify for every object whether or not it is a *sleeping-thing* (cf. also example (i) in Footnote 22 below).

- (ii) [Event SLEEP ([Thing α] A, [Place 1 IN [Sleeping-Thing β] A, [Place 2 IN [Thing γ]] ...) ...]

In (ii) only *sleeping-locations* (i.e. places that include a *sleeping-thing*) count as (locative) arguments of *sleep*. The same holds true for *knit*, *walk*, *write*, etc. A lexical analysis is forced to add this information to the lexical meaning of every verb and object. By contrast, this information can also be derived from our knowledge about events in which certain entities might be or might become more or less important. The latter approach accounts for the fact that the acceptability of adjunct middles in German depends on the context of the utterance. Consider the following example. A sentence like (iii) can only be uttered in very special contexts, i.e. by a football-player who is inspecting the new soccer pitch. Only in this context must the PP *auf dem neuen Rasen* ('on the new lawn') be considered an argument of the verb *spielen* ('play').

- (iii) ?Der neue Rasen spielt sich viel schneller
The new lawn plays RP much faster
'You can play much faster on the new lawn'

21. Note that some verbs like *öffnen* ('open') in (i) select instrumental subjects and that instruments are often salient entities that are picked out in nominalizations. In Italian, for example, *-ata*-nominals that are derived from a nominal base can refer to events in which the entity referred to by the nominal is used as an instrument of hitting, as is illustrated in (ii-a), or to quantities that can be carried by the entity referred to by the nominal, as (ii-b) illustrates (cf. Heusinger 2001). In German and English, *-er*-nominals that are derived from a verbal base can refer to typical instruments which are used in the event described by the underlying verb. Some examples are listed in (iii).

- (i) a. Peter öffnet die Tür mit dem Schlüssel
Peter-NOM opens the door with the key
b. Der Schlüssel öffnet die Tür
The key-NOM opens the door
- (ii) a. obrellata = 'event of hitting with an umbrella'
b. forcata = 'quantity that can be carried by a fork (forkful)'

(iii) Bohrer ('drill'), Schrauber ('screw-driver'), Sauger ('vacuum cleaner'), Schreiber ('pencil')

22. Note that English also has adjunct middle constructions such as (i). They seem to be subject to the same licensing conditions.

(i) This tent sleeps five

23. In the same way, passive constructions are sometimes licensed, although the corresponding active sentences sound odd.

(i) a. [?]Die Wolle ist schon einmal gestrickt worden

The wool is before knitted PAS

b. ^{???}Jemand (someone) hat schon einmal die Wolle gestrickt

The passive constructions in (i) are also interpreted on the basis of the semantic interpretation of a potentially available but not quite acceptable corresponding active sentence. This results in a causative interpretation which can be used productively as can be seen e.g. in (ii) – example (ii-b) is due to Ralf Vogel.

(ii) a. Peter wurde gestern gegangen (*Jemand hat Peter gegangen)

Peter PAS yesterday gone

(Someone has Peter gone)

'Peter was made to go'

b. Wenn Fücks nicht zurücktritt, dann muss er eben zurückgetreten werden

If Fücks not resigns, then must he PARTICLE resigned PAS

'If Fücks does not resign, then he must be voted out of his office'

Conclusion

“Der genetische Stammbaum liest sich wie ein Roman”
Frankfurter Allgemeine Zeitung, 22.6.2000

Starting from the observation that German transitive reflexive sentences of the form subject + verb + accusative reflexive pronoun are multiply ambiguous, we searched for an analysis that derives all interpretations in an uniform way from one underlying syntactic representation. Recall that transitive reflexive sentences are ambiguous between the following interpretations:

- i. *Reflexive interpretation*: both the subject and the reflexive pronoun are linked to the first and second semantic argument of the verb respectively. These arguments are coreferent: $P \langle x, x \rangle$
- ii. *Middle interpretation*: the subject is linked to the second semantic argument of the verb. The verb’s first argument is bound by the generic quantifier (argument saturation): $P \langle x, y \rangle \rightarrow \text{GEN}(x) P \langle x, y \rangle$
- iii. *Anticausative interpretation*: the subject is linked to the second semantic argument of the verb. The first argument of the basically two-place verb is deleted (argument reduction). Anticausatives are derived one-place predicates: $P \langle x, y \rangle \rightarrow P \ll x \gg$
- iv. *Inherent reflexive interpretation*: equals the anticausative interpretation. The verb’s first argument must obligatorily be deleted.

We called the reflexive pronoun in (i), which is linked to a semantic argument, argument reflexive and the one in (ii)–(iv), which is not linked to a semantic argument, non-argument reflexive. Non-argument reflexives mediate the linking of the syntactic subject to the second semantic argument of the verb. Since there is no empirical evidence for the claim that transitive reflexive sentences which differ in meaning also differ in syntax, we kept the minimal assumption that all transitive reflexive sentences are identical in syntax. As a consequence, a syntactic derivation of the different interpretations of transitive reflexive sentences is not available. Likewise, a lexical derivation cannot be empirically motivated either. In German, middle formation is a very productive operation which is neither morphosyntactically marked on the verb nor lex-

ically restricted to certain classes of verbs (the only exception are individual-level predicates, which are incompatible with generic quantification and thus excluded for independent reasons). In addition, neither syntactic nor lexical analyses account for all syntactic and semantic properties of middle constructions in German. Especially impersonal middle constructions, dative objects, generic quantification, and the licensing of the reflexive pronoun pose serious problems for these accounts. And finally they do not offer a conclusive explanation of the systematic ambiguity of the accusative reflexive pronoun in transitive sentences. As a consequence, we argued for a third kind of analysis, which has generally been neglected until now. The ambiguity of transitive reflexive sentences is derived at the interface between syntax and semantics.

Our analysis is based on the following two assumptions, which are both independently motivated.

- i. German distinguishes between structural and oblique case. Only nominative and accusative cases are structural.
- ii. The morphosyntactic features of (weak) reflexive pronouns are maximally underspecified. As a consequence, (weak) reflexive pronouns are not lexically specified for the morphosyntactic feature [R].

The second assumption seems to be valid cross-linguistically whereas the first one is language-specific. We do not think that all languages draw a similar distinction between structural and oblique case. By contrast, (weak) reflexive pronouns universally seem to be the less specified pronominal elements although they have quite different morphosyntactic properties in different languages. Various languages use (weak) reflexive pronouns to indicate valency reduction because the less specified elements need not be interpreted as semantic arguments.

These two assumptions enable us to derive the semantic ambiguity of transitive reflexive sentences. The ambiguity illustrated in (i)–(iv) above is restricted to reflexive pronouns that are assigned structural case. Unlike accusative case, dative case is oblique in German. Dative reflexive pronouns are therefore not ambiguous. Thus our analysis correctly predicts that in German only an accusative reflexive pronoun in object position is ambiguous between an *argument* and a *non-argument* interpretation. In Chapter 2 we called the accusative reflexive pronoun in this position a morphosyntactic *middle marker* and subsumed transitive reflexive sentences under the notion of *middle voice*. Many Indo-European languages use weak reflexive pronouns as indicators of valency reduction. It seems to be a universal property that the middle marker is always the pronominal element which is morphologically less specified. Usu-

ally, the middle marker is a weak reflexive pronoun, whose morphosyntactic properties might differ considerably from language to language. The middle marker in German is a free lexical morpheme, i.e. an accusative reflexive pronoun in object position. In other languages, middle markers are (free or bound) grammatical morphemes, i.e. verbal clitics, verbal affixes or verbal inflection. Hence, unlike most Indo-European languages, German has a morphosyntactically ‘strong’ middle marker. The German middle marker also relies on structural case. Therefore, the analysis we proposed for the middle voice in German (i.e. for transitive reflexive sentences) does not necessarily apply to the middle voice in other languages. Middle formation might be lexical in some languages and syntactic in others (depending on the morphosyntactic properties of the middle markers), but it generally involves weak reflexive pronouns. Thus every analysis of the middle voice has to embed this universal property into the language-specific context, which determines the specific morphosyntactic properties of the middle voice in each language.

In the following we briefly summarize the main findings of our analysis. In Chapter 2 we argued that German is a middle marking language. The ambiguity of transitive reflexive sentences in German is not exceptional. In many Indo-European languages the weak reflexive pronoun can be called a middle marker, which is usually ambiguous between a reflexive, passive, middle, anticausative, and inherent reflexive interpretation, among others. Note that the possible interpretations for a weak reflexive pronoun may differ from language to language (cf. also below). Although German, unlike most Indo-European languages, is a *one-form* language, which does not distinguish weak from strong reflexive pronouns, it also has a morphosyntactic middle marker – the reflexive pronoun in the position of the accusative object – which is responsible for the ambiguity of transitive reflexive sentences. We also illustrated that middle formation is not restricted to certain classes of verbs. Middle formation is possible with all kinds of one-, two-, or three-place predicates. Only zero-place predicates and individual-level predicates are excluded from middle formation for independent reasons. However, not all kinds of objects can undergo middle formation. We saw that dative objects are excluded from middle formation. Verbs selecting a dative object can only occur in impersonal middle constructions. As opposed to middle formation, anticausative formation is much more restricted. Anticausatives are ungrammatical if the first or external argument of the verb is specified for [+mental state involved]. In addition, German has reflexive and non-reflexive anticausatives. The latter are syntactically unaccusative.

In Chapter 3 we discussed several syntactic and lexical analyses of middle constructions and anticausatives. We focused on analyses of middle constructions because middle formation is the most productive operation and it is most controversially debated. In 3.1 and 3.2 we argued that both lexical and syntactic theories fail to offer a conclusive analysis of middle constructions. Syntactic analyses derive middle formation, like passives, by means of A-movement. Lexical analyses assume either a lexical rule of middle formation or a middle template. Neither of these analyses can account for the obligatory presence of the accusative reflexive pronoun. Besides, they need additional ad hoc stipulations and they do not provide a uniform analysis for the systematic ambiguity of transitive reflexive sentences. And finally, they are neither empirically nor conceptually motivated. Therefore, we pursued a different (and, as far as we can see, new) approach. The ambiguity of transitive reflexive sentences is derived at the interface between syntax and semantics from one underlying syntactic representation. This postsyntactic approach was developed in Chapters 4, 5, and 6.

Chapter 4 was concerned with the syntax and with certain semantic aspects of transitive reflexive sentences. We argued that transitive reflexive sentences differ in their semantic interpretation, but not in syntax. Section 4.1 demonstrated that the accusative reflexive pronoun is always subject to the same restrictions on word order in the middle field, regardless of whether it is an argument reflexive (i.e. interpretation (i) above) or a non-argument reflexive (i.e. interpretations (ii)–(iv) above). Section 4.2 illustrated that the differences between argument and non-argument reflexives concerning coordination, focus, and fronting follow from their different semantics. Only argument reflexives are linked to a semantic argument variable themselves, which is a necessary condition on coordination, focus, and fronting of the reflexive pronoun. Hence, there is no reason for assuming a different syntactic representation for each interpretation of transitive reflexive sentences.

Chapter 5 investigated the interpretation of reflexive pronouns in German. We followed Reinhart and Reuland (1993) and Pollard and Sag (1994), who argue that binding should be defined relative to the syntactic and semantic arguments of a verb. Only NPs that are assigned nominative and accusative case are syntactic arguments (i.e. A-expressions) in German. In addition, reflexive pronouns are not lexically specified for the feature [R]. Therefore, they can be both [–R]- and [+R]-expressions. The former must be syntactically bound by the subject, while the latter must be syntactically free. They must be semantically bound by a co-argument which is not more oblique. Finally, logophoric or exempt anaphors are not bound by a semantic co-argument of the same

predicate. Logophoric reflexive pronouns, which are syntactically and semantically free, are exempt from syntactic and semantic binding and subject to non-configurational conditions on logophoric binding. This leads to the following tripartite theory of binding.

- i. syntactic binding (A-chain formation, restricted to accusative [-R]-RPs)
- ii. semantic binding (O-binding, restricted to [+R]-RPs & co-arguments of a predicate)
- iii. logophoric binding (restricted to [+R]-RPs which are exempt from (ii))

This tripartite binding theory captures not only the standard cases of binding (of argument reflexives), which are usually subsumed under principle A and B of Chomsky's binding theory, and logophoric anaphora. It also integrates the distribution of non-argument reflexives. A syntactic binding theory that is based on A-chain formation and the distinction between [\pm R] reflexive pronouns correctly accounts for the ambiguity of the accusative reflexive pronoun in object position. Recall that reflexive pronouns are maximally underspecified. Depending on the syntactic context, the reflexive pronoun can be specified either as [+R] or [-R]. The [+R] reflexive pronoun must head its own chain, whereas the [-R] reflexive pronoun must be included in another A-chain that is headed by a [+R]-expression. This is illustrated in (1b) and (1c).

(1) A-chains and [\pm R]-expressions in German

	syntax	semantics
a. simple chain	[+R, NP] — [-R, TRACE]	1 argument
b. complex chain	[+R, NP] — [-R, RP] — [-R, TRACE] — [-R, TRACE]	1 argument
c. two chains	[+R, NP] — [-R, TRACE]; [+R, RP] — [-R, TRACE]	2 arguments
d. two chains	[+R, NP] — [-R, TRACE]; [+R, NP] — [-R, TRACE]	2 arguments

The [-R] reflexive pronoun in (1b) is included in a complex A-chain that is linked to the second semantic argument of the verb. By contrast, the [+R] reflexive pronoun in (1c) heads its own chain, which is also linked to the second semantic argument. Recall that both chains have the same base, the complement position of the verb. The first chain in (1c), which is headed by the subject, is linked to the first semantic argument via its base position in VP,Spec. The [-R] reflexive pronoun in (1b) is the non-argument reflexive, and the [+R] reflexive pronoun in (1c) the argument reflexive. This analysis is based on the following two general linking-principles for syntactic arguments in German.

- (2) a. Spec of VP is linked to the first argument of the verb
- b. The complement of V^o is linked to the second argument of the verb

In sum, our analysis provides a conclusive explanation for two essential features of middle markers in German. A middle marker must be assigned structural case and it must be a reflexive pronoun (i.e. not lexically specified for [R]). We can thus derive the observation we made in Chapter 2.

- (3) Only an accusative reflexive pronoun in object position is a middle marker in German

The difference between middle constructions and anticausatives were discussed in Chapter 6. It results from two different semantic operations. Implicit semantic arguments that are not linked to syntax can either be *saturated* (i.e. bound by a quantifier) or *reduced* (i.e. deleted). Both operations apply to free argument variables. Argument saturation is responsible for the middle interpretation and argument reduction for the anticausative and the inherent reflexive interpretation. In the second part of Chapter 6, we gave several empirical arguments to support the distinction between structural and oblique case. Dative case turned out to be oblique in German. We argued that dative objects are A'-elements in syntax. This analysis correctly accounts for the differences between accusative and dative objects and explains why dative reflexive pronouns are excluded from middle formation. Dative reflexive pronouns are always linked to a semantic argument of the verb.

So far, our analysis predicts that middle constructions are simple transitive reflexive sentences. Certain properties of the middle construction such as the generic interpretation and the adverbial modification should therefore follow from the semantics (and pragmatics) of this construction. In Chapter 7 we outlined how a postsyntactic approach can account for both the generic quantification and the adverbial modification. Moreover, related properties of middle constructions such as the 'responsibility' of the subject for the event described by the verb, the modal interpretation, and the arbitrary reading of the implicit argument can also be explained. We argued that middle constructions, unlike passives, are characterizing sentences that involve generic quantification over events or situations and the implicit argument. As a consequence, middle constructions without adverbial modification are restricted to specific contexts. The pragmatic licensing conditions we discussed predict that middle constructions usually require some additional adverbial modification. Finally, we discussed adjunct middle constructions, which are subject to additional non-configurational licensing conditions.

The specific meaning of middle and anticausative constructions results from the interpretation of complex A-chains, on the one hand, and the semantic operation of argument saturation and argument reduction, on the other

hand. In middle constructions, argument saturation means generic quantification over the first argument variable and the situation variable. Syntactically, both constructions are simple transitive reflexive sentences. The crucial properties of our analysis of middle formation in German are listed in (4).

- (4) Middle and anticausative formation in German
- a. Syntax: The subject and the accusative reflexive pronoun in object position form a complex A-chain.
 - i. which blocks linking of the first semantic argument of the verb because an intermediate link of the complex A-chain occupies VP,Spec.
 - ii. which is linked to the second semantic argument of the verb if it selects two semantic arguments (anticausatives and personal middle constructions), or which is not linked to a semantic argument of the verb if it only selects one semantic argument (impersonal middle constructions).
 - b. Semantics: The implicit first semantic argument is either (i) saturated or (ii) reduced.
 - i. In middle constructions the generic quantifier binds all free argument variables (i.e. the first argument variable and the situation variable).
 - ii. In anticausatives the semantic rule of argument reduction deletes the first argument variable. The situation variable is usually bound by the existential quantifier.

We hope that the present study casts new light on the interaction between syntax and semantics in general and on the analysis of middle constructions and anticausatives in particular. We confined ourselves to the discussion of the syntax and semantics of transitive reflexive sentences in Modern German and we were mainly concerned with the problem of argument linking in reflexive constructions. In this context we also discussed case theory, focus theory, generic quantification, restrictions on fronting and word order in the middle field, the distinction between weak and strong reflexive pronouns, and further issues of binding theory. Of course, many questions remain unanswered and additional interesting questions arise if we accept the theory proposed in this book. First of all, one would like to know to what extent our analysis can be applied to other languages. We saw in Chapter 2 that the morphosyntactic properties of middle markers might differ from language to language. We therefore expect morphological, syntactic, and semantic differences between the middle voice systems in different languages. Consider, for example, English. (5) illustrates

the possible interpretations for intransitive and transitive reflexive sentences in English (cf. Section 2.4, (65), for a comparison of English and German).

(5) Intransitive and transitive reflexive sentences in English

Syntax	Semantics	Example	
a. intransitive:			
Subject + Verb	1. $V < x >$	Peter sleeps	unergative
	2. $V \ll y \gg$	Peter arrives	unaccusative
	3. $V < x < (y) \gg$	Peter drinks	implicit internal argument
	4. $V < \emptyset < y \gg$	The door opens	anticausative
	5. $V < (x) < y \gg$	The bread cuts easily	middle construction
	6. $V < x < x \gg$	Peter shaves	reflexive
b. transitive reflexive:			
Subject + Verb + RP	$V < x < x \gg$	Peter hates himself	reflexive

Unlike most Indo-European languages, English does not have an overt middle marker. However, (5) illustrates that intransitive sentences in English receive typical middle interpretations: anticausative, middle, and reflexive. The reflexive interpretation of intransitive sentences in English is restricted to certain classes of verbs such as verbs of grooming or body care and verbs of change in body posture (cf. Section 2.3). In German, these interpretations are connected with the transitive reflexive sentence corresponding to (5b). Following the argumentation in this book, one could argue for two alternative analyses. On the one hand, weak reflexive pronouns in English can be analyzed as morphologically empty forms (cf. Keyser and Roeper 1984 and 1992 and Zwart 1998). According to this assumption, the last three examples in (5a), i.e. 4–6, syntactically correspond to their transitive counterparts in German. All three sentences are basically also transitive reflexive. They contain a zero [-R] reflexive pronoun in the complement position of V° that forms a complex A-chain headed by the subject, which is linked to the second semantic argument of the verb. This analysis predicts that personal middle constructions in English are very similar to their German counterparts.

On the other hand, one could argue that weak reflexive pronouns in English do not have a morphosyntactic realization at all. According to this assumption, all three sentences would be intransitive. In order to account for the ambiguity of intransitive sentences in (5a), we might assume the following linking-principle for the subject/VP,Spec position in English, which differs from the corresponding linking-principle (2a) we proposed for German.

- (6) Spec of VP is linked to the first and/or second semantic argument of a predicate.

Both analyses predict that English, unlike German, is a two-form language. The first approach assumes a morphologically empty weak reflexive pronoun, which equals the accusative reflexive pronoun in German. Following this argumentation, both English and German are subject to the same linking-principles in (2). The second approach does not assume an empty reflexive. Instead, it modifies linking-principle (2a): in English the subject/VP,Spec position can also be linked to the second semantic argument of the predicate, while in German it can only be linked to the first. This approach attributes the ambiguity of the middle voice in English directly to the linking-principles (cf. also Steinbach 2000).

Another interesting issue concerns the interpretation of the middle voice in languages with verbal middle markers. Recall from Chapter 2 that some languages permit a passive interpretation for the weak reflexive pronoun. Russian, for example, does not morphosyntactically distinguish between middle constructions and passives, and French and Italian middle constructions can receive an eventive interpretation that seems to be almost identical to the interpretation of the periphrastic passive in these languages. Consider again (47) from Chapter 2, here repeated as (7).

(7) Possible interpretations for an overt (weak) reflexive marker

Interpretation	English	Dutch	German	French	Modern Greek	Russian
Passive	–	–	–	±	+	+
Middle	–	–	+	+	+	+
Anticausative	–	+	+	+	+	+
Reflexive	–	+	+	+	+	+

Two closely related issues are of interest in this context: (i) why is the passive interpretation of the (weak) reflexive marker not licensed in a language like German? and (ii) are there any dependencies between the different interpretations of (weak) reflexive pronouns? Note that 16 different constellations are possible in principle if we restrict the investigation to the four meanings illustrated in (7). There seems to be an interesting correlation between the morphological ‘weight’ of a weak reflexive marker and the functions it encodes (cf. Kemmer 1993). Reflexive markers that are bound grammatical morphemes like the Russian *-sja* seem to encode more functions/interpretations than reflexive markers that are free morphemes. Verbal clitics are somewhere in between. French *se-* and Italian *si-* constructions, for example, can receive a passive (or at least a passive-like) interpretation, which is impossible for the German middle marker. As opposed to *se* and *si*, the German reflexive pronoun *sich* is a

syntactically independent word. Furthermore, the passive interpretation seems to depend on the middle interpretation in (7). This issue is also closely related to the phenomenon of grammaticalization and the historical development of 'neo-middle constructions' in modern Indo-European languages (cf. also the discussion in Section 2.3). We have mainly concentrated on German, a one-form language. Further investigation will show to what extent the analysis of the middle voice in German proposed in this book can be applied to other languages with different kinds of middle markers. This postsyntactic account to argument linking should also be embedded in psycholinguistic research on the acquisition and processing of reflexive pronouns in transitive reflexive sentences.

References

- Abraham, Werner (1983). Der Dativ im Deutschen. *Colloque du Centre de Recherches Germaniques de l'Université de Nancy, II*, 2–101.
- Abraham, Werner (1985). Grammatik von 'kriegen' und 'bekommen'. *Osnabrücker Beiträge zur Sprachtheorie*, 30, 142–165.
- Abraham, Werner (1987). Zur Typologie des Mediums in der Westgermania. In W. Abraham and R. Århammar (Eds.), *Linguistik in Deutschland* (pp. 3–24). Tübingen: Niemeyer.
- Abraham, Werner (1993). Review of The syntax and semantics of middle constructions, by Sarah Fagan. *Language*, 69 (4), 817–825.
- Abraham, Werner (1995a). Diathesis: the middle, particularly in West-Germanic. In W. Abraham, T. Givón, and S. Thompson (Eds.), *Discourse grammar and typology* (pp. 3–48). Amsterdam and Philadelphia: John Benjamins.
- Abraham, Werner (1995b). *Deutsche Syntax im Sprachvergleich: Grundlagen einer typologischen Syntax des Deutschen*. Tübingen: Narr.
- Abraham, Werner (1999). The structural and lexical space between reflexive binding and logophorics: Sundry paradigms of reflexives and anaphora. In Z. Frajzyngier and T.S. Curl (Eds.), *Reflexives. Forms and functions* (pp. 75–102). Amsterdam and Philadelphia: John Benjamins.
- Abraham, Werner (2000). The aspect-case typology correlation. Perfectivity and Burzio's Generalization. In E. Reuland (Ed.), *Arguments and case: Explaining Burzio's Generalization* (pp. 131–193). Amsterdam and Philadelphia: John Benjamins.
- Abraham, Werner and Anko Wiegel (1993). Reduktionsformen und Kasussynkretismus bei deutschen und niederländischen Pronomina. In W. Abraham and J. Bayer (Eds.), *Dialektsyntax* (pp. 12–49). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 5).
- Ackema, Peter and Maaike Schoorlemmer (1994). The middle construction and the syntax-semantics interface. *Lingua*, 93, 59–90.
- Ackema, Peter and Maaike Schoorlemmer (1995). Middles and nonmovement. *Linguistic Inquiry*, 26, 173–197.
- Ágel, Vilmos (1997). Reflexiv-Passiv, das (im Deutschen) keines ist. Überlegungen zu Reflexivität, Medialität, Passiv und Subjekt. In C. Dürscheid, K.-H. Ramers and M. Schwarz (Eds.), *Sprache im Fokus* (pp. 147–187). Tübingen: Niemeyer.
- Altmann, Hans (1981). *Formen der »Herausstellung« im Deutschen*. Tübingen: Niemeyer.
- Altmann, Hans (Ed.) (1988). *Intonationsforschung*. Tübingen: Niemeyer.
- Andersen, Paul Kent (1993). Eine alternative Sprachtypologie für das Reflexiv. *Folia Linguistica*, 27 (1–2), 107–146.

- Anderson, Stephen R. (1971). On the role of deep structure in semantic interpretation. *Foundations of Language*, 7, 387–396.
- Anderson, Stephen R. (1986). The typology of anaphoric dependencies: Icelandic (and other) reflexives. In L. Hellan and K. Koch Christiansen (Eds.), *Topics in Scandinavian syntax* (pp. 65–88). Dordrecht: Reidel.
- Anderson, Stephen R. (1993). Wackernagel's revenge: Clitics, morphology, and the syntax of second position. *Language*, 69 (1), 68–98.
- Aranovich, Raúl (1998). Split intransitivity and reflexives in Spanish. Unpublished manuscript, University of Texas at San Antonio.
- Bader, Markus, Josef Bayer, Jens-Max Hopf, and Michael Meng (1996). Case-Assignment in processing German verb-final clauses. In C. Schütze (Ed.), *Proceedings of the NELS 26 sentence processing workshop*. MIT Occasional Papers in Linguistics 9.
- Bader, Markus, Michael Meng, and Josef Bayer (2000). Case and reanalysis. *Journal of Psycholinguistic Research*, 29, 37–52.
- Bayer, Josef, Markus Bader, and Michael Meng (2001). Morphological underspecification meets oblique case: Syntactic and processing effects in German. *Lingua*, 111, 465–514.
- Baker, Mark (1988). *Incorporation*. Chicago: University of Chicago Press.
- Barss, Andrew and Howard Lasnik (1986). A note on anaphora and double objects. *Linguistic Inquiry*, 17, 347–354.
- Bartsch, Renate (1972). *Adverbialsemantik*. Frankfurt am Main: Athenäum.
- Bech, Gunnar (1983). *Studien über das deutsche verbum infinitum*. (2nd unchanged edition). Tübingen: Niemeyer.
- Beekes, Robert Stephen Paul (1995). *Comparative Indo-European linguistics*. Amsterdam and Philadelphia: John Benjamins.
- Behagel, Otto (1923). *Deutsche Syntax: Eine geschichtliche Darstellung*. Band 1: *Die Wortklassen und Wortformen*. Heidelberg: Winter.
- Behagel, Otto (1932). *Deutsche Syntax: Eine geschichtliche Darstellung*. Band 4: *Wortstellung und Periodenbau*. Heidelberg: Winter.
- Belletti, Adriana and Luigi Rizzi (1988). Psych-verbs and Θ -theory. *Natural Language and Linguistic Theory*, 3 (6), 291–352.
- Benveniste, Émile (1972). *Probleme der allgemeinen Sprachwissenschaft*. Frankfurt am Main: Syndikat.
- Bierwisch, Manfred (1983). Semantische und konzeptuelle Repräsentation lexikalischer Einheiten. In R. Růžicka and W. Motsch (Eds.), *Untersuchungen zur Semantik* (pp. 61–99). Berlin: Akademie Verlag.
- Bierwisch, Manfred (1996). 'Fragen' zum Beispiel. In G. Harras and M. Bierwisch (Eds.), *Wenn die Semantik arbeitet* (pp. 361–378). Tübingen: Niemeyer.
- Bierwisch, Manfred (1997). Middles in German. Unpublished manuscript, Arbeitsgruppe Strukturelle Grammatik, Berlin.
- Bittner, Miriam and Kenneth Hale (1996). Ergativity: Towards a theory of a heterogeneous class. *Linguistic Inquiry*, 27 (4), 531–604.
- Blutner, Reinhart (1994). Standardannahmen, Informationsveränderung und Flexibilität. Unpublished Habilitationsschrift, Humboldt University, Berlin.

- Blutner, Reinhart (1996). Lexical pragmatics. In R. van der Sandt, R. Blutner, and M. Bierwisch (Eds.), *From underspecification to interpretation* (pp. 55–90). Papers from the ASG-Workshop, Berlin 31.10–2.11.96.
- Bobaljik, Jonathan (1995). Morphosyntax. The syntax of verbal inflection. Unpublished Ph.D. thesis, MIT, Cambridge, Mass.
- Booij, Geert (1996). Cliticization as prosodic integration: The case of Dutch. *The Linguistic Review*, 13, 219–242.
- Bolinger, Dwight P. (1973). Ambient *it* is meaningful too. *Journal of Linguistics*, 9, 261–270.
- Bosch, Peter (1983). *Agreement and anaphora*. London: Academic Press.
- Branchadell, Albert (1992). A study of lexical and non-lexical datives. Unpublished Ph.D. thesis, University of Barcelona.
- Braune, Wilhelm (1975). *Althochdeutsche Grammatik*. (Bearbeitet von Hans Eggers). Tübingen: Niemeyer.
- Büring, Daniel (1997). *The meaning of topic and focus. The 59th street bridge accent*. London: Routledge.
- Büring, Daniel (1999). Topic. In P. Bosch and R. van der Sandt (Eds.), *Focus* (pp. 142–165). Cambridge: Cambridge University Press.
- Burzio, Luigi (1986). *Italian syntax*. Dordrecht: Reidel.
- Burzio, Luigi (1989a). On the morphology of reflexives and impersonals. Unpublished manuscript, Harvard University.
- Burzio, Luigi (1989b). The role of antecedent in anaphoric relations. Unpublished manuscript, Harvard University.
- Cardinaletti, Anna (1990). Subject/object asymmetries in German null-topic constructions and the status of SpecCP. In J. Mascaró and M. Nespór (Eds.), *Grammar in progress* (pp. 75–84). Dordrecht: Foris.
- Cardinaletti, Anna (1999). Pronouns in Germanic and Romance languages: An overview. In H. van Riemsdijk (Ed.), *Clitics in the languages of Europe* (pp. 33–81). Berlin: de Gruyter.
- Cardinaletti, Anna and Michal Starke (1994). Deficient pronouns: A view from Germanic. Unpublished manuscript, Università di Venezia and Forschungsschwerpunkt für Allgemeine Sprachwissenschaft Berlin.
- Cardinaletti, Anna and Michal Starke (1999). The typology of structural deficiency: On the three grammatical classes. In H. van Riemsdijk (Ed.), *Clitics in the languages of Europe* (pp. 145–233). Berlin: de Gruyter.
- Carlson, Gregory N. and Francis J. Pelletier (Eds.) (1995). *The generic book*. Chicago: The University of Chicago Press.
- Cinque, Guglielmo (1988). On *si* constructions and the theory of *arb*. *Linguistic Inquiry*, 19.4, 521–589.
- Chierchia, Gennaro (1989). A semantics for unaccusatives and its syntactic consequences. Unpublished manuscript, Cornell University.
- Chierchia, Gennaro (1995). The variability of impersonal subjects. In E. Bach, E. Jelinek, A. Kratzer, and B.H. Partee (Eds.), *Quantification in natural languages* (pp. 107–143). Dordrecht: Kluwer.
- Chomsky, Noam (1965). *Aspects of the theory of syntax*. Cambridge, Mass: MIT-Press.

- Chomsky, Noam (1970). Remarks on nominalization. In R. Jacobs und P. S. Rosenbaum (Eds.), *Readings in English transformational grammar* (pp. 184–221). Waltham, Mass: Ginn and Co.
- Chomsky, Noam (1972). *Studies on semantics in generative grammar*. The Hague: Mouton.
- Chomsky, Noam (1980). On binding. *Linguistic Inquiry*, 11, 1–46.
- Chomsky, Noam (1981). *Lectures on government and binding*. Berlin: de Gruyter.
- Chomsky, Noam (1986a). *Knowledge of language*. New York: Praeger.
- Chomsky, Noam (1986b). *Barriers*. Cambridge, Mass: MIT Press.
- Chomsky, Noam (1993). A minimalist program for linguistic theory. In K. Hale and S.J. Keyser (Eds.), *The view from building 20* (pp. 1–52). Cambridge, Mass: MIT Press.
- Chomsky, Noam (1995). *The minimalist program*. Cambridge, Mass: MIT Press.
- Cohen, Ariel (1996). Think generic: The meaning and use of generic sentences. Unpublished Ph.D. thesis, Carnegie Mellon University.
- Cohen, Ariel (1997). Generics, frequency adverbs, and probability. Unpublished manuscript, Ben Gurion University.
- Collins, Chris (1997). *Local economy*. Cambridge, Mass: MIT Press.
- Condoravdi, Cleo (1989). The middle: Where semantics and morphology meet. *MIT-Working Papers in Linguistics*, 11, 16–31.
- Cooper, Kathrin E. (1994). Topics in Zurich German syntax. Unpublished Ph.D. thesis, University of Edinburgh.
- Cornips, Leonie (1996). Variants of the adjunct middles in the Rhineland and Limburg dialects: syntactic changes between 1885 and 1994. Paper given at Potsdam University, November 1997.
- Cornips, Leonie and Aafke Hulk (1996). Ergative reflexives in Heerlen Dutch and French. *Studia Linguistica*, 50, 1–21.
- Dal, Ingerid (1966). *Kurze deutsche Syntax auf historischer Grundlage*. Tübingen: Niemeyer.
- Davidson, Donald (1985). *Essays on actions and events*. Oxford: Oxford University Press.
- Den Dikken, Marcel (1997). Take serials light up the middle. Paper given at Zentrum für Allgemeine Sprachwissenschaft, Berlin, July 1997.
- Dobrovie-Sorin, Carmen (1998). Impersonal *se* constructions in Romance and the passivization of unergatives. *Linguistic Inquiry*, 29 (3), 399–437.
- Dölling, Johannes (1992a). Flexible Interpretation durch Sortenverschiebung. In I. Zimmermann and A. Strigin (Eds.), *Fügungspotenzen* (pp. 23–62). Berlin: Akademie Verlag.
- Dölling, Johannes (1992b). Polysemy and sort coercion in semantic representation. In P. Bosch and P. Gerstl (Eds.), *Discourse and lexical meaning* (pp. 61–78). Arbeitspapiere des Sonderforschungsbereichs 340, Nr. 30. Stuttgart and Tübingen.
- Dowty, David (1979). *Word meaning and Montague grammar*. Dordrecht: Kluwer.
- Dowty, David (1989). On the semantic content of the notion ‘thematic role’. In G. Chierchia, B. Partee, and R. Turner (Eds.), *Properties, types, and meaning*. Vol. II (pp. 69–130). Dordrecht: Kluwer.
- Dowty, David (1991). Thematic roles and argument selection. *Language*, 67 (3), 547–619.
- Drosdowski, Günther (Ed.) (1995). *Grammatik der deutschen Gegenwartssprache*. Mannheim: Dudenverlag.

- Drubig, H. Bernhard (1991). Zur Frage der grammatischen Repräsentation thetischer und kategorischer Sätze. In J. Jacobs (Ed.), *Informationsstruktur und Grammatik* (pp. 142–195). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 4).
- Dürscheid, Christa (1999). *Die verbalen Kasus des Deutschen*. Berlin: de Gruyter.
- Eisenberg, Peter (1994). *Grundriß der deutschen Grammatik*. Stuttgart: Metzler.
- Erb, Marie Christine (1995). Die *tun*-Periphrase im Deutschen. Unpublished MA thesis, University of Frankfurt am Main.
- Erb, Marie Christine and Markus Steinbach (1996). Middles: A view from German. *Proceedings of ConSOLE*, 5, 29–46.
- Everaert, Martin (1986). *The syntax of reflexivization*. Dordrecht: Foris.
- Everaert, Martin (1990). Nominative anaphors in Icelandic: Morphology or syntax? In W. Abraham, W. Kosmeijer, and E. Reuland (Eds.), *Issues in Germanic syntax* (pp. 277–306). Berlin: de Gruyter.
- Everaert, Martin (2000). Types of anaphoric expressions. Reflexives and reciprocals. In Z. Frajzyngier and T.S. Curl (Eds.), *Reciprocals. Forms and functions* (pp. 63–83). Amsterdam and Philadelphia: John Benjamins.
- Fagan, Sarah (1985). The syntax and function of non-thematic reflexives in German and Dutch. Unpublished Ph.D. thesis, Cornell University.
- Fagan, Sarah. 1988). The English middle. *Linguistic Inquiry*, 17, 501–557.
- Fagan, Sarah (1992). *The syntax and semantics of middle constructions*. Cambridge: Cambridge University Press.
- Fanselow, Gisbert (1987). *Konfigurationsalität*. Tübingen: Narr.
- Fanselow, Gisbert (1993). Die Rückkehr der Basisgenerierer. *Groninger Arbeiten zur germanistischen Linguistik*, 36, 1–74.
- Fanselow, Gisbert (1995). A minimalist approach to free constituent order. Unpublished manuscript, University of Potsdam.
- Fanselow, Gisbert (1997). Features, Θ -roles, and free constituent order. Unpublished manuscript, University of Potsdam.
- Fanselow, Gisbert and Sascha W. Felix (1987). *Sprachtheorie*. Band 2: *Die Rektions- und Bindungstheorie*. Tübingen: Francke (UTB).
- Fellbaum, Christiane (1986). *On the middle construction in English*. Bloomington: Indiana University Linguistics Club.
- Fellbaum, Christiane and Anne Zribi-Hertz (1989). *The middle construction in French and English*. Bloomington: Indiana University Linguistics Club.
- Ferraresi, Gisella (1996). Middles, reflexives, and ergatives in Gothic. In E. Brandner and G. Ferraresi (Eds.), *Language change and generative grammar* (pp. 273–291). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 7).
- Féry, Caroline (1993). *German intonational patterns*. Tübingen: Niemeyer.
- Fiengo, Robert and Robert May (1994). *Indices and identity*. Cambridge, Mass: MIT Press.
- Fox, Danny (1993). A modification of Reinhart and Reuland's 'Reflexivity'. Unpublished manuscript, MIT, Cambridge, Mass.
- Frajzyngier, Zygmunt and Traci S. Curl (Eds.) (2000a). *Reflexives. Forms and functions*. Amsterdam and Philadelphia: John Benjamins.
- Frajzyngier, Zygmunt and Traci S. Curl (Eds.) (2000b). *Reciprocals. Forms and functions*. Amsterdam and Philadelphia: John Benjamins.

- Frank, Nicola (2000). Probleme lexikalischer Selektion und abhängige Verbzweitsätze. *Linguistische Berichte*, 184, 469–483.
- Frey, Werner (1993). *Syntaktische Bedingungen für die semantische Interpretation*. Berlin: Akademie Verlag.
- Fujita, Koji (1994). Middle, ergative, and passive in English: A minimalist perspective. In H. Harley and C. Phillips (Eds.), *The morphology-syntax connection* (pp. 71–90). MIT-Working-Papers in Linguistics 22.
- Gallmann, Peter (1992). Dativanhebung? *Groninger Arbeiten zur germanistischen Linguistik*, 35, 72–91.
- Gallmann, Peter (1995). Zur Syntax und Morphologie von Indefinita des Typs 'genug'. Paper given at Forschungsschwerpunkt für Allgemeine Sprachwissenschaft, Berlin, September 1995.
- Gärtner, Hans-Martin (1991). *Erweiterungen der Bindungstheorie*. Sprachwissenschaften in Frankfurt 3, University of Frankfurt am Main.
- Gärtner, Hans-Martin (1998a). Generalized transformations and beyond. Unpublished Ph.D. thesis, Humboldt University, Berlin.
- Gärtner, Hans-Martin (1998b). Does German have V2 relative clauses? *Sprache & Pragmatik*, 48, 1–31.
- Gärtner, Hans-Martin (2001). Are there V2 relative clauses in German? *Journal of Comparative Germanic Linguistics*, 3, 97–141.
- Gärtner, Hans-Martin and Markus Steinbach (1994). Economy, verb second, and the SVO-SOV distinction. *Working Papers in Scandinavian Syntax*, 53, 1–59.
- Gärtner, Hans-Martin and Markus Steinbach (1996). Anmerkungen zur Vorfeldphobie pronominaler Elemente. In F.-J. D'Avis and U. Lutz (Eds.), *Zur Satzstruktur des Deutschen* (pp. 1–30). Arbeitspapiere des SFB 340, Nr. 90. Stuttgart and Tübingen.
- Gärtner, Hans-Martin and Markus Steinbach (2000). What do reduced pronominals reveal about the syntax of Dutch and German? *Linguistics in Potsdam*, 9, 1–56.
- Gelderen, Elly van (2000). *A history of English reflexive pronouns: Person, self, and interpretability*. Amsterdam and Philadelphia: John Benjamins.
- Geniušienė, Emma (1987). *The typology of reflexives*. Berlin: de Gruyter.
- Givón, Talmy (1994). *Voice and inversion*. Amsterdam and Philadelphia: John Benjamins.
- Goldberg, Adele E. (1992). The inherent semantics of argument structure: The case of the English ditransitive construction. *Cognitive Linguistics*, 3 (1), 37–74.
- Greenspon, M.D. (1996). A closer look at the middle construction. Unpublished Ph.D. thesis, Yale University.
- Grewendorf, Günther (1983). Reflexivierung in deutschen A.c.I.-Konstruktionen. Kein transformationsgrammatisches Dilemma mehr. *Groninger Arbeiten zur germanistischen Linguistik*, 23, 120–196.
- Grewendorf, Günther (1984). Reflexivierungsregeln im Deutschen. *Deutsche Sprache*, 12, 14–30.
- Grewendorf, Günther (1985). Anaphern bei Objekt-Koreferenz im Deutschen. In W. Abraham (Ed.), *Erklärende Syntax des Deutschen* (pp. 137–171). Tübingen: Narr.
- Grewendorf, Günther (1988). *Aspekte der deutschen Syntax*. Tübingen: Narr.
- Grewendorf, Günther (1989a). Verbbewegung und Negation im Deutschen. *Groninger Arbeiten zur germanistischen Linguistik*, 30, 57–125.

- Grewendorf, Günther (1989b). *Ergativity in German*. Dordrecht: Foris.
- Grewendorf, Günther and Joachim Sabel (1994). Long scrambling and incorporation. *Linguistic Inquiry*, 25, 263–308.
- Grimm, Jacob and Wilhelm Grimm (1877). *Deutsches Wörterbuch*. Band 4, 2. Abtheilung. Leipzig: Hirzel.
- Grimm, Jacob and Wilhelm Grimm (1905). *Deutsches Wörterbuch*. Band 10. Leipzig: Hirzel.
- Grimshaw, Jane (1982). On the lexical representation of Romance reflexive clitics. In J. Bresnan (Ed.), *The mental representation of grammatical relations* (pp. 87–148). Cambridge, Mass: MIT Press.
- Grimshaw, Jane (1990). *Argument structure*. Cambridge, Mass: MIT Press.
- Grimshaw, Jane (1991). Extended projections. Unpublished manuscript, Brandeis University.
- Haegeman, Liliane (1992). *Introduction to government and binding theory*. Oxford: Blackwell.
- Haftka, Brigitta (Ed.) (1994). *Was determiniert Wortstellungsvariation?* Opladen: Westdeutscher Verlag.
- Haider, Hubert (1982). Von *sein* oder nicht *sein*: Zur Grammatik des Pronomens ‘sich’. In W. Abraham (Ed.), *Erklärende Syntax des Deutschen* (pp. 223–254). Tübingen: Narr.
- Haider, Hubert (1984). Mona Lisa lächelt stumm. Über das sogenannte ‘Rezipientenpassiv’. *Linguistische Berichte*, 89, 32–42.
- Haider, Hubert (1990). Topicalization and other puzzles of German syntax. In G. Grewendorf and W. Sternefeld (Eds.), *Scrambling and barriers* (pp. 92–112). Amsterdam and Philadelphia: John Benjamins.
- Haider, Hubert (1991). PRO-bleme. In G. Fanselow and S.W. Felix (Eds.), *Strukturen und Merkmale syntaktischer Kategorien* (pp. 121–143). Tübingen: Narr.
- Haider, Hubert (1993). *Deutsche Syntax generativ*. Tübingen: Narr.
- Haider, Hubert and Inger Rosengren (1998). Scrambling. *Sprache und Pragmatik*, 49.
- Hale, Kenneth and Samuel Jay Keyser (1986). *Some transitivity alternations in English*. MIT Lexicon Project Working Papers 7.
- Hale, Kenneth and Samuel Jay Keyser (1987). *A view from the middle*. MIT Lexicon Project Working Papers 10.
- Hale, Kenneth and Samuel Jay Keyser (1991). *On the syntax of argument structure*. MIT Lexicon Project Working Papers.
- Hale, Kenneth and Samuel Jay Keyser (1992). The syntactic character of thematic relations. In I.M. Rocca (Ed.), *Thematic structure. Its role in grammar* (pp. 107–143). Berlin: de Gruyter.
- Hale, Kenneth and Samuel Jay Keyser (1993). On argument structure and lexical expression of syntactic relations. In K. Hale and S.J. Keyser (Eds.), *The view from building 20* (pp. 53–110). Cambridge, Mass: MIT Press.
- Hall, Tracy Alan (1999). Phonotactics and the prosodic structure of German function words. In T.A. Hall and U. Kleinhenz (Eds.), *Studies on the phonological word* (pp. 103–136). Amsterdam and Philadelphia: John Benjamins.
- Hermodsson, Lars (1952). *Reflexive und intransitive Verba im älteren Westgermanischen*. Uppsala: Almqvist & Wiksell.

- Heusinger, Klaus von (2001). Italian nominalization of *-ata*. The interface between the cognitive structure and lexical semantics. Paper given at the Workshop on Nominalization, University of Tübingen, April 2001.
- Higginbotham, James (1985). On semantics. *Linguistic Inquiry*, 16, 547–593.
- Higginbotham, James (1987). *Elucidations of meaning*. MIT Lexicon Project Working Papers 19.
- Hirschbühler, Paul (1982). VP deletion and across-the-board quantifier scope. *NELS*, 12, 132–139.
- Höhle, Tilman (1978). *Lexikalistische Syntax. Die Aktiv-Passiv-Relation und andere Infinitivkonstruktionen im Deutschen*. Tübingen: Niemeyer.
- Höhle, Tilman (1982). Explikation für ‘normale Betonung’ und ‘normale Wortstellung’. In W. Abraham (Ed.), *Satzglieder des Deutschen* (pp. 75–153). Tübingen: Narr.
- Höhle, Tilman (1986). Der Begriff ‘Mittelfeld’. Anmerkungen über die Theorie der topologischen Felder. In W. Weiss, H.E. Wiegand, and M. Reis (Eds.), *Kontroversen, alte und neue. Akten des VII. Internationalen Germanistenkongresses, Göttingen 1985* (pp. 329–340). Tübingen: Niemeyer.
- Hoekstra, Teun and Ian Roberts (1993). Middle constructions in Dutch and English. In E. Reuland and W. Abraham (Eds.), *Knowledge and language*. Vol. 2: *Lexical and conceptual structure* (pp. 183–220). Dordrecht: Kluwer.
- Hofmann, Ute (1994). *Zur Typologie im Mittelfeld. Pronominale und nominale Satzglieder*. Tübingen: Niemeyer.
- Horn, Laurence R. (1996). Exclusive company: *Only* and the dynamics of vertical inference. *Journal of Semantics*, 13, 1–40.
- Howe, Stephen (1996). *The personal pronouns in the Germanic languages*. Berlin: de Gruyter.
- Hulk, Aafke and Leonie Cornips (1997). The role of reflexives in Romance and Germanic middles. Unpublished manuscript, Royal Netherlands Academy.
- Iwata, Seizi (1999). On the status of implicit arguments in middles. *Journal of Linguistics*, 35, 527–553.
- Jackendoff, Ray (1972). *Semantic interpretation in generative grammar*. Cambridge, Mass: MIT Press.
- Jackendoff, Ray (1987). The status of thematic relations in linguistic theory. *Linguistic Inquiry*, 18, 369–411.
- Jackendoff, Ray (1990). *Semantic structures*. Cambridge, Mass: MIT Press.
- Jacobs, Joachim (1982). *Syntax und Semantik der Negation im Deutschen*. München: Fink.
- Jacobs, Joachim (1983). *Fokus und Skalen*. Tübingen: Niemeyer.
- Jacobs, Joachim (1984). Funktionale Satzperspektive und Illokutionssemantik. *Linguistische Berichte*, 91, 25–58.
- Jacobs, Joachim (1988). Fokus-Hintergrund-Gliederung und Grammatik. In H. Altmann (Ed.), *Intonationsforschung* (pp. 89–134). Tübingen: Niemeyer.
- Jacobs, Joachim (1991). Negation. In A. von Stechow and D. Wunderlich (Eds.), *Semantik. Ein internationales Handbuch der zeitgenössischer Forschung* (pp. 560–596). Berlin: de Gruyter.
- Jacobs, Joachim (Ed.) (1992a). *Informationsstruktur und Grammatik*. Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 4).

- Jacobs, Joachim (1992b). Neutral stress and the position of heads. In J. Jacobs (Ed.), *Informationsstruktur und Grammatik* (pp. 220–244). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 4).
- Jacobs, Joachim (1993). Integration. In M. Reis (Ed.), *Wortstellung und Informationsstruktur* (pp. 63–117). Tübingen: Niemeyer.
- Jacobs, Joachim (1994). Das lexikalische Fundament der Unterscheidung von obligatorischen und fakultativen Ergänzungen. *Zeitschrift für germanistische Linguistik*, 22 (3), 284–319.
- Jäger, Gerhard (1992). Diskurs-Verknüpfung und der Stadien-/Individuen-Kontrast. Unpublished MA thesis, University of Leipzig.
- Jäger, Gerhard (1995). Topic, scrambling, and aktionsarten. In I. Kohlhof, S. Winkler, and H.B. Drubig (Eds.), *Proceedings of the Göttingen Focus Workshop* (pp. 19–34). Arbeitspapiere des SFB 340, Nr. 69. Stuttgart and Tübingen.
- Jäger, Gerhard (1996). *Topics in dynamic semantics*. CSI-Bericht, Nr. 96. Centrum für Informations- und Sprachverarbeitung, University of München.
- Johnson, Kyle (1991). Object positions. *Natural Language and Linguistic Theory*, 9, 577–636.
- Joppen, Sandra and Dieter Wunderlich (1994). *Argument linking in Basque*. Theorie des Lexikons. Arbeiten des Sonderforschungsbereichs 282, Nr. 63. Düsseldorf.
- Junghanns, Uwe (1996). SJA-verbs in Russian. Phonology, morphology or syntax? *ZAS Papers in Linguistics*, 6, 66–80.
- Kameyama, Megumi (1999). Stressed and unstressed pronouns: Complementary preferences. In P. Bosch and R. van der Sandt (Eds.), *Focus* (pp. 306–321). Cambridge: Cambridge University Press.
- Karttunen, Lauri (1977). Syntax and semantics of questions. *Linguistics and Philosophy*, 1, 3–44.
- Kathol, Andreas (1995). Linearization-based German syntax. Unpublished Ph.D. thesis, Ohio State University.
- Kathol, Andreas (1997). Concrete minimalism of German. In F.-J. D’Avis and U. Lutz (Eds.), *Zur Satzstruktur des Deutschen* (pp. 81–105). Arbeitspapiere des SFB 340, Nr. 90. Stuttgart and Tübingen.
- Kathol, Andreas (2000). *Linear syntax*. New York: Oxford University Press.
- Kayne, Richard (1995). *The antisymmetry of syntax*. Cambridge, Mass: MIT Press.
- Kemmer, Suzanne (1993). *The middle voice*. Amsterdam and Philadelphia: John Benjamins.
- Keenan, Edward L. and Bernard Comrie (1977). Noun phrase accessibility hierarchy and universal grammar. *Linguistic Inquiry*, 8, 63–99.
- Keyser, Samuel Jay and Tom Roeper (1984). On the middle and ergative constructions in English. *Linguistic Inquiry*, 15, 381–416.
- Kiss, Tibor (1991). Minimal and parametric binding theory. Paper given at GGS 2001, University of Bochum, June 2001.
- Klaiman, Mimi H. (1991). *Grammatical voice*. Cambridge: Cambridge University Press.
- König, Ekkehard (1993). Focus particles. In J. Jacobs, A. von Stechow, W. Sternefeld, and T. Vennemann (Eds.), *Syntax. Ein internationales Handbuch der zeitgenössischer Forschung*, 1. Halbband (pp. 978–987). Berlin: de Gruyter.
- König, Ekkehard and Peter Siemund (1996). Emphatische Reflexiva und Fokusstruktur: Zur Syntax und Bedeutung von *selbst*. *Sprache und Pragmatik*, 40, 1–42.

- König, Ekkehard and Peter Siemund (1999). Intensifiers and reflexives. A typological perspective. In Z. Frajzyngier and T.S. Curl (Eds.), *Reflexives. Forms and functions* (pp. 41–74). Amsterdam and Philadelphia: John Benjamins.
- Koster, Jan (1987). *Domains and dynasties*. Dordrecht: Foris.
- Kratzer, Angelika (1995). Stage-level and individual-level predicates. In G.N. Carlson and F.J. Pelletier (Eds.), *The generic book* (pp. 125–175). Chicago: The University of Chicago Press.
- Krifka, Manfred (1992). A compositional semantics for multiple focus constructions. In J. Jacobs (Ed.), *Informationsstruktur und Grammatik* (pp. 17–53). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 4).
- Krifka, Manfred (1995). Focus and the interpretation of generic sentences. In G.N. Carlson and F.J. Pelletier (Eds.), *The generic book* (pp. 238–264). Chicago: The University of Chicago Press.
- Krifka, Manfred et al. (1995). Genericity: An introduction. In G.N. Carlson and F.J. Pelletier (Eds.), *The generic book* (pp. 1–124). Chicago: The University of Chicago Press.
- Kruijff-Korbayová, Ivana and Eva Hajicová (1997). Topics and centers: A comparison of the salience-based approach and the centering theory. *The Prague Bulletin of Mathematical Linguistics*, 67, 25–50.
- Kunze, Jürgen (1996). Plain middles and *lassen* middles in German: Reflexive constructions and sentence perspective. *Linguistics*, 34 (3), 645–697.
- Kunze, Jürgen (1997). Typen der reflexiven Verbverwendung im Deutschen und ihre Herkunft. *Zeitschrift für Sprachwissenschaft*, 16, 83–180.
- Lang, Ewald (1991). Koordinierende Konjunktionen. In A. von Stechow and D. Wunderlich (Eds.), *Semantik. Ein internationales Handbuch der zeitgenössischer Forschung* (pp. 597–622). Berlin: de Gruyter.
- Lasnik, Howard (1988). Subjects and the theta-criterion. *Natural Language and Linguistic Theory*, 1 (6), 1–18.
- Leggewie, Otto (Ed.) (1981). *Ars Graeca. Griechische Sprachlehre*. Paderborn: Schöningh.
- Lenerz, Jürgen (1977). *Zur Abfolge nominaler Satzglieder im Deutschen*. Tübingen: Niemeyer.
- Lenerz, Jürgen (1993). Zur Syntax und Semantik deutscher Personalpronomina. In M. Reis (Ed.), *Wortstellung und Informationsstruktur* (pp. 117–154). Tübingen: Niemeyer.
- Lenerz, Jürgen (1994). Pronomenprobleme. In B. Haftka (Ed.), *Was determiniert Wortstellungsvariation?* (pp. 161–173). Opladen: Westdeutscher Verlag.
- Levin, Beth (1991). Building a lexicon: The contribution of linguistic theory. In M. Bates and R. Weischedel (Eds.), *Challenges in natural language processing* (pp. 76–98). Cambridge: Cambridge University Press.
- Levin, Beth (1993). *English verb classes and alternations: A preliminary investigation*. Chicago: The University of Chicago Press.
- Levin, Beth and Malka Rappaport Hovav (1991). Wiping the slate clean: A lexical semantic exploration. *Cognition*, 41, 123–151.
- Levin, Beth and Malka Rappaport Hovav (1995). *Unaccusativity. At the syntax-lexical semantics interface*. Cambridge, Mass: MIT Press.
- Levin, Lori S. (1988). *Operations on lexical forms. Unaccusative rules in Germanic languages*. New York: Garland.
- Levinson, Stephen (1983). *Pragmatics*. Cambridge: Cambridge University Press.

- Levinson, Stephen (2000). *Presumptive meanings*. Cambridge, Mass: MIT Press.
- Li, Charles N. and Sandra A. Thompson (1976). Subject and topic: A new typology of language. In C.N. Li (Ed.), *Subject and topic* (pp. 459–489). New York: Academic Press.
- Lyons, John (1968). *Introduction to theoretical linguistics*. Cambridge: Cambridge University Press.
- Maienborn, Claudia (1990). *Position und Bewegung: Zur Semantik lokaler Verben*. IWBS-Report Nr. 138. IBM Stuttgart.
- Maienborn, Claudia (1991). Verbs of motion and position: on the optionality of the local argument. In O. Herzog and C.-R. Rollinger (Eds.), *Text understanding in LILOG: Integrating computational linguistics and artificial intelligence* (pp. 621–631). Berlin: Springer.
- Maienborn, Claudia (1996). *Situation und Lokation. Die Bedeutung lokaler Adjunkte von Verbprojektionen*. Tübingen: Stauffenburg.
- Maling, Joan (1998). Dative case is not (always) to blame: Grammatical functions, thematic roles, and morphological case. Unpublished manuscript, Brandeis University.
- Maling, Joan (2001). Dative: The heterogeneity of the mapping among morphological case, grammatical functions, and thematic roles. *Lingua*, 111, 419–464.
- Manney, Linda Joyce (2000). *Middle voice in Modern Greek. Meaning and function of an inflectional category*. Amsterdam and Philadelphia: John Benjamins.
- Manzini, Rita (1986). On Italian *si*. In H. Borer (Ed.), *The syntax of pronominal clitics* (Syntax and Semantics 19) (pp. 241–262). San Diego: Academic Press.
- Marantz, Alec (1984). *On the nature of grammatical relations*. Cambridge, Mass: MIT Press.
- Meinunger, André (2000). *Syntactic aspects of topic and comment*. Amsterdam and Philadelphia: John Benjamins.
- Miller, D. Gary (1993). *Complex verb formation*. Amsterdam and Philadelphia: John Benjamins.
- Mohanan, Karuvannur P. and Tara Mohanan (1998). Strong and weak projection: Lexical reflexives and reciprocals. In M. Butt and W. Geuder (Eds.), *The projection of arguments: Lexical and compositional factors* (pp. 165–194). Stanford: CSLI Lecture Notes.
- Moser, Hugo, Hugo Stopp, and Werner Besch (1988). *Grammatik des Frühneuhochdeutschen. Band 7: Flexion der Pronomina und Numeralia*. Heidelberg: Winter.
- Müller, Gereon (1993). *On deriving movement type asymmetries*. SFS-Report-05-93, University of Tübingen.
- Müller, Gereon (1995). *A-bar syntax*. Berlin: de Gruyter.
- Müller, Gereon (1997). Parallel movement. In F.-J. D’Avis and U. Lutz (Eds.), *Zur Satzstruktur des Deutschen* (pp. 171–214). Arbeitspapiere des SFB 340, Nr. 90. Stuttgart and Tübingen.
- Müller, Gereon (1999). Optimality, markedness, and word order in German. *Linguistics*, 37 (5), 777–818.
- Müller, Gereon and Wolfgang Sternefeld (1993). Improper movement and unambiguous binding. *Linguistic Inquiry*, 24, 461–507.
- Naumann, Uwe (2001). Dropping-Phänomene im gesprochenen Deutsch. Paper given at GGS 2001, University of Bochum, June 2001.
- Nunberg, Geoffrey (1979). The non-uniqueness of semantic solutions: Polysemy. *Linguistics and Philosophy*, 3, 143–184.

- Pafel, Jürgen (1995). Kinds of extraction from noun phrases. In U. Lutz and J. Pafel (Eds.), *On extraction and extraposition in German* (pp. 145–178). Amsterdam and Philadelphia: John Benjamins.
- Papakyriacou, Androulla (1997). Reflexivität und Medialkonstruktionen im Neugriechischen. Unpublished manuscript, Zentrum für Allgemeine Sprachwissenschaft, Berlin.
- Paul, Hermann (1917). *Mittelhochdeutsche Grammatik*. Teil III: *Flexionslehre*. Halle (Saale): Niemeyer.
- Paul, Hermann (1949). *Kurze deutsche Grammatik*. Halle, Saale: Niemeyer.
- Paul, Hermann (1989). *Mittelhochdeutsche Grammatik*. Tübingen: Niemeyer.
- Perlmutter, David (1978). Impersonal passives and the unaccusative hypothesis. *Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society*, 157–189.
- Pitz, Anneliese (1988). Middle constructions in German. *University of Trondheim Working Papers in Linguistics*, 6, 1–30.
- Pollard, Carl and Ivan Sag (1987). *Information-based syntax and semantics*. Stanford: CSLI Lecture Notes.
- Pollard, Carl and Ivan Sag (1994). *Head-driven phrase structure grammar*. Chicago: The University of Chicago Press.
- Primus, Beatrice (1992). *Selbst*. Variants of a scalar adverb in German. In J. Jacobs (Ed.), *Informationsstruktur und Grammatik* (pp. 54–88). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 4).
- Pullum, Geoffrey K. and Arnold Zwicky (1986). Phonological resolution of syntactic feature conflict. *Language*, 62, 751–773.
- Pustejovsky, James (1995). *The generative lexicon*. Cambridge, Mass: MIT Press.
- Rapoport, Tova R. (1993). Verbs in depictives and resultatives. In J. Pustejovsky (Ed.), *Semantics and the lexicon* (pp. 163–184). Dordrecht: Kluwer.
- Rapp, Irene (1999). Fakultativität von Verbarargumenten als Reflex der semantischen Struktur. *Linguistische Berichte*, 172, 490–529.
- Reape, Mike (1994). Domain union and word order variation in German. In J. Nerbonne, K. Netter, and C. Pollard (Eds.), *German in head-driven phrase structure grammar* (pp. 151–198). Stanford: CSLI Lecture Notes.
- Reape, Mike (1996). Getting things in order. In H. Bunt and A. van Horck (Eds.), *Discontinuous constituency* (pp. 209–253). Berlin: de Gruyter.
- Reichmann, Oskar and Klaus-Peter Wegera (Eds.) (1993). *Frühneuhochdeutsche Grammatik*. Tübingen: Niemeyer.
- Reinhart, Tanya (1983). *Anaphora and semantic interpretation*. London: Croom Helm.
- Reinhart, Tanya (1991). Pronouns. In A. von Stechow and D. Wunderlich (Eds.), *Semantik. Ein internationales Handbuch der zeitgenössischer Forschung* (pp. 535–548). Berlin: de Gruyter.
- Reinhart, Tanya (1995). *Interface strategies*. OTS Working Papers in Linguistics.
- Reinhart, Tanya (1997). *Syntactic effects of lexical operations: Reflexives and unaccusatives*. OTS Working Papers in Linguistics.
- Reinhart, Tanya and Eric Reuland (1991). Anaphors and logophors: An argument structure perspective. In J. Koster and E. Reuland (Eds.), *Long-distance anaphora* (pp. 283–321). Cambridge: Cambridge University Press.

- Reinhart, Tanya and Eric Reuland (1993). Reflexivity. *Linguistic Inquiry*, 24, 650–720.
- Reis, Marga (1976). Reflexivierung in A.c.I.-Konstruktionen. Ein transformationsgrammatisches Dilemma. *Papiere zur Linguistik*, 9, 5–82.
- Reis, Marga (1981). Reflexivierung im Deutschen. Unpublished manuscript, University of Köln.
- Reis, Marga (1985). Mona Lisa kriegt zuviel. Vom sogenannten ‘Rezipientenpassiv’ im Deutschen. *Linguistische Berichte*, 96, 140–155.
- Reis, Marga (1986). Subjektfragen in der Schulgrammatik? *Deutschunterricht*, 38, 64–84.
- Reis, Marga (1987). Die Stellung der Verbargumente im Deutschen. In I. Rosengren (Ed.), *Sprache und Pragmatik* (pp. 139–177). Stockholm: Almquist.
- Reis, Marga (Ed.) (1993). *Wortstellung und Informationsstruktur*. Tübingen: Niemeyer.
- Reis, Marga (1995). Extractions from verb-second clauses in German? In U. Lutz and J. Pafel (Eds.), *On extraction and extraposition in German* (pp. 45–88). Amsterdam and Philadelphia: John Benjamins.
- Reis, Marga (1996). On *was*-parentheticals and *was* . . . *w*-constructions in German. In U. Lutz and G. Müller (Eds.), *Papers on wh-scope marking* (pp. 257–288). Arbeitspapiere des Sonderforschungsbereichs 340, Nr. 76. Stuttgart and Tübingen.
- Reis, Marga (2000a). Wh-movement and integrated parenthetical constructions. Unpublished manuscript, University of Tübingen. To appear in: C.J.-W. Zwart and W. Abraham (Eds.), *Studies in comparative Germanic syntax*. Amsterdam and Philadelphia: John Benjamins.
- Reis, Marga (2000b). On the parenthetical features of German *was* . . . *w*-constructions and how to account for them. In U. Lutz, G. Müller, and A. von Stechow (Eds.), *Wh-scope marking* (pp. 359–407). Amsterdam and Philadelphia: John Benjamins.
- Renz, Ingrid (1993). *Adverbiale im Deutschen*. Tübingen: Niemeyer.
- Reuland, Eric and Tanya Reinhart (1995). Pronouns, anaphors, and case. In H. Haider, S. Olsen, and S. Vikner (Eds.), *Studies in comparative Germanic syntax* (pp. 241–268). Dordrecht: Kluwer.
- Richter, Frank (1997). Die Satzstruktur des Deutschen und die Behandlung langer Abhängigkeiten in einer Linearisierungsgrammatik. Formale Grundlagen und Implementierung in einem HPSG-Fragment. In E. Hinrichs, D. Meurers, F. Richter, M. Sailer, and H. Winhart (Eds.), *Ein HPSG-Fragment des Deutschen*. Teil 1: *Theorie* (pp. 13–188). Arbeitspapiere des SFB 340, Nr. 95. Stuttgart and Tübingen.
- Riemsdijk, Henk van (1978). *A case study in syntactic markedness: The binding nature of prepositional phrases*. Dordrecht: Foris.
- Rivero, Maria Luisa (2000). On impersonal reflexives in Romance and Slavic and semantic variation. Paper given at the XXX. Linguistic Symposium on Romance Languages, Gainesville, Florida, February 2000.
- Rivero, Maria Luisa and Milena Sheppard (1999). On impersonal *se/siĕ* in Slavic. Unpublished manuscript, University of Ottawa and University of Ljubljana. To appear in: *Proceedings of Formal Description of Slavic Languages*, December 1999, Leipzig.
- Rivet, Anne (1999). Rektionskomposita und Inkorporationstheorie. *Linguistische Berichte*, 179, 307–342.
- Rizzi, Luigi (1986). Null objects in Italian and the theory of pro. *Linguistic Inquiry*, 17, 501–557.

- Rizzi, Luigi (1991). *Relativized minimality*. Cambridge, Mass: MIT Press.
- Roberts, Ian (1989). *The representation of implicit and dethematized subjects*. Dordrecht: Foris.
- Rohrbacher, Bernhard Wolfgang (1999). *Morphology-driven syntax. A theory of V-to-I raising and pro-drop*. Amsterdam and Philadelphia: John Benjamins.
- Roland, Katy (1994). The pragmatics of Modern Greek voice: Active, inverse, and passive. In T. Givón (Ed.), *Voice and inversion* (pp. 233–260). Amsterdam and Philadelphia: John Benjamins.
- Rooth, Mats (1985). Association with focus. Unpublished Ph.D. thesis, University of Massachusetts at Amherst.
- Rooth, Mats (1992). A theory of focus interpretation. *Natural Language Semantics*, 1, 75–116.
- Rooth, Mats (1995). Indefinites, adverbs of quantification, and focus semantics. In G.N. Carlson and F.J. Pelletier (Eds.), *The generic book* (pp. 265–299). Chicago: The University of Chicago Press.
- Ross, John R. (1970). On declarative sentences. In R.A. Jacobs and P.S. Rosenbaum (Eds.), *Readings in English transformational grammar*. Waltham, Mass: Ginn & Co.
- Sabel, Joachim (1996). *Restrukturierung und Lokalität. Universelle Beschränkungen für Wortstellungsvarianten*. Berlin: Akademie Verlag.
- Salmon, Nathan (1988). Reflexivity. In N. Salmon and S. Soames (Eds.), *Propositions and attitudes* (pp. 240–274). Oxford: Oxford University Press.
- Schachtl, Stefanie (1991). Der Akkusativ in der Medialkonstruktion des Deutschen. In G. Fanselow and S.W. Felix (Eds.), *Strukturen und Merkmale syntaktischer Kategorien* (pp. 104–120). Tübingen: Narr.
- Schoorlemmer, Maaïke (1996). The affix-clitic distinction and Russian SJA. *ZAS Papers in Linguistics*, 6, 150–165.
- Schwarzschild, Roger (1999). Givenness, avoidF, and other constraints on the placement of accent. *Natural Language Semantics*, 7 (2), 141–177.
- Sioupi, Athina (1997). Middle constructions in Modern Greek and their equivalent in German. In G. Drachman, A. Malikouti-Drachman, C. Klidi, and J. Fykias (Eds.), *Proceedings of the 2nd International Conference on Greek Linguistics* (pp. 599–608). Salzburg.
- Smith, Henry (1994). ‘Dative sickness’ in Germanic. *Natural Language and Linguistic Theory*, 12, 675–736.
- Stalnaker, Robert C. (1978). Assertion. In P. Cole (Ed.), *Pragmatics* (Syntax and Semantics 9) (pp. 315–332). New York: Academic Press.
- Stanek, Susanne (1995). *Verbstellungstypen in germanischen Sprachen*. Sprachwissenschaft in Frankfurt 14, University of Frankfurt am Main.
- Starke, Michal (1996). Germanische und romanische Pronomina. In E. Lang and G. Zifonun (Eds.), *Deutsch – typologisch* (pp. 405–427). Berlin: de Gruyter.
- Stechow, Arnim von (1991). Current issues in the theory of focus. In A. von Stechow and D. Wunderlich (Eds.), *Semantik. Ein internationales Handbuch der zeitgenössischer Forschung* (pp. 804–825). Berlin: de Gruyter.
- Stechow, Arnim von and Wolfgang Sternefeld (1988). *Bausteine syntaktischen Wissens*. Opladen: Westdeutscher Verlag.

- Stechow, Arnim von and Susanne Uhmman (1986). Some remarks on focus projection. In W. Abraham and S. de Meij (Eds.), *Topic, focus, and configurationality* (pp. 295–320). Amsterdam and Philadelphia: John Benjamins.
- Steinbach, Markus (1999a). Argument structure and reflexivity: Middle constructions in German. Unpublished manuscript, University of Mainz. To appear in: *Proceedings of the TLS 99 conference on argument structure*. Austin, Texas.
- Steinbach, Markus (1999b). Unaccusatives and anticausatives. Unpublished manuscript, University of Mainz. To appear in: A. Alexiadou, E. Anagnostopoulou and M. Everaert (Eds.), *The unaccusativity puzzle. Studies in the syntax-lexicon interface*. New York: Oxford University Press.
- Steinbach, Markus (1999c). Notes on parentheticals. *Arbeitspapiere des Sonderforschungsbereichs 340*, Nr. 144. Stuttgart and Tübingen.
- Steinbach, Markus (2000). The ambiguity of weak reflexive pronouns in English and German. Unpublished manuscript, University of Mainz. To appear in: C.J.-W. Zwart and W. Abraham (Eds.), *Studies in comparative Germanic syntax*. Amsterdam and Philadelphia: John Benjamins.
- Steinbach, Markus and Ralf Vogel (1994). Zum Konzept der Tiefenstruktur in der generativen Grammatik. Unpublished MA thesis, University of Frankfurt am Main.
- Sternefeld, Wolfgang (1985). Deutsch ohne grammatische Funktionen. Ein Beitrag zur Rektions- und Bindungstheorie. *Linguistische Berichte*, 99, 394–439.
- Strigin, Anatoli (1995). Abductive inference during update: The German preposition *mit* (*with*). Unpublished manuscript, Arbeitsgruppe Strukturelle Grammatik, Berlin.
- Stroik, Thomas (1992). Middles and movement. *Linguistic Inquiry*, 23, 127–137.
- Stroik, Thomas (1995). On middle formation: A reply to Zribi-Hertz. *Linguistic Inquiry*, 26, 165–171.
- Stroik, Thomas (1999). Middles and reflexivity. *Linguistic Inquiry*, 30, 119–131.
- Taylor, John R. (1994). The two-level approach to meaning. *Linguistische Berichte*, 149, 3–26.
- Tenny, Carol (1994). *Aspectual roles and the syntax-semantics interface*. Dordrecht: Kluwer.
- Tsimplici, Ianthi-Maria (1989). On the properties of the passive affix in Modern Greek. *USL-Working Papers*, 235–260.
- Uhmman, Susanne (1991). *Fokushphonologie*. Tübingen: Niemeyer.
- Uhmman, Susanne (1993). Das Mittelfeld im Gespräch. In M. Reis (Ed.), *Wortstellung und Informationsstruktur* (pp. 313–354). Tübingen: Niemeyer.
- Uszkoreit, Hans (1986). Constraints on order. *Linguistics*, 24, 883–906.
- Uszkoreit, Hans (1987). *Word order and constituent structure in German*. Stanford: CSLI Lecture Notes.
- Van Oosten, Jeanne (1977). Subjects and agenthood in English. *Chicago Linguistic Society*, 13, 459–471.
- Vallduví, Enric (1992). *The informational component*. New York: Garland.
- Vikner, Sten (1995). *Verb movement and expletive subjects in the Germanic languages*. New York: Oxford University Press.
- Vikner, Sten and Bonnie D. Schwartz (1996). The verb always leaves IP in V2 clauses. In A. Belletti and L. Rizzi (Eds.), *Parameters and functional heads* (pp. 11–62). New York: Oxford University Press.
- Vogel, Ralf (1998). Polyvalent verbs. Unpublished Ph.D., Humboldt University, Berlin.

- Vogel, Ralf (2001). Case conflict in free relative constructions. An optimality theoretic treatment. In G. Müller and W. Sternefeld (Eds.), *Competition in syntax* (pp. 341–375). Berlin: de Gruyter.
- Vogel, Ralf and Markus Steinbach (1995). On the (absence of a) base position for dative objects in German. *FAS Working Papers in Linguistics*, 4, 99–131.
- Vogel, Ralf and Markus Steinbach (1998). The dative – An oblique case. *Linguistische Berichte*, 173, 65–90.
- Wagner, Fritz (1977). *Untersuchungen zu Reflexivkonstruktionen im Deutschen*. Frankfurt am Main: Lang.
- Webelhuth, Gerd (1990). Diagnostics for structure. In G. Grewendorf and W. Sternefeld (Eds.), *Scrambling and barriers* (pp. 41–76). Amsterdam and Philadelphia: John Benjamins.
- Weerman, Fred (1996). Asymmetries between nominative, accusative, and dative. In E. Brandner and G. Ferraresi (Eds.), *Language change and generative grammar* (pp. 95–119). Opladen: Westdeutscher Verlag (Linguistische Berichte, Sonderheft 7).
- Wegener, Heide (1985a). *Der Dativ im heutigen Deutsch*. Tübingen: Narr.
- Wegener, Heide (1985b). ‘Er bekommt widersprochen’: Argumente für die Existenz eines Dativpassivs im Deutschen. *Linguistische Berichte*, 96, 127–139.
- Wegener, Heide (1991). Der Dativ: Ein struktureller Kasus? In G. Fanselow and S.W. Felix (Eds.), *Strukturen und Merkmale syntaktischer Kategorien* (pp. 70–103). Tübingen: Narr.
- Wilder, Chris (1993). Derivational economy and the analysis of V2. Unpublished manuscript, Arbeitsgruppe Strukturelle Grammatik, Berlin.
- Wilder, Chris (1994). Some properties of ellipsis in coordination. *Geneva Generative Papers*, 2, 23–61.
- Wilder, Chris (1995). Rightward movement as leftward deletion. In U. Lutz and J. Pafel (Eds.), *On extraction and extraposition in German* (pp. 273–310). Amsterdam and Philadelphia: John Benjamins.
- Wunderlich, Dieter (1985). Über die Argumente des Verbs. *Linguistische Berichte*, 97, 183–227.
- Wunderlich, Dieter (1987). An investigation of lexical composition: The case of German *be*-verbs. *Linguistics*, 25, 283–331.
- Wunderlich, Dieter (1992). *Cause and the structure of verbs*. Theorie des Lexikons. Arbeiten des Sonderforschungsbereichs 282, Nr. 36. Düsseldorf.
- Wunderlich, Dieter (1993). Diathesen (valency changing). In J. Jacobs, A. von Stechow, W. Sternefeld, and T. Vennemann (Eds.), *Syntax. Ein internationales Handbuch der zeitgenössischer Forschung*, 1. *Halbband* (pp. 730–747). Berlin: de Gruyter.
- Zaenen, Annie (1988). *Unaccusative verbs in Dutch and the syntax-semantics interface*. CSLI-Report 123.
- Zaenen, Annie, Joan Maling, and Höskuldur Thráinsson (1988). Case and grammatical functions: the Icelandic passive. *Natural Language and Linguistic Theory*, 3, 441–483.
- Zeevat, Henk (1997). The common ground as a dialogue parameter. Unpublished manuscript, Amsterdam.
- Zimmermann, Ilse (1988). Wohin mit den Affixen? *Linguistische Studien A*, 179, 157–188.

- Zribi-Hertz, Anne (1989). Anaphor binding and narrative point of view: English reflexive pronouns in sentence and discourse. *Language*, 65, 695–727.
- Zribi-Hertz, Anne (1993). On Stroik's analysis of English middle constructions. *Linguistic Inquiry*, 24, 583–589.
- Zubin, David A. and Klaus-M. Köpcke (1985). Cognitive constraints on the order of subject and object in German. *Studies in Language*, 9, 77–107.
- Zwart, C. Jan-Wouter (1993). *Dutch syntax*. Groningen: University of Groningen dissertation.
- Zwart, C. Jan-Wouter (1997). *Morphosyntax of verb movement*. Dordrecht: Kluwer.
- Zwart, C. Jan-Wouter (1998). Nonargument middles in Dutch. *Groninger Arbeiten zur germanistischen Linguistik*, 42, 109–128.

Subject index

A

- A-chain 11, 12, 178, 182, 183, 186–188, 193, 194, 203–207, 209, 211, 213, 215, 216, 220, 221, 225, 226, 229, 237, 259, 291, 292, 303
- A.c.I. (accusativus cum infinitivo, see *ECM*)
- A-element 11, 91–93, 141, 186, 187, 203, 205, 229
- A'-element 91, 92, 121, 141, 142, 153, 203, 259, 304
- A-movement 73–76, 85, 86, 117, 186, 204, 220, 225, 257, 302
- abstract case (see *case*, *abstract*)
- accomplishment 27, 60, 118
- accusative 1–5, 7, 10–12, 17–20, 23, 26, 28, 29, 31, 34, 42–46, 48, 52–57, 60, 61, 63, 64, 68, 69, 73, 83, 85, 86, 88–96, 98–100, 108, 112, 115, 116, 120–123, 126, 129, 131, 132, 137–139, 143, 148, 154, 158, 163, 167–170, 173, 174, 177–179, 182, 187, 189–191, 195–198, 200–204, 206, 209–211, 214–216, 221, 223, 229, 236–265, 286, 287, 299–305, 307
- achievement 27, 60, 98, 100, 118, 125
- action tier 98, 124–126
- activity 27, 37, 60, 100, 279
- actor 40, 44, 75, 97, 98, 101–104, 110, 125, 126, 134, 294
- adjunct 11–14, 29, 30, 77, 84, 92, 116–122, 143, 148, 168, 203, 246, 258, 265, 272, 285–287, 289–292, 296, 298, 304
- adjunct incorporation 123
- adjunct middle (see *middle*, *adjunct*)
- adjunction 78, 80, 91–96, 221
- adnominal focus particle (see *focus*, *particle*) 72, 118, 156, 157, 188, 221
- adverb 22, 24, 35–38, 64, 69, 77–79, 84, 92, 95, 99, 105–107, 114, 116, 117, 121–123, 128, 132, 135, 138, 157, 158, 164, 169, 173, 209, 231, 268–272, 274, 276, 278, 279, 281, 283, 285, 288
- adverbial expression 2, 36, 46, 98, 113, 114, 118, 128, 138, 237, 271–273, 277–279, 288, 293
- adverbial modification 2, 6, 13, 21, 35–37, 39, 59, 60, 64, 68, 78, 84, 90, 107, 113–116, 126, 127, 267, 270, 277–285, 296, 304
- affectedness 265
- affectedness constraint 116, 125
- agent 21, 24, 40, 78, 81, 82, 98, 102, 116, 117, 121, 122, 125, 132, 134, 168, 200, 218, 223, 231, 234, 248, 261, 262, 274, 294, 295
- Aktionsarten 60, 63, 100
- ambiguity 4–6, 10, 11, 46, 51, 53, 73, 75, 90, 94, 96, 105, 115, 121, 129, 177, 178, 182, 183, 187, 190, 192, 194, 202, 204, 206, 209, 212, 215, 229, 252, 269, 270, 289, 300–303, 306, 307
- anaphorical *sich* 14
- animateness 21, 122, 132, 181, 247, 248, 263
- anticausative 3–6, 8–14, 19–22, 38, 42–53, 58–60, 62, 65, 66, 71–73, 75, 80, 88–96, 108, 109, 112, 115–117, 121, 122, 124, 129, 130, 138, 140, 141, 148, 149, 157–159, 161, 163, 177, 178, 188, 189, 198, 208, 210, 211,

- 213, 214, 216, 219, 227,
229–236, 260, 264, 269, 270,
284, 295, 296, 299, 301, 304–307
- non-reflexive 42–45, 235, 236
- reflexive 3, 4, 19, 42–45, 229–236
- ARB (implicit arbitrary argument)
75–78, 88, 89, 97, 98, 101–104, 110,
115, 116, 126
- arb licensing 77
- arbitrary interpretation 39, 75, 102, 103,
274
- [arg] (argument feature) 86–90, 120,
121
- argument
- adjunct 203, 258
 - deletion (see *argument reduction*)
 - external 20, 39, 40, 42–44, 61, 72,
77, 80–87, 93, 94, 98, 99, 101,
120–124, 169, 185, 219, 234,
235, 301
 - first 2, 4, 12, 13, 18, 40, 46, 59, 77,
103, 111, 141, 148, 162, 178,
205, 206, 216, 229–237, 248,
259, 269–275, 277, 299, 303–307
 - implicit 2, 4, 5, 8, 12, 14, 17, 21,
38–40, 53, 63, 76, 78, 81–83,
102–104, 107, 108, 115, 116,
147, 158, 204, 219, 260, 269,
270, 274, 275, 277, 294, 304
 - internal 20, 33, 58, 85, 86, 89, 91,
94, 149, 234, 306
 - linking 3, 5, 6, 11, 14, 18, 76, 171,
211, 265, 305, 308
 - reduction 4, 12, 177, 178, 204, 208,
209, 230, 232, 236, 260, 267,
296, 299, 304, 305
 - reflexive 4, 6, 10, 11, 14, 15, 19, 53,
92, 93, 113, 121, 130, 133, 134,
139–144, 149, 152–156, 161,
166, 168, 172, 177–179, 182,
198, 202, 208, 210, 211, 299,
302, 303
 - saturation 4, 12, 177, 178, 204, 208,
209, 230, 260, 267, 269, 299,
304, 305
 - second 7, 11, 45, 75, 97, 102, 104,
108, 109, 112, 132, 148, 152,
156, 177, 178, 205–212, 216,
229, 233–236, 303–307
 - selection 1, 2, 7–9, 22–26, 31–33,
40
 - semantic 1–7, 10, 12, 17–23, 27–32,
43, 45, 53, 59, 74, 83, 86–88, 91,
87–103, 109, 111, 130, 138–140,
144, 148–150, 152, 164, 168,
177–179, 185, 195–203, 204,
206–211, 213–216, 230–233,
235, 237, 244, 260, 267,
270–276, 288, 300–303
 - structure 5, 20, 60, 66, 67, 73, 74,
97, 99, 109
 - structure alternations 17, 258, 259
 - suppression 12, 60, 74, 216, 237
 - syntactic 2, 20, 183–188, 203
- aspect 10, 23, 62, 69, 179, 214, 217, 270,
302
- aspectual properties 24, 63
- ASSERT-operator 151–153
- assertion 36, 151, 280, 285
- assertional 9, 16
- asymmetric coordination 170
- auxiliary selection 24, 62, 93
- B**
- background 120, 121, 150–152,
154–156, 164, 165, 172, 175, 271,
280, 293
- backward deletion (see *deletion*,
backward) 145–150
- binding 11, 13, 54, 55, 73, 77–81, 83, 93,
96, 118, 121, 154, 168, 169, 174,
179–203, 207, 212, 215,
217–219, 223, 225, 226, 239,
247, 249, 257, 265, 270, 302, 303
- asymmetries 195–200, 249
- logophoric 179–183, 202, 215, 217,
218, 303
- o- (obliqueness-) 195, 196, 203,
215, 223, 303
- semantic 183–188, 202, 215, 303

- structural 179–183
 syntactic 183–188, 202, 215, 303
 theory 13, 35, 54, 80, 81, 83, 91,
 120, 162, 179–183, 185–187,
 190, 194, 195, 197, 199, 200,
 202–204, 213, 214, 217, 219,
 220, 225, 226, 236, 303, 305
 Burzio's Generalization 87, 89, 95, 120,
 252
 by-phrase 14, 70, 82, 83, 158, 265
- C**
- c-command 80–82, 178, 180, 223, 249,
 257, 264
 c-selection (see *selection*, *c*-)
 case 1–4, 7, 11–13, 18, 19, 21, 22, 26, 30,
 31, 43, 60, 61, 63, 67, 69, 70, 72,
 74, 76, 77, 79, 80, 82, 85–89,
 91–97, 99, 101, 106, 109, 110,
 112–114, 116, 118–123, 125,
 126, 128, 131, 134, 137, 138,
 140, 148, 153, 154, 161,
 168–171, 173–175, 177, 180,
 182–188, 190, 191, 195, 198,
 200–205, 214–226, 229, 234,
 236–247, 249, 250, 252,
 254–262, 264, 265, 270, 282,
 286, 293, 296, 300–305
 abstract 95, 256
 accusative (see *accusative*)
 assignment 93, 94, 126, 239, 242,
 243, 252, 256, 257
 checking 134, 138, 204, 258, 259
 dative (see *dative*)
 genitive 1, 42, 60, 63, 240–244, 262,
 265
 lexical 98, 101, 127, 256
 marked 240–242, 256, 258, 265
 morphological 94–96
 nominative (see *nominative*)
 oblique (see *oblique case*)
 structural 7, 11, 94–96, 134, 138,
 177, 182, 187, 188, 203, 215,
 216, 236–260, 300, 301, 304
 causative 43–45, 52, 62, 66, 67, 69, 71,
 72, 94, 122, 235, 298
 CAUSE 43, 44, 96, 108, 111, 112, 127,
 231, 232
 [+causing-change] 231
 center 47, 158, 160, 161, 173
 chain 11–13, 29, 76, 86, 87, 89, 120, 121,
 178, 182, 183, 186–188, 193,
 194, 203–209, 211, 213, 215,
 216, 219–221, 223, 225, 226,
 229, 230, 234–237, 259, 265,
 267, 269, 291, 292, 303–306
 A- 11–13, 29, 178, 183–188, 193,
 202–211, 216, 220, 229–237,
 267, 269, 303–306
 complex A- 11, 13, 29, 178, 193,
 205–211, 216, 229–237, 267,
 269, 303–306
 maximal A- 186, 187, 203, 205,
 209, 226
 simple 206, 303
 CHAIN 89, 121
 characterizing sentences 38, 39, 107,
 267, 275, 284, 304
 clitic 17, 47, 48, 50, 52, 57, 64, 68, 69,
 86–91, 120, 121, 124, 133, 212,
 301, 307
 phonological 133
 reflexive 86–91, 120, 121, 124
 special 57, 90
 syntactic 57, 69, 88, 90, 120, 124
 co-argument 80, 81, 83, 124, 180–182,
 184, 185, 187, 202, 207, 214,
 216, 222, 224, 225, 259, 302, 303
 semantic 182, 185–187, 207, 214
 syntactic 185–187
 coherent infinitive 239, 254, 264
 common ground 151, 156, 172, 280,
 283, 284, 296
 compatibility 151, 280
 complex A-chain (see *chain*, *complex A*-)
 11–13, 29, 178, 193, 205, 206, 208,
 216, 229, 230, 234–237, 267, 269,
 303–306
 complement clause 8, 9, 241, 242

- conditional 271
 conjunct 144–149, 171
 constraints on word order 130, 133
 control 65, 77, 80–82, 94, 121
 non-anaphoric 80–82
 pragmatic 80–82
 syntactic 80–82
 coordination 11, 13, 53, 67, 94, 130,
 137, 139–145, 147–149, 168, 170,
 171, 178, 212, 302
- D**
- D.c.I. (dativus cum infinitivo) 251, 252
 dative 1, 8, 9, 12, 16, 20, 26, 30, 31, 34,
 54–57, 60, 64, 71, 72, 83, 88, 96,
 100–103, 111, 112, 115, 116,
 120–123, 126, 127, 131, 132,
 153, 158, 163, 169, 170, 173,
 187, 190–192, 195–198, 203,
 216, 221–223, 225, 229,
 236–265, 292, 300, 301, 304
 free 196–199, 223, 239, 251–253,
 265
 multiple 252, 253
 oblique 236–259
 structural 127, 256
 deep structure 60, 74, 76, 85, 87, 88
 deletion 44, 145, 149, 171, 269, 296
 backward (BWD) 145–150
 argument (see *argument reduction*)
 forward (FWD) 145–150, 170
 Deutsche Gebärdensprache (DGS, see
German Sign Language)
 diathesis 17, 45, 47, 50, 59
 discourse linking 21, 104, 132, 248
 double object construction 84
 Dutch 10, 13, 26, 29, 33, 36, 47, 48, 51,
 52, 71, 74–79, 84–86, 91, 96, 97, 101,
 102, 115, 117, 121, 123, 125, 130, 157,
 169, 174, 180, 182–185, 188–190,
 212, 217–221, 226, 285, 289, 296, 307
- E**
- Early New High German (ENHG) 55
- echt reflexiv 14
 ECM (exceptional case marking) 84,
 119, 138, 184, 186, 187, 200–202,
 209, 210, 220, 221, 224, 225, 227,
 252, 264
 ellipsis 145
 embedded V2-clause 8, 9, 16, 265
 English 10, 13, 33, 35, 36, 40, 43, 47, 48,
 50–52, 58, 59, 63–65, 67, 68, 70–72,
 74–78, 84–86, 91, 93, 96–99, 101,
 102, 106, 115–118, 124, 126, 145,
 146, 174, 180, 184, 188, 189, 199,
 212, 217–219, 221, 223, 226, 238,
 242, 245, 269, 277, 281, 283, 292,
 293, 295, 297, 298, 305–307
 entourage (see *periphery*)
 event variable 107, 108
 exceptional case marking (see *ECM*)
 exclusive *selbst* 156–161, 173
 exempt anaphor (see *logophoric anaphor*)
 81, 179, 181, 182, 192, 302
 existential interpretation 2, 13, 18, 103,
 269, 270, 275
 experiencer 77, 78, 116, 117
 [+ext] (external argument feature) 97,
 101, 124
 extended projection 138, 188, 203, 204,
 236, 239, 258
 external argument (see *argument*,
external)
 extraction 239, 254, 263
- F**
- feature
 case 134, 187, 203–205, 220, 225,
 258
 EPP 137
 focus [F] (see *focus, feature*)
 phi- 6, 35, 178, 190–194, 213, 218,
 219, 300
 strong 225
 weak 225
 focus 10, 11, 13, 53, 67, 79, 80, 94, 113,
 120, 122, 130–132, 137,
 139–143, 150–162, 164–168,

- 171–175, 178, 189, 190, 213,
221, 262, 271, 280–283, 288,
293, 302, 305
- alternative 150–155, 158–160,
164–167, 221
- background-structure 150–156,
165–167
- binding 79
- feature [F] 79, 150
- narrow 79, 140, 141, 143, 152, 153
- particle 140, 141, 143, 153–155,
157–159, 161, 172, 173, 226
- position 79, 162
- semantic value 150, 156, 166, 271
- sensitive operator 7, 139, 150, 153,
154, 159–161
- forward deletion (see *deletion, forward*)
145–150, 170
- free dative (see *dative, free*) 196–198,
223, 239, 251, 252, 258, 265
- free relative 239, 242, 243, 262
- French 37, 47, 50–52, 57, 64, 65, 68–71,
75, 98, 115, 121, 124, 126, 212, 270,
279, 284, 307
- fronting 11, 13, 53, 62, 94, 130, 137,
139–143, 162, 167–169, 178, 212,
302, 305
- Fügungs-*sich* 14
- G**
- general condition on A-chains (GCC)
11, 183–188, 193, 194, 202, 203, 205,
206, 211, 220, 237
- generalized quantifier 155, 172
- generic interpretation 2, 12, 36, 38, 39,
46, 69, 86, 102, 103, 107, 108, 115,
117, 121, 122, 126, 237, 267–277,
280, 284, 304
- generic operator 4, 40, 53, 117, 177, 230,
260, 269–271, 275, 277, 288
- generic quantification 18, 21, 27, 38, 39,
105, 267–277, 300, 304, 305
- genericity 13, 35, 104, 114, 116,
267–277, 284, 288
- genus verbi 17, 47
- German Sign Language (DGS) 68
- goal 16, 98, 100, 237, 238, 242, 246
- governing category 80, 180, 217
- grammatical voice 17, 18, 66, 67
- grammaticalization 48, 64, 68, 69, 270,
308
- Greek
- Ancient 46, 47, 66, 67
- Modern 13, 40, 47–52, 57, 65–67,
69, 118, 222, 223, 270, 279, 284,
307
- H**
- habitual interpretation 103, 126, 284
- I**
- Icelandic 120, 222, 242, 256
- identity 35, 145, 147, 148, 170, 171, 181
- LF (logical form) 145–150, 170,
171
- PF (phonological form) 145–150
- idiom 41, 123, 239, 245
- impersonal subject 7, 14, 28, 30, 52, 60,
63, 85, 86, 92, 134, 136–139, 142,
152, 163, 169, 171, 194, 208, 215,
226, 263, 272, 288
- inclusive *selbst* 156–161, 173
- indefinite pronoun 21
- individual-level predicates (see *predicate*)
27, 28, 38, 39, 103, 105–108, 115,
267–269, 272, 274, 300, 301
- Indo-European 4–6, 10, 17–20, 35,
45–47, 50–52, 57, 59, 66–68, 96, 179,
188, 190, 212, 219, 222, 233, 269,
270, 300, 301, 306, 308
- informativity 151, 280–285
- inherent reflexive verb 44, 45, 52, 55, 66,
122, 140, 168, 184, 185, 190, 213,
219, 222, 227, 232, 233, 239, 246, 247
- instrument 82, 231, 260, 289–292, 294,
297
- intensifier 55, 72, 226

intransitive 23, 24, 28, 50, 58, 60, 70–72,
74, 95, 119, 124, 125, 128, 211, 234,
235, 254, 306

Italian 10, 13, 37, 47, 48, 50, 52, 57, 61,
64, 68–71, 74–76, 86–90, 91, 96, 115,
120–122, 166, 270, 279, 284, 292,
297, 307

K

KP (case phrase) 240, 244, 258, 292

L

lassen-middle 21, 210

lexical analysis 126, 170, 261, 297

lexical case (see *case*, *lexical*) 127

lexical *sich* 14

linearization of arguments 131, 247

link 120, 148, 164, 186, 203, 206, 216,
220, 226, 230, 277, 305

linke Satzklammer 163

linking 3, 5–7, 9, 12–14, 62, 67, 73, 98,
100, 101, 124, 140, 168, 177, 178,
205, 209, 216, 229, 230, 233, 234,
237, 261, 265, 267, 277, 299, 305–307

linking-principles 5, 97, 112, 127, 234,
235, 260, 303

for English 205, 216, 233–236, 303

for German 306, 307

locally bound 35, 55, 71, 72, 179, 181,
191, 192, 213, 218, 222, 265

locally o-bound 195, 203, 207, 223, 225

locally o-free 195, 203

location 289–292, 297

logical object 20

logical subject 2, 4, 12, 20, 37, 120, 121

logophoric anaphor 181, 182, 187, 217,
218

logophoric binding 80, 81, 179, 202,
215, 222, 225, 303

logophors (see *logophoric anaphor*)

M

[M] (middle feature) 109, 114, 127

marked case (see *case*, *marked*)

maximal A-chain (see *chain*, *maximal A-*)
186, 187, 203, 205, 209, 225, 226

medial *sich* 14

mediopassive 48, 49, 66–68

[+mental state involved] 231, 232, 260

MF (see *middle*, *formation*) 75, 97, 98,
102, 110, 112, 125–127

middle

adjunct 6, 14, 22, 29, 30, 59, 60, 84,
118, 123, 267, 274, 285–293, 297

construction 1–3, 5, 6, 8–10,
12–14, 17–19, 21–52, 58–61,
63–66, 68–71, 73–102, 105–110,
112–119, 121–130, 132, 134,
135, 137, 138, 140–142, 147,
149, 159, 161, 163, 170, 188,
190, 193, 196, 208–211, 213,
214, 216, 219, 221, 226, 227,
229, 230, 235, 237–239, 250,
260, 261, 263, 264, 267–296,
298, 300–302, 304–308

formation (MF) 6, 25, 27, 30, 31,
33, 38, 39, 43, 60, 63, 68, 73–78,
84, 86, 90, 93, 94, 96–99, 101,
102, 104, 109, 110, 112, 115,
121, 123–127, 129, 130, 216,
222, 229, 236–238, 250,
257–261, 279, 289, 291, 292,
294, 296, 299, 301, 302, 304, 305

frame 99

impersonal 2, 10, 12, 23–25, 28, 31,
32, 38, 42, 45, 85, 86, 93–95,
109, 110, 136, 137, 142, 193,
208, 209, 211, 216, 237, 250,
271–273, 278, 305

marker 5, 6, 10, 17, 35, 46–52, 54,
57, 58, 64, 67, 68, 70–72, 86, 90,
99, 177, 179, 182, 202, 215, 237,
250, 270, 284, 300, 301, 304–308

non-argument 118

personal 22, 25, 34, 42, 135, 208,
216, 230–233, 271, 305

template 60, 108–115, 127, 302

verb 12, 39, 76, 94–97, 102, 103,
105, 106, 108–117, 127, 139,

- 190, 214, 222, 267, 269, 272, 279, 296
- Middle High German (MHG) 35, 54–56, 72, 191, 192
- middle field 10, 28, 92, 122, 123, 130–133, 158, 162, 163, 167–169, 175, 226, 247, 258, 302, 305
- middle voice 4–7, 9, 13, 20, 45–52, 57–59, 66, 67, 69, 72, 73, 86, 259, 269, 270, 284, 300, 301, 305, 307, 308
- modal interpretation 6, 38, 39, 126, 274, 304
- morphological
economy 35, 192, 225
marking 239
specification 138, 191, 239
- move alpha 84
- movement 21, 24, 60, 73, 74, 76, 77, 83, 85–87, 116, 117, 169, 186, 204, 220, 221, 225, 239, 250, 252, 257, 258, 263, 265, 302
- A- 73, 74, 76, 85, 86, 117, 186, 204, 220, 225, 257, 302
- case 134, 138, 204, 252, 257–259
- verb 169
- Mittelfeld (see *middle field*)
- N
- negation 8, 9, 15, 16, 37, 79, 139–141, 143, 154, 155, 201, 225, 279, 283
- nominalization 62, 113, 239, 244, 297
- nominative 1, 2, 11, 12, 17, 18, 20, 23, 60, 76, 77, 86–90, 92, 95, 101, 120, 122, 123, 126, 131, 132, 137, 138, 142, 163, 167–169, 174, 187, 190, 191, 195–198, 200, 203–205, 208, 209, 211, 214, 222, 223, 229, 234, 236, 239–244, 247, 248, 250, 252–262, 264, 265, 292, 300, 302
- non-argument middle (see *middle, non-argument*)
- non-argument reflexive 4, 6–8, 10, 11, 14, 15, 18, 19, 45, 53, 55, 59, 91, 92, 94, 112, 113, 129, 130, 133, 134, 136–144, 147–159, 161, 162, 164, 166–168, 172, 177, 178, 182, 183, 188, 190, 193, 196, 202–204, 208–211, 213, 222, 225, 229–233, 234, 267, 270, 299, 302, 303
- nongenuine argument position 108
- nonreferential reflexive (see *reflexive, nonreferential*)
- nuclear scope 271, 272, 274, 292, 293
- O
- o-binding (see *binding, o-*) 195, 204, 214, 303
- object
accusative 3, 10, 11, 18, 20, 23, 26–29, 42, 48, 52, 57, 73, 74, 83–86, 91, 93, 100, 112, 129, 131, 132, 138, 139, 148, 158, 163, 177, 187–189, 196–204, 206, 209–211, 215, 216, 229, 236–259, 286, 287, 300–305
- dativ 8, 9, 12, 16, 20, 30, 31, 42, 54–57, 83, 96, 101–104, 112, 115, 131, 132, 156–159, 163, 196–199, 203, 216, 229, 236–259, 292, 300
- deep structure 74–77, 85–87, 91
- direct 1–3, 52, 60, 184–187, 195, 221, 222, 263, 269, 284, 285
- genitive 42, 63, 242
- indirect 60, 195, 242
- prepositional 20, 261
- oblique case 7, 11, 12, 101, 177, 179, 187, 215, 223, 225, 229, 236–241, 243–245, 247, 254, 256–262, 265, 300, 304
- obliqueness 195, 196, 199, 262
- obliqueness hierarchy 195–198, 202, 203, 222, 223, 249
- o-free 195, 203
- one-form language 52, 69, 179, 183, 188, 212, 308
- operator 4, 12, 79, 113, 126, 147, 150, 151, 153–155, 159, 173, 207–209, 211, 230, 232, 269, 271
- ordinary semantic value 150

P

- parenthetical 16, 265
- passive 1, 2, 5, 13, 14, 18, 21, 28, 29, 32, 37–39, 46, 48–52, 60, 62, 64–66, 68, 69, 74, 76, 82–86, 88, 89, 104, 105, 116, 118–121, 123, 126, 137, 148, 158, 169, 190, 199, 200, 213, 214, 222–224, 226, 227, 239, 242, 251, 252, 260, 263, 264, 269, 270, 273, 275, 276, 284, 292, 295, 298, 301, 302, 304, 307, 308
- impersonal passive 28, 29, 85, 137, 251
- passivizer 87, 88, 93
- patient 24, 39, 40, 45, 76, 98, 101–103, 124–126, 200, 223, 234, 237, 249, 261, 294
- periphery 160, 161, 175
- personal pronoun (see *pronoun, personal*)
- pleonastic subject 23, 28, 85, 136–138, 209
- possessive pronoun 67, 192, 217, 222, 223
- pragmatically licensed 13, 36, 128, 284, 285, 296
- predicate 1, 2, 4, 8, 9, 12, 14, 16, 18, 20–28, 37, 38, 43, 45, 60, 61, 63, 80, 81, 93, 95, 103, 105–112, 115–118, 121, 125–127, 138, 147, 171, 174, 180, 182, 183, 185–187, 189, 195, 197–199, 202, 203, 207, 209, 211, 214, 216, 219–222, 225, 226, 230–232, 234–237, 244, 252, 259–261, 267–269, 272, 299, 301–303, 306, 307
- individual-level 27, 28, 38, 39, 42, 103–108, 115, 267–274, 300, 301
- one-place 4, 12, 20, 23–25, 27, 28, 42–45, 93–99, 102, 108–112, 138, 147, 209, 211, 216, 230, 234–237, 252, 299, 301
- semantic 81, 185–187, 195, 199, 207, 226
- stage-level 27, 38, 103–108, 115, 269
- syntactic 81, 185–187, 221
- three-place 26, 27, 111, 112, 115, 301
- two-place 4, 12, 17, 18, 20–22, 27, 40–45, 109–112, 138, 145, 147, 197, 207, 211, 230–236, 244, 299, 301
- zero-place 25, 62, 63, 139, 301
- preposition stranding 119
- presupposition 9, 16, 158, 172
- presuppositional 9
- presyntactic 73, 75, 96–98, 113, 123
- principle A 35, 54, 55, 72, 80, 91, 174, 179, 180, 182, 183, 194, 195, 202, 203, 207, 213, 217, 218, 223, 225, 303
- principle B 35, 54, 174, 195, 203
- principle C 217
- pro 65, 76–78, 80–82, 86, 88, 89, 91, 116, 120, 121, 137, 169, 185
- PRO 65, 76–78, 80–82, 86, 88, 89, 91, 116, 120, 121, 137, 169, 185
- PRO-control 77, 81, 82
- processing 170, 181, 223, 225, 239, 247, 256, 264, 308
- progressive 65, 126, 292
- pronoun 1–3, 10, 15, 21, 23, 28, 34, 35, 63, 64, 68, 71, 72, 92, 122, 130–133, 135, 142, 161, 163, 172, 174, 179, 184, 185, 187, 192, 217–219, 240, 242, 243, 250, 262, 263
- dativ 34, 35, 54–57, 64, 71, 72, 246, 248, 249
- indefinite 21
- personal 7, 34, 35, 54–57, 63, 71, 72, 83, 132, 133, 136, 137, 179–186, 188–195, 203, 209, 212–214, 217, 218, 220, 222, 223, 225, 226, 248, 249
- reflexive (see *reflexive pronoun*)
- proposition 9, 151, 155, 156, 160, 166, 280

- proto
 agent 21, 24, 231, 261, 294
 patient 24, 234, 261, 294
 role 14, 24, 231, 232
 role properties 14, 24, 231
 PS-operator 109–113, 126
- Q**
 quantification, generic (see *generic quantification*)
 question 5, 65, 79, 90, 113, 115, 137, 140, 143, 144, 155, 156, 166, 172, 173, 280–283, 288, 297, 305
- R**
 [R] (referential/morphosyntactic independence) 6, 7, 11, 183–194, 203, 205–211, 213–215, 218–220, 226, 229, 235, 237, 300, 302–307
 recoverability condition 103
 referential 15, 63, 92, 121, 136, 142, 144, 195, 203, 207, 288
 referential independence 183, 184, 218
 referential reflexive (see *reflexive, referential*)
 [+refl] 108–113, 126, 127
 [REFL] (reflexivizing function) 183–190, 194, 212–214
 reflexive
 anaphorical 14
 argument (see *argument reflexive*)
 interpretation 3, 4, 14, 19–21, 31, 47–54, 58, 60, 67, 70, 71, 88, 89, 91, 96, 129–132, 139, 140, 148, 156, 177, 178, 194, 212, 226, 229, 230, 238, 292, 299, 301, 304, 306
 lexically 81, 185, 186, 214, 222
 marked 81, 185, 186, 195, 199, 219–221
 marker 4, 47, 49, 51, 52, 54, 57, 67, 68, 70, 120, 269, 307
 non-argument (see *non-argument reflexive*)
 nonreferential 15
 non-thematic 14
 referential 15
 sich 14
 reflexive pronoun 2–15, 17–20, 22, 23, 31, 33–35, 42–50, 52–57, 59, 60, 63, 64, 66–77, 80, 81, 83, 85, 86, 88, 90–96, 98, 99, 108–110, 112–115, 118, 120–122, 124, 126, 129–135, 138, 140, 143, 144, 148, 152, 156, 157, 160–164, 166–169, 171, 172, 174, 175, 177–186, 188–195, 198–200, 202–210, 212–219, 221–223, 225–227, 229, 232, 233, 236, 237, 239, 246, 247, 250, 257–259, 261, 270, 299–308
 accusative 2–5, 11, 17–19, 31, 33–35, 42–48, 53–58, 73, 86, 90–96, 99, 108, 115, 129, 143, 163, 167, 177, 178, 182, 198, 204–211, 215, 229, 236, 246, 250, 299–307
 dative 12, 31, 54–57, 192, 216, 229, 237, 246, 247, 250, 258, 259, 300, 304
 nominative 60, 120, 222
 strong 10, 46–50, 58, 183, 188, 212–214
 weak 4–7, 10, 46–52, 58, 88, 183, 188, 212–214, 269, 300, 301, 306, 307
 reflexivizing 183, 184
 relative clause 15, 16, 118, 243
 responsibility 6, 32, 39, 122, 125, 237, 272–274, 304
 restrictive relative clause 15
 restrictor 271, 272, 274, 278, 287–289, 292, 293
 resultative construction 127, 145, 198, 224
 resultative formation (RF) 127
 role
 event 77
 high 126, 127
 low 126, 127

thematic (see *theta role*)
 Russian 13, 39, 47–52, 57, 65–69, 72,
 118, 212, 214, 227, 270, 279, 284, 307

S

s-selection (see *selection, semantic*)
 S-topic (see *topic, S-*) 164–167, 175, 288
 scope 9, 15, 16, 25, 46, 59, 61, 88, 139,
 225, 270, 271
 scrambling 135, 169, 254, 264
 SE-anaphor 183–187, 190, 194,
 212–214, 221
 secondary predicate 17, 26
 selection 1, 2, 8, 9, 14, 61, 93, 94, 114,
 285
 adverb 35–37, 98, 99, 113, 114,
 277–285
 categorial (c-) 2, 8, 14
 semantic (s-) 2, 14
 SELF 55, 67, 72, 81, 83, 118, 160, 164,
 183–188, 190, 212, 219–222, 226
 SELF-anaphors
 sentence-initial position 28, 103, 121,
 130, 136, 138, 142, 162–167, 169,
 226, 248, 249, 255, 293, 294
 sentential complement 7, 239, 241, 242
 situation variable (see *variable, situation*)
 stage-level predicates (see *predicate*) 27,
 105, 108
 subcat 195, 196, 223
 substitution 140, 141, 143, 154, 155, 166
 syntactic analysis 13, 25, 59, 75, 76, 86,
 96, 119, 129, 130, 141, 225, 260, 261,
 264

T

tail 164, 205
 thematic hierarchy 75, 98, 100, 158, 200,
 223
 thematic tier 124, 125
 theme 76, 83, 96, 98, 101, 102, 125, 200,
 223, 242, 274
 theta 7, 14, 67, 74, 76–82, 87–99, 102,
 120–122, 124, 139, 141, 144,

147, 185, 215, 220, 223, 237,
 238, 246–248, 252, 257, 279, 285
 binding 79, 80
 criterion 7, 74, 92, 121, 139, 215
 identification 77, 78
 role 7, 31, 40, 76–80, 88–96,
 98–102, 200, 237, 238, 246–248,
 252
 role absorption 88–92
 topic 10, 12, 13, 17, 63, 103, 122, 143,
 162, 164–169, 173, 175, 179,
 191, 255, 271, 272, 274,
 287–289, 292, 293
 contrastive 165
 drop 103, 104, 239, 255
 implicational 165
 partial 165
 S- (sentence-internal) 164–167,
 175
 value 165–167
 topicalization (see *fronting*)
 tough-movement 21, 250, 257, 258, 263
 transitive 3, 18, 20, 22, 23, 29, 45, 58,
 60–62, 70, 72, 73, 79, 86, 115, 129,
 138, 154, 173, 178, 182, 198, 204,
 205, 211, 234, 273, 300, 306
 transitive reflexive sentence 3–13, 17,
 19–22, 45–47, 51–54, 57–59, 63, 73,
 75, 85, 91, 98, 99, 110, 113, 115, 116,
 129, 134–136, 138, 164, 177–179,
 187, 211, 229, 267, 270, 285, 291,
 296, 299–302, 304–306, 308
 two-form language 47, 58, 67, 68, 70,
 71, 157, 182, 183, 189, 190, 212, 214,
 223, 307

U

unaccusative 12, 13, 20, 24, 25, 27, 40,
 43, 58, 61–63, 69, 72, 78, 80, 93, 94,
 102, 117, 118, 124, 125, 147, 211, 216,
 229, 230, 233–235, 260, 261, 301, 306
 underspecification 145, 171, 229
 unecht reflexiv 14

unergative 12, 20, 23–25, 27, 58, 61, 62,
93, 94, 102, 120, 124, 125, 147, 211,
233–235, 261, 306

Uniformity of Theta Assignment
Hypothesis (UTAH) 74, 139
uninflectable indefinite 239–241

V

V2 (verb second) 8, 9, 15, 16, 169

adverbial clause 15, 16
complement clause (see *embedded
V2-clause*)
relative clause 15, 16

valency change 21, 247, 259

valency reduction 7, 17, 19–21, 31, 42,
43, 45, 46, 50, 51, 54, 59, 129, 138,
179, 219, 233, 236, 250, 251, 300

variable

argument 3, 7, 11, 14, 20, 53,
108–113, 126, 127, 139, 148,
152, 156, 164, 167, 208, 211,
213, 229, 230, 269, 270, 275,
302, 304, 305
bound 150, 155, 181, 192, 207, 217,
223
event 27, 38, 39, 50, 107
situation 27, 38, 39, 50, 107, 269,
271–275, 305

verb

movement 169

second (see V2) 15, 16, 169

verb-final clause 8, 9

verb-final relative clause 115, 116

voice 14, 18, 22, 31, 46–49, 52, 59,
66–68, 93

active 18, 46

middle 4–9, 13, 20, 45–49, 51–53,
57–59, 74, 86, 259, 269, 270,
284, 301, 306–308

passive 46, 52, 66

volitional involvement 231, 232, 294

Vorfeld (see *sentence-initial position*) 28,
63, 226, 293

Vorfeld-es 28, 63, 226

VP-shell 257

W

Wackernagel position 130, 135, 163, 168

word order 10, 13, 92, 122, 123,

130–133, 137, 142, 158, 162,
163, 167–169, 173, 174, 239,
247–249, 258, 262, 302, 305

middle field 130–134, 247–249

unmarked 131–134, 136, 142, 158,
162–164, 167, 247–249

Z

zero-marking 47, 48

Zeugma-Effekt 144

In the series LINGUISTIK AKTUELL/LINGUISTICS TODAY (LA) the following titles have been published thus far, or are scheduled for publication:

1. KLAPPENBACH, Ruth (1911-1977): *Studien zur Modernen Deutschen Lexikographie. Auswahl aus den Lexikographischen Arbeiten von Ruth Klappenbach, erweitert um drei Beiträge von Helene Malige-Klappenbach*. 1980.
2. EHLICH, Konrad & Jochen REHBEIN: *Augenkommunikation. Methodenreflexion und Beispielanalyse*. 1982.
3. ABRAHAM, Werner (ed.): *On the Formal Syntax of the Westgermania. Papers from the 3rd Groningen Grammar Talks (3e Groninger Grammatikgespräche)*, Groningen, January 1981. 1983.
4. ABRAHAM, Werner & Sjaak De MEIJ (eds): *Topic, Focus and Configurationality. Papers from the 6th Groningen Grammar Talks, Groningen, 1984*. 1986.
5. GREWENDORF, Günther and Wolfgang STERNEFELD (eds): *Scrambling and Barriers*. 1990.
6. BHATT, Christa, Elisabeth LÖBEL and Claudia SCHMIDT (eds): *Syntactic Phrase Structure Phenomena in Noun Phrases and Sentences*. 1989.
7. ÅFARLI, Tor A.: *The Syntax of Norwegian Passive Constructions*. 1992.
8. FANSELOW, Gisbert (ed.): *The Parametrization of Universal Grammar*. 1993.
9. GELDEREN, Ely van: *The Rise of Functional Categories*. 1993.
10. CINQUE, Guglielmo and Guiliana GIUSTI (eds): *Advances in Roumanian Linguistics*. 1995.
11. LUTZ, Uli and Jürgen PAFEL (eds): *On Extraction and Extraposition in German*. 1995.
12. ABRAHAM, W., S. EPSTEIN, H. THRÁINSSON and C.J.W. ZWART (eds): *Minimal Ideas. Linguistic studies in the minimalist framework*. 1996.
13. ALEXIADOU Artemis and T. Alan HALL (eds): *Studies on Universal Grammar and Typological Variation*. 1997.
14. ANAGOSTOPOULOU, Elena, Henk VAN RIEMSDIJK and Frans ZWARTS (eds): *Materials on Left Dislocation*. 1997.
15. ROHRBACHER, Bernhard Wolfgang: *Morphology-Driven Syntax. A theory of V to I raising and pro-drop*. 1999.
16. LIU, FENG-HSI: *Scope and Specificity*. 1997.
17. BEERMAN, Dorothee, David LEBLANC and Henk van RIEMSDIJK (eds): *Rightward Movement*. 1997.
18. ALEXIADOU, Artemis: *Adverb Placement. A case study in antisymmetric syntax*. 1997.
19. JOSEFSSON, Gunlög: *Minimal Words in a Minimal Syntax. Word formation in Swedish*. 1998.
20. LAENZLINGER, Christopher: *Comparative Studies in Word Order Variation. Adverbs, pronouns, and clause structure in Romance and Germanic*. 1998.
21. KLEIN, Henny: *Adverbs of Degree in Dutch and Related Languages*. 1998.
22. ALEXIADOU, Artemis and Chris WILDER (eds): *Possessors, Predicates and Movement in the Determiner Phrase*. 1998.
23. GIANNAKIDOU, Anastasia: *Polarity Sensitivity as (Non)Veridical Dependency*. 1998.
24. REBUSCHI, Georges and Laurice TULLER (eds): *The Grammar of Focus*. 1999.
25. FELSER, Claudia: *Verbal Complement Clauses. A minimalist study of direct perception constructions*. 1999.

26. ACKEMA, Peter: *Issues in Morphosyntax*. 1999.
27. RŮŽIČKA, Rudolf: *Control in Grammar and Pragmatics. A cross-linguistic study*. 1999.
28. HERMANS, Ben and Marc van OOSTENDORP (eds): *The Derivational Residue in Phonological Optimality Theory*. 1999.
29. MIYAMOTO, Tadao: *The Light Verb Construction in Japanese. The role of the verbal noun*. 1999.
30. BEUKEMA, Frits and Marcel den DIKKEN (eds): *Clitic Phenomena in European Languages*. 2000.
31. SVENONIUS, Peter (ed.): *The Derivation of VO and OV*. 2000.
32. ALEXIADOU, Artemis, Paul LAW, André MEINUNGER and Chris WILDER (eds): *The Syntax of Relative Clauses*. 2000.
33. PUSKÁS, Genoveva: *Word Order in Hungarian. The syntax of \bar{A} -positions*. 2000.
34. REULAND, Eric (ed.): *Arguments and Case. Explaining Burzio's Generalization*. 2000.
35. HRÓARSDÓTTIR, Thorbjörg. *Word Order Change in Icelandic. From OV to VO*. 2000.
36. GERLACH, Birgit and Janet GRIJZENHOUT (eds): *Clitics in Phonology, Morphology and Syntax*. 2000.
37. LUTZ, Uli, Gereon MÜLLER and Arnim von STECHOW (eds): *Wh-Scope Marking*. 2000.
38. MEINUNGER, André: *Syntactic Aspects of Topic and Comment*. 2000.
39. GELDEREN, Elly van: *A History of English Reflexive Pronouns. Person, "Self", and Interpretability*. 2000.
40. HOEKSEMA, Jack, Hotze RULLMANN, Victor SANCHEZ-VALENCIA and Ton van der WOUDE (eds): *Perspectives on Negation and Polarity Items*. 2001.
41. ZELLER, Jochen : *Particle Verbs and Local Domains*. 2001.
42. ALEXIADOU, Artemis : *Functional Structure in Nominals. Nominalization and ergativity*. 2001.
43. FEATHERSTON, Sam: *Empty Categories in Sentence Processing*. 2001.
44. TAYLAN, Eser E. (ed.): *The Verb in Turkish*. 2002.
45. ABRAHAM, Werner and C. Jan-Wouter ZWART (eds): *Issues in Formal German(ic) Typology*. 2002.
46. PANAGIOTIDIS, Phoevos: *Pronouns, Clitics and Empty Nouns. 'Pronominality' and licensing in syntax*. 2002.
47. BARBIERS, Sjef, Frits BEUKEMA and Wim van der WURFF (eds): *Modality and its Interaction with the Verbal System*. 2002.
48. ALEXIADOU, Artemis, Elena ANAGNOSTOPOULOU, Sjef BARBIERS and Hans Martin GAERTNER (eds): *Dimensions of Movement. From features to remnants*. n.y.p.
49. ALEXIADOU, Artemis (ed.): *Theoretical Approaches to Universals*. n.y.p.
50. STEINBACH, Markus: *Middle Voice. A comparative study in the syntax-semantics interface of German*. 2002.
51. GERLACH, Birgit: *Clitics between Syntax and Lexicon*. n.y.p.
52. SIMON, Horst J. and Heike WIESE (eds): *Pronouns. Grammar and representation*. n.y.p.

53. ZWART, C. Jan-Wouter and Werner ABRAHAM (eds): *Studies in Comparative Germanic Syntax. Proceedings from the 15th Workshop on Comparative Germanic Syntax (Groningen, May 26-27, 2000)(Workshop)*. n.y.p.
54. BAPTISTA, Marlyse: *The Syntax of Cape Verdean Creole. The Sotavento varieties*. n.y.p.
55. COENE, M. and Yves D'HULST (eds): *From NP to DP. Volume 1: The syntax and semantics of noun phrases*. n.y.p.