

INFL in Child and Adult Language: Agreement, Case and Licensing

by

Carson Theodore Robert Schütze

Bachelor of Science, Linguistics and Computer Science
University of Toronto, 1989

Master of Arts, Linguistics
University of Toronto, 1991

Submitted to the Department of Linguistics and Philosophy
in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

at the

Massachusetts Institute of Technology

February 1997

© 1997 Carson T. Schütze
All rights reserved

The author hereby grants to MIT permission to reproduce and to
distribute publicly paper and electronic copies of this thesis document in whole or in part.

Signature of Author
Department of Linguistics and Philosophy
February 7, 1997

Certified by
Alec Marantz
Professor of Linguistics
Thesis Supervisor

Certified by
Kenneth N. Wexler
Professor of Psychology and Linguistics
Thesis Supervisor

Accepted by
Wayne O'Neil
Professor of Linguistics
Head, Department of Linguistics and Philosophy

INFL in Child and Adult Language: Agreement, Case and Licensing

by

Carson Theodore Robert Schütze

Submitted to the Department of Linguistics and Philosophy
on February 7, 1997 in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy in Linguistics

ABSTRACT

I propose an analysis of the inflectional system of clauses that captures both crosslinguistic variation and differences between adult speakers and young children learning a given language. The phenomena of interest fall into two classes: 1) case marking and subject-predicate agreement; and 2) tense marking and the licensing of overt and null subjects. The major goals are

- to motivate the complete separation of case and licensing;
- to argue that agreement is exclusively responsible for case, and tense exclusively for (subject) licensing;
- to propose a theory of case and agreement, motivated by child as well as adult language data;
- to argue that children’s “root infinitive” utterances violate no principles of syntax in either domain—rather, children differ from adults in their choices among convergent structures.

I argue that structural case marking is a reflex of the same syntactic feature-checking relation as agreement; I label this conglomeration *Accord*. The presence in a clause of features involved in *Accord* is not an absolute convergence requirement. Rather, it is due to a preference among convergent derivations, expressed as the *Accord Maximization Principle* (AMP), which compares structures that differ only on uninterpretable features (in the sense of Chomsky 1995). Among those that meet all convergence requirements, only those with the most *Accord* relations are admissible. Children do not always successfully enforce this preference, sometimes reverting to a representation where structural case features have not been introduced. When this happens, arguments appear in the default case of the language, supplied in the Spell-Out component. Evidence from child corpus studies (both normal and Specifically Language Impaired) shows that children know both that case and agreement must be checked together and that default case must be supplied when case is absent.

With regard to subject licensing, I show that the absence of Tense features is often compatible with both PRO and overt subjects. Children’s overt subjects of nonfinite clauses are thus consistent with adult grammars. The relationship between the distribution of syntactic Tense features and the meanings of clauses is governed by interface conditions on which adults and children apparently differ.

Thesis Supervisor: Alec Marantz
Title: Professor of Linguistics

Thesis Supervisor: Kenneth N. Wexler
Title: Professor of Psychology and Linguistics

Contents

Acknowledgments	8
1 Introduction	12
1.1 Issues and goals	12
1.2 Approach to acquisition	13
1.3 Organization of the thesis	17
2 Theoretical Framework	20
2.1 Licensing	20
2.1.1 The empirical domain	22
2.1.2 Subjects of nonfinite clauses	23
2.1.3 The distribution of PRO	31
2.2 Case	36
2.3 Agreement and varieties of case	40
2.4 Why separate case and licensing?	45
2.5 Syntax and morphology	49
2.6 The necessity of default case: An English case study	52
Appendix 2.A: Adjunct subject licensing and <i>with</i>	62
Appendix 2.B: Subjects of nonfinite clauses in other languages	65
3 Background on Acquisition	68
3.1 Interpreting the OI/EOI stage	68
3.1.1 Theories of Optional Infinitives	68
3.1.2 Theories of SLI	72
3.1.3 Theories of null subjects and licensing in acquisition	73
3.1.4 Theories of case acquisition	76
3.2 Syntax-morphology interaction in acquisition	77
3.2.1 Importance of the inventory	77
3.2.2 Acquiring the default case	79
3.2.2.1 Motivation	79
3.2.2.2 Crosslinguistic differences	81
3.2.2.3 Left dislocations	84
3.2.2.4 Predicate nominals	86
3.3 Interpreting the data	91
3.4 Details of data analysis	94

4 Agreement and Case	100		
4.1 Agreement and structural case: Two sides of one coin	100		
4.1.1 Icelandic	101		
4.1.1.1 NOM and agreement	102		
4.1.1.2 NOM and infinitives	103		
4.1.1.3 Infinitival subjects	110		
4.1.1.4 Implementing the Accord Maximization Principle	113		
4.1.1.5 NOM ECM and a constraint on NOM objects	115		
4.1.1.6 Interactions with Binding	118		
4.1.1.7 Passive participle Accord versus Concord	121		
4.1.2 Hindi	124		
4.1.3 Portuguese	125		
4.1.4 Modern Greek	128		
4.1.5 Belfast English	131		
4.1.6 Standard English	136		
4.1.7 Object Accord	140		
4.1.7.1 Romance	140		
4.1.7.2 Inuit	141		
4.1.7.3 Choctaw	141		
4.2 Structural versus inherent case as presence versus absence of Accord	145		
4.3 Choices between structural cases	155		
4.4 Implementing case in the morphology	161		
Appendix 4.A: Korean “Case Stacking” Isn’t	164		
4.A.1 Introduction	164		
4.A.2 Against case stacking	165		
4.A.3 In favor of a focus treatment	167		
4.A.4 Distribution of <i>ka</i> and <i>lul</i> stacking	170		
4.A.4.1 Stacked <i>lul</i> also isn’t case	170		
4.A.4.2 Choice of <i>ka</i> versus <i>lul</i> stacking	172		
4.A.4.3 Analysis	173		
4.A.5 Extension to related constructions	175		
4.A.5.1 The “ECM” construction	175		
4.A.5.2 “Multiple Case” constructions	177		
4.A.6 DP subjects versus PP subjects	179		
4.A.6.1 DAT can be a case morpheme	180		
4.A.6.2 True PP subjects get (obligatory) NOM case	180		
		4.A.7 Conclusions	181
		Appendix 4.B: Some split ergative systems	184
		4.B.1 Basic case/agreement splits	184
		4.B.2 Georgian	185
		5 The acquisition of INFL: Case, agreement and tense	188
		5.1 Introduction	188
		5.2 INFL forms and features: An English case study	190
		5.2.1 Null <i>be</i>	190
		5.2.2 Nodes and features	200
		5.2.3 Paradigms: V-raising and morphological merger	204
		5.2.4 Vocabulary entries	209
		5.2.5 Implications for child English	213
		5.2.6 Summary	216
		5.3 Patterns of child case errors	216
		5.3.1 English	216
		5.3.1.1 Normal children’s production	216
		5.3.1.1.1 Previous findings	216
		5.3.1.1.2 New corpus data	223
		5.3.1.1.3 Summary of data and implications	230
		5.3.1.1.4 Analysis	231
		5.3.1.2 SLI children’s production	237
		5.3.1.2.1 Previous findings	237
		5.3.1.2.2 New data	238
		5.3.1.3 Experiment in progress	242
		5.3.2 German	244
		5.3.2.1 Previous findings	244
		5.3.2.2 New data	245
		5.3.2.3 Analysis	246
		5.3.3 Dutch	246
		5.3.4 Russian	249
		5.3.5 French	250
		5.4 Advantages over other theories of case acquisition and OIs	254
		5.5 Other predictions of the two-factor OI theory	261
		5.5.1 Time course	261
		5.5.2 Null subjects	263

6 Open questions and future directions	272
6.1 Open questions about adult grammars	272
6.2 Open questions about acquisition	273
6.2.1 Descriptive questions	273
6.2.2 Issues for learning	275
6.2.3 Semantic implications of the analysis of child clause types	277
6.3 Comparisons among derivations in child and adult grammars	280
References	286

Acknowledgments

It takes a lifetime to recover from one's education.

(Morris Halle, class lecture, 1993)

This is my opportunity to thank all those who have contributed to my education, whether it was through the development of this thesis or in other ways, and to say that I hope I never recover from it.

First and foremost, I express my immense gratitude to the members of my committee. Ken Wexler has been a source of boundless enthusiasm and encouragement since I first began working with him. The acquisition portion of this thesis springs from a course paper I wrote for him in 1994, and the overall concept for the thesis arose directly out of a joint paper we gave in June, 1996. He commented in detail on every portion of the work, improving both content and presentation immensely. Alec Marantz also read an entire draft of the thesis, plus numerous revisions of key sections, and told me exactly what I needed to do to convert my meandering musings into crisp claims. Alec displayed a remarkable talent for picking out my key results before I even realized that they *were* results. He deserves credit for getting me interested in morphology, for teaching me to say only what I need to say, for his inspiring work on case and agreement, and for his advice on innumerable practical matters surrounding the thesis and the world of linguistics in general. I feel privileged indeed to have had two such wonderful and vastly knowledgeable supervisors whom I also count as good friends.

The other members of my committee have all made important contributions to this work as well. David Pesetsky has supported and encouraged me in my research since before my first day as a student at MIT. In addition to many important ideas related to the analysis herein, he insisted that I make it understandable without extreme effort on the part of the reader, and was helpful in suggesting how to do that. Noam Chomsky has received so many thanks in so many dissertation acknowledgments that it seems almost redundant to add to them, but I must do so anyway. He helped me to see where there were real issues at stake in my analyses, and compelled me to argue much more carefully for my position than I otherwise might have done. His research of course provided the entire framework in which this work is couched and without which it could not have existed. Finally, Ted Gibson deserves thanks for helping me make this work accessible to the non-specialist by making me identify what my central claims and aims were, as well as for clarification of some important points about acquisition problems. In addition, Ted and I have collaborated on numerous projects over my time at MIT that are not represented in this work (including one that almost became my thesis in the spring of 1996), and he has been tremendously supportive in times when the

world looked bleak to me; the hours spent chatting with this fellow Torontonion about matters large and small, linguistic and non, were highlights.

There are a very large number of other people who have contributed to this thesis in various ways, including discussions in person or by e-mail, comments on drafts, etc. I am undoubtedly not remembering them all, so I ask them to thank themselves on my behalf. These people include Masha Babyonyshev, Markus Bader, Josef Bayer, Misha Becker, Jonathan Bobaljik, Andrew Carnie, Harald Clahsen, Michel DeGraff, Sonja Eisenbeiß, Astrid Ferdinand, Kai von Fintel, Michel DeGraff, Paul Hagstrom, Ken Hale, Cornelia Hamann, Heidi Harley, Morris Halle, Alison Henry, Teun Hoekstra, Nina Hyams, Celia Jakobowicz, Päivi Koskinen, Michael Kenstowicz, Michael Meng, Rolf Noyer, Martina Penke, Orin Percus, Andrew Radford, Mabel Rice, Taylor Roberts, Matt Rispoli, Luigi Rizzi, Jeannette Schaeffer, Bonnie Schwartz, Tarald Taraldsen, James Yoon, and audiences where portions of this work were presented over the past several years. In addition, I have acknowledged in the text many additional people who are responsible for specific suggestions, judgments, observations on child language production, pointers to the literature, etc. With regard to everyone who has helped, standard disclaimers apply—blame me, not them; I take full responsibility for all errors, misconstruals, etc.

There are two additional people who, both for their contributions to this thesis and for their contributions to my time at MIT, deserve paragraphs to themselves.

Martha McGinnis read virtually the entire final draft of this thesis, providing innumerable suggestions for improvement of both content and presentation. Much more than that, however, she has enriched virtually every aspect of my experience here, by virtue of her boundless energy, enthusiasm, concern for people, sense of humour, and general great-person-to-have-around-ness. Having an office neighbouring hers over the last couple of years has truly been a blessing (besides which, it meant I got to hear lots of good gossip!). I cannot count the number of times I came to her with a dilemma or in a crummy mood and went away feeling ready to face the world again. I cannot imagine what this department will be like when she leaves, nor can I imagine what it will be like to be in a department where she is not.

Colin Phillips has been my colleague here since day one, four and a half years ago. He, too, commented on almost all of this work, helping me give it a more balanced perspective and playing Devil's advocate in the most useful way. He has also given me feedback on virtually everything else I have done since I got to MIT, and I have always gained a great deal from his input. I don't think I could have asked for a better opportunity to learn than working with someone who shared so many of my interests (in acquisition, in sentence processing, and in syntax), yet often

came at them with substantially different ideas from my own. While we have disagreed on a great deal, our disagreements have always sparked me to think and work harder, and inevitably led to improved understanding. It's also been wonderful to have a "big brother" in the department who had recent experience with a myriad of issues I faced. While I didn't always follow Colin's advice, I always valued it highly. (Additionally, he shared with me many wry commentaries on life in our department, reminding me not to take anything *too* seriously.)

Thankfully, not *all* of my time here has been spent writing this thesis (though it sure feels like it right now). I have had the pleasure of interacting with, learning from, and generally hanging out with a great number of cool people in and around MIT who have certainly contributed to who I am as a linguist and as a person. These would include many current and former faculty in Linguistics and Brain and Cognitive Sciences, among whom I must single out Michel DeGraff and Cheryl Zoll, my office-suite-mates during most of the writing of this work, who were so concerned with how I was doing and brought good cheer into some dreary days. I would also like to acknowledge David Pesetsky and Ken Wexler in their roles as co-heads of the RTG program, which facilitated and encouraged my efforts to combine my theoretical and psycholinguistic interests. Another source of camaraderie for most of my time at MIT were my classmates, Vaijyanthi Sarma, Hiro Ura, Dag Wold, Brian Yeager, Andrea Leszek and Kathleen Williams. I am indeed sad that none of them were around as I was writing this thesis, since I know they would all have provided useful input. Fortunately, many other current and former students filled that void, including BCS students, among whom Jenny Ganger, Kevin Broihier and Dan Grodner deserve special mention. I have also benefited from interactions with faculty and students at Harvard, especially Höskuldur Thráinsson, Dianne Jonas and Erich Groat. I would be remiss in not acknowledging the vital role played by the administrative staff in our department at MIT—thanks to Bev, Mary, Rachel, Jen, and their colleagues and predecessors.

When I was not doing linguistics over the last four and a half years, I was mostly doing theatre. To all my friends in the MIT Musical Theatre Guild, thanks for the wonderful opportunities. As I write these thank-you's, we are in production of *On the Town*, the 12th MTG musical with which I have performed.

Before coming to MIT, I had the pleasure of studying linguistics for seven years at the University of Toronto. My experiences there molded me as a linguist and led to some lasting and very important friendships. Thanks to Ed Burstynsky, for teaching me my first linguistics course and making it so much fun; to Elan Dresher, for convincing me to stay in the field and teaching me what it's really about; to Diane Massam, whose seminars sparked my interest in the major adult syntax portions of this thesis; to Liz Cowper, for teaching me how to think about syntactic theory;

and to Keren Rice, Peter Reich, Graeme Hirst, and the rest of the linguistics and cognitive science faculty. I owe a lot to my fellow students at Toronto as well, especially my dear friend, Jila Ghomeshi.

Finishing this thesis while preparing to leave MIT and the Boston area has been quite a trial. I would like to thank my new colleagues at UCLA for their understanding and support, particularly Vicki Fromkin, Nina Hyams, Susie Curtiss, Ed Stabler, and Tim Stowell, for being patient when I told them it would be "just a few more months." Last and certainly not least, I thank my parents for their support during this and all the prior challenges I have faced, and for all the wonderful opportunities they have given me.

My research was financially supported by a Doctoral Fellowship from the Social Sciences and Humanities Research Council of Canada, an Imperial Oil Fulbright Scholarship, and the Research Training Grant "Language: Acquisition and Computation" awarded by the National Science Foundation (US) to the Massachusetts Institute of Technology (DIR 9113607).

1

Introduction

[Minimalism] makes life hard; the question is whether it makes life too hard.

(Noam Chomsky, class lectures, fall 1995)

1.1 Issues and goals

In this thesis I strive to answer the following five sets of questions about dimensions along which the inflectional structure of clauses of natural language can vary:

- 1) Why is (argument-verb) agreement required where it is required, what happens when it is absent, and why does it tend to co-vary with case marking?
- 2) Why is tense marking required where it is required, what happens when it is absent, and why does it tend to co-vary with the form of the subject (e.g., overt versus PRO versus trace)?
- 3) What is the nature of the interaction, if any, between tense and agreement, such that presence (absence) of one often seems to imply presence (absence) of the other?
- 4) How do other factors (interpretation, higher selecting heads, etc.) interact with or restrict the possibilities alluded to in 1)–3)?
- 5) What sort of “deficit” could lead children around age two, who are learning one of a number of languages, apparently to differ from adults with regard to the issues in 1)–4), that is, the distribution of agreement and case, tense marking, overt and null subjects, and their interactions with meaning?

In broad outline, I will argue that the answers to these questions are as follows:

- 1) Clause types divide into those that allow agreement and those that do not. In those that do, agreement takes place if it can; if it cannot, for certain reasons, a valid sentence still results, and morphology supplies a default form of the verb. Structural case marking is a reflex of the same feature-checking process as agreement, which is why they co-vary. When that process does not happen, the morphology supplies a default case to the nominal if it does not acquire a case feature in some other way.
- 2) The distribution of tense features is determined partly by arbitrary syntactic restrictions and partly by constraints in the syntax-semantics-pragmatics mapping. The particular kinds of

“temporal” specification (broadly construed) in INFL determine whether the clause licenses a subject or not, and whether that subject can be PRO or not. The temporal reference of a clause with no tense features can be determined by other elements in the sentence or from the context.

3) There is no simple requirement that agreement be present when tense is present or vice versa. Rather, particular kinds of tense may allow or prohibit the presence of agreement; these constraints are not (entirely) universal.

4) Restrictions on the mapping between interpretations and syntactic tense features or their absence are not (entirely) universal. There is no selection for the (im)possibility of agreement, nor can its presence/absence in and of itself affect the meaning of a clause, because agreement features are uninterpretable.

5) There is no single source for all the respects in which children differ from adults on these points. Some of the differences may arise because adult languages are not identical on these dimensions, so there is something children must learn. Others may arise because certain universal knowledge matures after age two. I suggest that children’s distribution of tense differs from adults’ for either or both of these reasons. Other child/adult differences may be the result of children lacking the computational resources to implement portions of the grammar that they nonetheless know. I suggest that this is the major reason for children’s nonadult case and agreement distributions, though some language-specific peculiarities must also be learned. However, children do not differ from adults with regard to the dependencies between agreement and case, and between tense and licensing; these are hypothesized to be universal. Rather, they differ on where (i.e., in which clause types) agreement and tense are specified.

1.2 Approach to acquisition

I now describe the relevance and usefulness of acquisition data for exploring the central syntactic questions of this study, questions 1)–3). In recent years, an increase in highly linguistic theory-oriented studies of language acquisition has opened new avenues for the pursuit of research in linguistic theory. Two central tenets of this young tradition have shaped the present work in a major way. First, data from child grammars often complement the data available from the study of adult languages, constituting a rich source of evidence for the development of theories of UG.¹ Second, questions raised in trying to analyze child grammars often lead to the formulation of new questions about adult grammars, or to a focus on existing issues in linguistic theory that might oth-

¹ Witness a recent workshop devoted entirely to “What children have to say about linguistic theory” (WCHTSALT, Utrecht, June 1996).

erwise not be receiving much attention. Both of these characteristics will be in evidence in the chapters that follow.² To take a central example, questions that have arisen concerning the syntactic and semantic features of children's (root) nonfinite clauses (for which I use Wexler's (1992) term *Optional Infinitives* (OIs), for reasons discussed in chapter 3) have led to a focus on the nature of root versus embedded clause types in adult languages.

Acquisition data are of substantial help specifically in starting to address issues 1)–3) above, primarily because they allow us to see separations among several linguistic features that are typically highly confounded within adult languages. For instance, *prima facie*, well-known phenomena in child English, German and Dutch (reviewed in later chapters) arguably allow us to see main clause declarative and interrogative meanings without finite inflection, referring to present and past events; non-arbitrary PRO subjects without a sentence-internal controller; bare DP subjects without Tense to license them; NOM case marking without verbal inflection; negated main clauses without *do*-support; finite clauses lacking auxiliary *be*; root *wh*-questions without subject-aux inversion; ACC and GEN subjects of matrix clauses; NOM objects of verbs and prepositions; root clauses without V2; etc. All of these pairings are interesting precisely because they are uncommon or unattested in the corresponding adult languages, or even in any adult language, and yet since one does not want to posit a "second UG" for the language of two-year-olds, these facts ought to be analyzable within the same UG framework as those adult languages, modulo any components of UG that might mature later in development. This leads to the supposition that what might have seemed to be simple implications in adult languages are actually mediated by some additional factor(s) that are lacking or inapplicable for children, or are coincidental, language-particular facts. On the other hand, child data can sometimes help to argue that things that *might* have been coincidences are actually attributable to deep principles, if children display knowledge of those principles beyond their surface effects in the input. Additionally, it is of course independently interesting to try to discover how things that *are* learned for particular languages could be learned. Child language data intersect with the central questions of this investigation in all of the ways just outlined.

In addition to data from normal child development, I will bring to bear data from children with Specific Language Impairment (SLI). Background on SLI can be found in §3.1.2; what is relevant at the moment is that SLI children have been argued to show a sequence of language development that is (close to) normal, but progressing at a much slower rate (possibly never reaching the normal adult grammar). As a result, they have been argued to be still in the OI stage at a much later chronological age than normal children (Rice & Wexler 1995), so we can study an early language system coupled with richer vocabulary, world knowledge, working memory, etc. We may also

² Acquisition questions were in fact what led me to concentrate on the main issues of this thesis.

hope to find greater temporal dissociation between developmental changes that are not due to the same cause, since the whole process is much more drawn out.

My approach to OIs involves a slight change of focus, compared to the way many other linguistic approaches to acquisition have proceeded in recent years. Instead of primarily asking what is wrong with a given child utterance vis-à-vis the corresponding adult utterance in her (or some other adult) language, I focus on asking where in the adult grammar of her language this *would* be a valid utterance or clause, and see where that leads us.³ In so doing, I wish in principle to take seriously the full range of syntactic and semantic properties of adult and child clause types and explore how tight the correspondence between them could be, on the path to explaining the remaining discrepancies. A brief and simplified example will make these notions a bit more concrete.

Suppose we consider the correspondences between English child OIs, schematized by the fictional examples in (1),⁴ and adult utterances of a type one might call "regretful infinitives," exemplified in (2) (cf. Portner 1992, 1996).

- (1) a. Him eat cookie.
b. Tired now.
- (2) a. Oh, to forget your anniversary yesterday!
b. Oh, for him to forget your anniversary yesterday!

Consider first the semantics of these. The infinitival seems roughly to be the complement to an implicit psych predicate: "It is terrible that you forgot..." "I regret that you forgot..." One could argue about whether there ought to be some null element(s) in the syntax of (2a, b) that carry this meaning, but the relevant point is that the utterance carries a specific pragmatic force that is not overtly marked. This, I claim, is just the kind of situation that obtains with OIs as well. It would be hard to tell whether any utterance of a two-year-old carried exactly this meaning, of course, but it is certainly claimed that OIs can be used to express implicit propositional attitudes (e.g., desires). Note further that there are several syntactic parallels between (1) and (2). 1) Though they appear to be matrix clauses, both allow either a null or an overt subject; 2) if the subject is overt it need not (and for regretfuls cannot) be in the nominative case; and 3) the verb is not tensed. There are of course also crucial differences: in regretfuls, 1) infinitival *to* is obligatory (whereas it does not appear in OIs); 2) an overt subject must be licensed by *for*; and 3) the main predicate must be verbal. Plausibly, the first difference predicts the other two. The line I wish to take is that the UG re-

³ One would naturally also like to know *why* certain clause types are used by children, a harder question about which I have little to say, except for some speculations in chapter 6.

⁴ Real examples can be found in chapter 5.

sources that underlie (2) are essentially the same ones that underlie (a class of) OIs, and what the child must come to know is that a regretful infinitive has its particular meaning (and perhaps a specific register where it is appropriate); to express similar or identical propositional content without the implicit regret requires the use of a different syntactic construction. (See §§6.2–6.3 for more discussion.) More generally, a set of constraints that the child must somehow come to know are the mappings between the grammatical features of a clause (in particular, those of INFL) and the possible interpretations of the clause as a whole. For instance, in German (as in French) an infinitive can be used with the force of an imperative (3), whereas this is not possible in English.⁵

- (3) Bitte nicht rauchen!
please not to.smoke

In Dutch, (what looks like) a bare small clause or infinitive can be used as a declarative in certain narrative contexts, but not in English:

- (4) a. John won de wedstrijd. Hij blij.⁶
John won the game he glad (Reuland 1996)
- b. Driesje vocht met Aadje. Hij toen snikkend naar zijn moeder lopen.
D fought with A he then sobbing to his mother run(INFIN)
 (Reuland 1981: 165)

Although there is clearly much crosslinguistic uniformity in these mappings, there is evidently also variation. In particular, languages differ as to the possible interpretations for un(der)specified features of a clause such as tense, mood, force, etc.—the features of the functional heads typically assumed to be in or above INFL (cf. Rizzi 1995). What range of interpretations does the *child* have available when tense and related features are omitted? One (not uncontroversial) point of view on the latter issue (e.g., Behrens 1993, Schönenberger et al. 1995, Clahsen et al. 1996, Krämer 1993, Harris & Wexler 1996, Wijnen 1997, Lasser 1997, Rice, Wexler & Cleave 1995; contra Ingram and Thompson 1996) is that OIs have a wide range of possible interpretations, including modals and description of present situations, past events, and future events or intentions. Since these are not all possible interpretations of tenseless root utterances for the adult, the child has to come to

⁵ One might think that English imperatives really are infinitives, just without the *to* (as suggested by David Pesetsky), but note that German also has a real imperative in addition to the infinitive that can express this meaning. Thus, German has two options where English has only one. Also, imperatives in English differ from true infinitives in requiring *do*-support with negation.

⁶ Jeannette Schaeffer informs me that a variant of (4a) with an overt copula is also possible, but has some slightly different shade of implication. This does not affect the point that the equivalent of (4a) is completely out in English. In fact, it shows that the lexical item corresponding to English finite *be* is not simply phonologically null in Dutch, unlike Russian in the present tense.

know which meanings are actually possible for tenseless utterances in her target language, and which meanings require tense features to be present.

1.3 Organization of the thesis

The remaining chapters of this thesis are organized as follows.

Chapter 2 lays out the theoretical assumptions that I will be following throughout. Partly for concreteness, I adopt the overall framework of the Minimalist Program (Chomsky 1995) coupled with Distributed Morphology (Halle and Marantz 1993, 1994; Marantz 1996).⁷ I shall not attempt to contrast these models with others that might have achieved similar results for my purposes or to argue for their overall adequacy; rather, I shall merely draw attention to points that are crucial in what follows. The main points of analysis in this thesis should carry over to other frameworks without major revision. The major goal of chapter 2 is to explain the division of labor that I assume among components of the grammar. Specifically, I lay out which sorts of phenomena are handled by the theory of licensing versus the theory of case and agreement versus the morphological component, and provide arguments that the separation of these three is empirically advantageous. The theory of licensing is not the central focus of this work, but a sketch of its most important consequences is given in chapter 2: it determines where overt DPs and PRO are allowed to surface. Anticipating the acquisition issue, I pay particular attention to the licensing of subjects of nonfinite clause types. Then I introduce the central concept in my theory of case and agreement, the Accord relationship. Accord is defined as a particular kind of feature checking that underlies structural case checking and captures its correlation with argument-verb agreement. I next turn to the way the morphological component deals with elements supplied to it by the syntax; in particular, I am concerned with how it spells out nominals that lack case features. The last section of the chapter adduces empirical arguments that default case, conceived of in a very specific way, is required for this purpose.

Chapter 3 provides the background on acquisition to underpin my arguments from acquisition data in chapter 5. It situates my general approach to OI phenomena and SLI among the diverse approaches in the literature. I show how the assumptions of the Distributed Morphology framework affect the interpretation of children's productions. I then discuss how children might learn what the default case of their language is, since both the data and the analyses of chapter 5 imply

⁷ As noted by Halle and Marantz (1993) and Marantz (1996), there appears to be a major conflict between these theories in their published form, namely that Minimalist syntax assumes early insertion of lexical items prior to syntactic operations, whereas Distributed Morphology is crucially a late insertion theory. While I will not work out in detail how to make the theories compatible, I believe that the spirit of the Minimalist Program can be maintained under a late insertion approach, which is what I assume here.

that they have figured this out by the stage under study. I explain why children's case production errors are regulated by this default case; as far as I know, this is the only attempt in the literature to give a grammatical characterization of crosslinguistic variation in case acquisition. Finally, I review the methodological principles that were applied in tabulating and analyzing the child data to be presented.

Chapter 4 contains the major analyses of adult-language syntax in this thesis. In it, I provide evidence for the notion of Accord as underlying a wide range of syntactic phenomena, primarily but not exclusively involving case marking and agreement. Data are drawn from a number of languages, but a major focus is Icelandic, which is rich in relevant patterns of facts. The major goal is to demonstrate that, in a broad set of circumstances, case and agreement come and go together. I argue for a principle that I dub *Accord Maximization* that governs the distribution of these types of features. The analyses I propose lead to the need for further specification of how the morphology treats certain unusual situations involving case and agreement features; in particular, I discuss case conflict resolution and case concord. I also explore how the grammar might enforce constraints on the interaction between structural case and other kinds of case on the same DP, and among the different structural cases assignable within a clause. On the latter point, I discuss a modification of Chomsky's (1993) treatment of the Accusative/Ergative parameter that deals with some problematic cross-linguistic variation in the case patterns of clauses with lexically case-marked arguments. In appendix A to this chapter I argue that the notorious phenomenon of "case stacking" in Korean is not a counterexample to my claims about case. In appendix B I speculate on how one might solve some apparent problems for an Accord-based treatment of structural case and agreement, involving certain kinds of split ergativity.

Chapter 5 contains the major analyses of child-language syntax in this thesis. As necessary background, however, it begins with a Distributed Morphology analysis of the verbal inflection system of (adult) English. Again, I concentrate on a range of nonfinite clause types. This will set up the argument that English children's nonadult use of these inflections can be made to follow from the adult grammar plus the claim that children can underspecify *tense* and *agreement* features of INFL. That is, I propose a two-factor account of OI phenomena. The rest of the chapter is devoted to arguing that, given these possibilities, children's productions show clear evidence that they know the syntactic consequences of the presence and absence of the tense and agreement features. The major focus is on demonstrating that they know about the Accord relationship, that is, that case and agreement come and go in lock-step for children learning several European languages, as they do for adults. Crucial appeal here is made to the claim that children know and use the default case of their language, and empirical evidence is provided on that point. I then show why this two-factor underspecification theory of children's language is superior in empirical coverage to

other proposals in the literature. I more briefly discuss evidence that children know the dependencies between tense features and the licensing of overt and PRO subjects, concentrating on English acquisition.

Chapter 6 concludes the dissertation by discussing the major open questions about child and adult clause types, both empirical and analytical, that ensue from each of the major claims made in the preceding chapters. I attempt to sort out potential universals from places where some sort of learning must be involved. I suggest how one might go about exploring some of these questions in future work. A later section of the chapter takes up the issue, largely left in the background to this point, of what the semantic implications are for my claims about differences in how children and adults use the same clause types, in particular with respect to tense. The thesis concludes with a speculative discussion of the possible sources of children's agreement/case and tense underspecifications, and the potential for unifying these two phenomena, both with each other and with other known respects in which children's linguistic behavior differs from that of adults. I suggest that my conclusions, if on the right track, support Chomsky's (1995) recent claims about the specific nature of the human language faculty. Notably, I make critical use of the separation between the computational system ("C_{HL}") and systems that make use of the information provided by it, and the claim that within C_{HL} the set of admissible derivations is a subset of the set of convergent derivations. I claim that children do not differ from adults in relevant respects within C_{HL}, but they do differ in the mapping from the output of C_{HL} to interpretation, and in which convergent derivations are admissible for them.

2

Theoretical Framework

Accord [4]. *Agreement or harmonious correspondence of things or their properties, as of colours or tints.* (Oxford English Dictionary)

In this chapter I lay out the theoretical framework in which the analyses in subsequent chapters will be framed. The main purpose is to make clear how the components of the grammar are intended to fit together, and where responsibility for various types of phenomena is intended to lie, since some of my assumptions in this respect are nonstandard. It will not be my goal here to argue in detail for some of these crucial assumptions; that will be done by illustrating how they account for the facts analyzed in chapters 4 and 5.

There are two main topics in this chapter, licensing and case. One major thread of the discussion is to establish what I mean by these two notions, a prerequisite to arguing that they must be crucially separated and that an adequate theory of grammar must invoke both of them, neither being reducible to the other. (Along the way, I present the background and central notion for my theory of case.) A second important thread is to establish a descriptive generalization about the licensing of subject position, namely that nonfiniteness of a clause does not imply that it cannot license an overt subject. (Note that no theory of licensing is presented in this thesis.) A third important thread involves default case, arguing for the empirical necessity of such a notion and proposing a theory of its implementation within a particular view of syntax-morphology interaction.

2.1 Licensing

Following much recent work (e.g., Marantz 1991) I use the term (*structural*) *licensing*¹ to refer to the grammatical module responsible for where overt DPs may and may not surface,² that is, the realm of facts covered by the Case Filter of Vergnaud, adopted in Chomsky 1981. I use this terminology in order to reserve the term *case* for the system of syntactic features underlying morphological markings traditionally described as Nominative, Accusative, etc., since it will be important that the licensing system involves a separate set of features from the case system (cf. Harley

1995). Thus, the sentences in (1) are ungrammatical due to failures of licensing, and their ungrammaticality tells us nothing about their status vis-à-vis case.

- (1) a. *There was written the new song hastily.
b. *It seems Meg to be a dancer.

Following the general approach of Chomsky 1993, 1995, I assume that licensing is executed by Spec-Head feature-checking between a DP and an appropriate head. (Here I differ technically from Marantz 1991.) In this thesis, the features referred to in Chomsky 1993, 1995 as “Case” features will be called “licensing” features, but no substantive change is intended. Later in this section I will make some specific proposals about the licensing of subjects in nonfinite environments. I will have little to say about licensing in other positions, remaining agnostic on issues such as whether licensing of complements by V and P requires the intervention of a functional category, and other open issues.

Note that in this framework the stipulation of an explicit Case Filter is replaced by the stipulation that each DP must receive an uninterpretable³ feature upon insertion into the derivation, plus the general requirement that uninterpretable features must be checked by LF. The stipulation for DPs will in turn force insertion of matching features on heads such as Infl/T/Agr, V, P, etc. for convergence; this need not be independently stipulated. I keep this system as Chomsky proposes it, except for the treatment of PRO subjects (see below). I follow Chomsky 1995 and Jonas 1995a in assuming that licensing features (their “Case” features) are not the only features that can drive overt movement of DPs.

I assume that (non)overtness of a DP is not relevant to its licensing requirements, so that *pro* is like overt pronouns in this respect. I make the standard though not uncontroversial assumption that PRO and *pro* are distinct elements, and that PRO has different licensing requirements from all other DPs. Following Chomsky and Lasnik (1993), and contra prior work in this tradition, I assume that PRO is special by virtue of requiring a special kind of licensing (“Null Case”),⁴ not by failing to require any licensing at all. Section 2.1.3 will be devoted to exploring the specifics of the features that do and do not license PRO. I assume that licensing is the only factor regulating the syntactic distribution of PRO—there is no additional stipulation that it must not be assigned case or must not be governed or must satisfy both Conditions A and B of Binding Theory, etc.

¹ This corresponds roughly to the notion sometimes known as “case realization” (e.g., Massam 1985, cf. Chomsky 1986) or Frampton’s (1995) “SCase.”

² It is irrelevant for my purposes here whether and how licensing might apply to categories other than DP, e.g., clauses, Ns, etc.

³ See §2.2 for explanation of this technical term.

⁴ Strictly speaking, this should be called “Null Licensing” under my assumptions, but to avoid a proliferation of terminology I keep Chomsky and Lasnik’s term.

2.1.1 The empirical domain

In this subsection I lay out the kinds of facts that are to be accounted for by the theory of licensing. I will not propose any such theory; instead, I simply wish to make clear the phenomena that I crucially claim do not fall under the *case* system as I delineate it.

I take licensing to be that component of the syntax responsible for ruling out sentences in which DPs surface in the “wrong” positions, as in (2) and (3). (Here I confine the discussion to argument DPs.)

- (2) a. *There was written a new song hastily.
b. *It seems Meg to be a dancer.
c. *There arrived Raoul.
d. *There is believed a man to like Christine.
e. *I expect/believe not Raoul to be late.
f. *Raoul appears (that) *t* likes Christine.
g. *Raoul is believed (that) *t* likes Christine.
h. *Raoul is likely [for *t* to be late].
i. *Raoul seems [to *t*] that Christine left.
j. *There seems a man to be in the room.
- (3) a. *Raoul to leave would be rude.
b. *It is important everyone to stay calm.
c. *My desire Christine to succeed led me astray.
d. *Christine endeavored Raoul to be informed.
e. *Us to be on time, we’ll have to take a shortcut.

The examples in (2) all involve a DP surfacing at the “wrong” point in an otherwise possible A-chain: In (2a–e) it has not raised far enough, in (2f–i) it has raised too far, and in (2j) it has raised either too far (cf. *There seems to be a man in the room*) or not far enough (cf. *A man seems to be in the room*). The examples in (3) have a different character, illustrating positions where PRO subjects would be possible but overt DPs are not; the only way to fix them is to insert the complementizer/preposition *for*. (2) and (3) were all treated as Case Filter (Chomsky 1981) or Chain Condition (Chomsky 1986) violations,⁵ but in my terminology, they have nothing to do with *case*. Thus, I might seem to be losing a generalization that what is wrong with the sentences in (2) and (3) is that no case is assigned to the position of the DP. I claim instead that case in any morphologically-grounded sense cannot account for these facts after all, so that a separate mechanism is needed. That is, I claim that the “Case” features in Chomsky’s (1995) model cannot have any rela-

⁵ Thus, it was said that passive verbs and infinitival INFL, for example, could not be Case assigners, so that a *new song* in (2a), *Meg* in (2b), etc. would violate the Case Filter because they failed to get Case. The Chain Condition required that each chain have exactly one Case; this would be violated in (2f), for example, since both *Raoul* and its trace are in Case positions.

tionship to morphological case marking. This claim is crucial to most of what follows in this thesis. Empirical arguments for this dissociation are presented in §2.4 and in later chapters.

2.1.2 Subjects of nonfinite clauses

Since the original observation that children use nonfinite verbs, especially infinitives, in (apparent) root declaratives (Pierce 1989, Weverink 1989), it has been somewhat of a puzzle how overt subjects of such clauses are licensed in the child’s grammar, given that infinitives are assumed not to license overt subjects. This issue was brought to the fore by Wexler’s (1992) proposal that Tense is missing in OIs, since Tense was supposed to be the element responsible for subject licensing.⁶ I wish to argue that a finer-grained look at nonfinite clause types in adult English shows that we need not claim that children’s grammars differ from adults’ with regard to subject licensing, because most nonfinite clause types in fact do license overt subjects. (In appendix 2.B, I show that this is true in many other languages as well.) Thus, the goal of this subsection is to arrive at a descriptive characterization of where and how overt subjects are licensed; in the next subsection, I pursue the same question with respect to null subjects.

I begin with some familiar paradigms concerning the behavior of overt subjects in *to*-infinitives in adult English, and then extend those paradigms to other nonfinite clause types. Complement infinitivals with overt subjects divide into two classes that can be characterized in terms of whether or not the appearance and position of the embedded subject seems to depend directly on the governing verb. (See Pesetsky 1992 for references, further discussion, and analysis.) (4) shows that in one class, which I refer to as “true ECM” verbs, such a direct dependence seems to obtain: when the matrix verb is passivized, losing its ability to license a DP, the embedded subject must move to a higher licensed position; there is no way for it to be saved in situ. It also cannot be separated from that verb.

- (4) a. Jane believes Bill to know the answer.
b. Bill is believed to know the answer.
c. * (For) Bill to know the answer is believed.
d. *It is believed (for) Bill to know the answer.
e. *Jane believes very firmly (for) Bill to know the answer.
f. *What Jane believes is (for) Bill to know the answer.
g. *It’s (for) Bill to know the answer that Jane believes.

⁶ A potentially related problem has been what drives subjects to raise (over negation) in OIs (cf. Stromswold 1996). Here there seems to be no variation in the adult language at all: there is no clause type in adult English where the subject stays below negation. (There are no clauses like *Not John like(s) Mary*, *Not John to like Mary*, *Not John liking Mary*, etc.) I take it as an open problem for both child and adult grammar whether this fact can be reduced to the subject’s need for licensing, or whether we must treat the Extended Projection Principle as *sui generis*.

In contrast, the pattern in (5) exemplifies the *want*-class, where the insertion of the element *for* makes the embedded subject impervious to passivization or nonadjacency of the matrix verb.

- (5) a. Jane desires (for) Bill to know the answer.
 b. *Bill is desired (for) to know the answer.
 c. For Bill to know the answer is desired.
 d. It is desired for Bill to know the answer.
 e. Jane desires very much for Bill to know the answer.
 f. What Jane desires is for Bill to know the answer.
 g. ??It's for Bill to know the answer that Jane desires.

I take these contrasts to show that *Bill* in (4a) is licensed by *believes*, but *Bill* in (5a, c–g) is licensed internal to the infinitival clause (cf. Bošković 1995 and references cited there).⁷ For my purposes it is irrelevant why and under what circumstances *for* must show up, as long as both it and *Bill* are within the embedded clause—see Pesetsky 1992. I take the infinitival clause types in (4) versus (5) to be fundamentally different. What I now wish to argue is that other nonfinite clause types in English pattern with (5) and not with (4), that is, their overt subjects are licensed internally.⁸

In particular, we can reconstruct the above paradigm for ACC-ing gerunds⁹ (6)¹⁰ and small clauses (7) under a relevant set of verbs.¹¹ (There are of course many other verbs that appear su-

⁷ Further support for this claim comes from the observation (cf. Pesetsky 1992, Hornstein and Lightfoot 1987) that there are verbs fitting the basic pattern of (5) that cannot take DP objects at all, e.g., *pretend* and *endeavor*. There seem to be no such verbs that pattern like (4), however.

⁸ I largely ignore issues raised by Raising infinitives here, since they do not bear on the main point. To a first approximation, they seem to pattern with true ECM clauses in English in relevant respects:

- (i) a. Bill seems to know the answer.
 b. * (For) Bill to know the answer seems.
 c. *It seems (for) Bill to know the answer.
 d. *What it seems is (for) Bill to know the answer.
 e. *It's (for) Bill to know the answer that it seems.

The obvious difference is that the matrix predicate does not license a DP complement, so the embedded subject must raise overtly to a licensed position, e.g., subject of the finite higher clause. Exactly the same could be said for Pesetsky's (1992) *wager*-class of verbs, whose complement subject cannot be licensed in situ. Nothing so far seems to stop us from assuming that the licensing properties of the infinitival clause are identical for Raising, *wager*-class, and true ECM complements.

⁹ See Abney 1987 for the properties of the various types of gerunds in English.

¹⁰ Hornstein and Lightfoot (1987) and Johnson (1988, citing Kayne 1985) claim that the ACC subject of an ACC-ing gerund requires external licensing (unlike the subject of a Poss-ing gerund), citing the following kind of alleged contrast where the matrix verb might not govern the gerund subject position:

- (i) John likes [[Frank's/*Frank cooking supper] to be controversial.]

perfidially to take the same sorts of complements, but whose behavior on the crucial tests is different, e.g., *consider*. I assume that a different structure is involved in those cases (cf., e.g., Higginbotham 1983). What is relevant for my argument is merely that *some* instances pattern like (5) rather than (4), to show that internal licensing is possible.)¹²

- (6) a. Jane remembered there being a juggler on stage.
 b. *There was remembered being a juggler on stage.
 c. There being a juggler on stage was remembered.
 d. *It was remembered there being a juggler on stage.
 e. Jane remembers very vividly there being a juggler on stage.
 f. What Jane remembers is there being a juggler on stage.
 g. ?It's there being a juggler on stage that Jane remembers.

However, neither I nor numerous other native speakers I have consulted find any contrast here, particularly when one factors out any difference in status between ACC-ing and Poss-ing subjects in finite clauses, e.g., (ii a vs. b):

- (ii) a. Frank cooking supper was controversial.
 b. Frank's cooking supper was controversial.

¹¹ For reasons that are not clear to me, it is considerably harder to reproduce this paradigm with a nominal small clause. (i) represents my best attempt so far; judgments indicated are my own, and seem to show some interspeaker variation.

- (i) a. Jane envisioned Liz and Larry friends again.
 b. *Liz and Larry were envisioned friends again (by Jane).
 c. ??Liz and Larry friends again was envisioned (by Jane).
 d. *It was envisioned Liz and Larry friends again (by Jane).
 e. ??Jane envisioned very vividly Liz and Larry friends again.
 f. ?What Jane envisioned was Liz and Larry friends again.
 g. ?It's Liz and Larry friends again that Jane envisioned.

To avoid unnecessary complications, I will generally ignore nominal small clauses for the remainder of this section.

¹² The badness of (6d, 7d) obviously does not fit this pattern. I take that as irrelevant to my point here; it seems to indicate that the entire gerund or small clause needs to be licensed in the manner of a DP rather than in the manner of a clause (cf. Stowell 1981). In particular, the badness of (6d) clearly has nothing to do with the needs of the overt embedded subject, since PRO is just as bad in this configuration:

- (i) a. The children anticipated [PRO/Mary dancing].
 b. *It was anticipated [PRO/Mary dancing] (by the children).

The same point is made, perhaps more transparently, by nonverbal predicates, which select for a preposition to license their nominal complements (including gerunds), but disallow that preposition with clausal complements (cf. Stowell's Case Resistance Principle), which surface with *for* as usual when the subject is overt:

- (ii) a. We are anxious *(about) [Mary/PRO arriving on time].
 b. We are anxious *(about) [that Mary (should) arrive on time].
 c. We are anxious [for/*about Mary to arrive on time].
 d. We are anxious *for/*about [PRO to arrive on time.]

- (7) a. Jane envisioned 20 people {naked/in a VW}.¹³
 b. *20 people were envisioned {naked/in a VW} (by Jane).¹⁴
 c. (?)20 people {naked/in a VW} was envisioned (by Jane).
 d. *It was envisioned 20 people {naked/in a VW} (by Jane).
 e. ?Jane envisioned very vividly 20 people {naked/in a VW}.
 f. What Jane envisioned was 20 people {naked/in a VW}.
 g. It's 20 people {naked/in a VW} that Jane envisioned.

I take the facts in (6) and (7) to show that ACC-ing gerunds and small clauses license their own subjects internally. Before pursuing the implications of this conclusion, we must digress to deal with a possible objection.

With regard to the alleged small clause examples in (7), Kubo (1993) argues that there is no such thing as a subject small clause, so that (7c) and (7f) would not have the structure relevant to my argument. In particular, if *20 people in a VW* were simply a DP with a PP modifier, those examples would involve licensing of *20 people* directly as a matrix argument, rather than as subject of a small clause. Kubo points to three ways in which a subject small clause should pattern differently from a DP subject, detailed below. While she does show that many instances of what appear to be subject small clauses are really simple DPs, there are a class of examples that pattern the opposite way, which I take as evidence that subject small clauses do exist after all.

1) Kubo claims that postnominal bare adjectives that are ungrammatical in DPs but fine in post-verbal small clauses are impossible in alleged subject small clauses. She gives the examples in (8) as starred, but they are all fine in my judgment.¹⁵

- (8) a. Lots of books dirty is a common problem in libraries.
 b. Workers angry is just the sort of situation that the ad campaign was designed to avoid.
 c. ?Children fat upsets me.¹⁶

¹³ Some of the examples in (7) sound awkward to varying degrees, but I claim they still show a clear contrast with (4).

¹⁴ This example may be good on an irrelevant reading where the postverbal material is taken as a secondary predicate, entailing "20 people were envisioned," while (1b) does not entail "Bill is believed." The contrast is perhaps clearer in the following example:

- (i) a. Jane hated strangers in the house.
 b. *Strangers were hated in the house by Jane.
 c. (?)Strangers in the house was hated by Jane.

¹⁵ There seem to be a wide range of judgments here. Some people find both bare and modified adjectives good in this position, others find both degraded, and some get the contrast claimed by Kubo.

¹⁶ The slight degradation in this example seems not to be due to the bare adjective, since (i) is no better than (8c):

- (i) ?Children fatter than their parents upsets me.

Of course, one does need to put the intonation peak of the subject on the postnominal adjective to make these sound smooth, but that does not argue in favor of a DP analysis of the subjects in (8), since true modifier uses of these adjectives are in no way improved by such intonation (**Some books DIRTY were on the table*).

2) Kubo claims that true small clauses cannot be clefted or pseudo-clefted, while alleged subject small clauses can. Neither of these patterns seems to be fully general, however. Although I agree with most of her examples showing bad (pseudo-)clefting with small clauses (9), the examples in (10), which she stars, are essentially fine for me:

- (9) a. *It is Bill silly that John believes.
 b. *What Chinese students consider is the current leadership rotten.
 (10) a. What they want is those new Toyotas off the ship.
 b. ??It is Bill off the ship that John expects.

What I take this to mean is that the verbs under discussion are not homogeneous with respect to their complement structures: some sequences of the form *V NP Pred* involve NP and Pred in a single constituent while others do not, with the expected consequences for clefting.

3) Kubo notes that clausal expletive *it* is possible following verbs like *consider* but impossible in a small clause subject:

- (11) a. Mary considers/finds it appropriate that you take a summer vacation.
 b. *It appropriate that you take a summer vacation doesn't make me less jealous.¹⁷

This contrast clearly does show that the string following *consider/find* can have a structure that is not permitted in subject position, but Kubo presents no evidence that the postverbal material in (11a) is a constituent. Indeed, none of the three constituency tests that she cites from Safir (1983), to argue that "small clauses" are constituents to begin with, applies successfully to sequences like *it appropriate that...*, since they all crucially rely on putting this material in subject position. In fact, such sequences seem to have a more restricted distribution than what I view as true small clauses: the former, but not the latter, are generally out as complements to psych predicates.

¹⁷ Noam Chomsky (p.c.) points out that even a thematic subject of *appropriate* is bad in a configuration like (11b). Thus, Kubo's point can actually be made only by appeal to paradigms like (i), where thematic and expletive subjects contrast:

- (i) a. Mary finds the Democrats unlikely to succeed.
 b. Mary finds it unlikely that the Democrats will succeed.
 c. ?The Democrats unlikely to succeed makes Mary upset.
 d. *It unlikely that the Democrats will succeed makes Mary upset.

- (12) a. I imagined the books yellow.
 b. The captain imagined John off the ship.
 c. *I imagined it clear that we would get a bonus.
- (13) a. I love crimes foiled.
 b. I love my enemies in trouble.
 c. *I love it certain that it won't rain.
- (14) a. I enjoyed the water warm.
 b. I enjoyed John in a dress.
 c. *I enjoyed it obvious that Clinton was going to win.
- (15) a. I hate my mother sick. [= I hate my mother when she is sick.]
 b. I hate my girlfriend out of the country.
 c. *I hate it apparent that people will lose their jobs.
- (16) a. I appreciate pornography censored.
 b. I appreciate criminals behind bars.
 c. *I appreciate it likely that my loan will come through.

Since the (a) and (b) sentences in (12–16) clearly get a small clause interpretation for their postverbal material,¹⁸ the badness of the (c) examples shows that *it Adj that...* sequences do not have the distribution of small clauses.¹⁹ Therefore, their badness in subject position does not bear on the possibility of true small clauses in subject position. Thus, returning to the paradigm in (7), it seems to show the same thing that (6) shows, where the expletive *there* subject rules out irrelevant secondary predication readings. This concludes the digression on subject small clauses.

Having now established that many nonfinite clause types license their own overt subjects, let us consider whether there is a generalization characterizing those that do ((2)–(4)) versus those that do not, e.g., (1). It has been observed (Stowell 1982; cf. Pesetsky 1992 for further relevant observations) that the contrasts between (4) and (5) correlate with a semantic contrast: true ECM clauses do not contain what I will refer to as an “event binder” (cf. Kratzer’s 1-place), while *want*-complements do, as shown for example by the fact that the complement in (17a) gets only a habitual/generic interpretation while the one in (17b) can get a single event interpretation.^{20,21}

¹⁸ As claimed also by Hornstein and Lightfoot (1987) for the following examples:

- (i) We all feared [John naked/angry/made-up/drunk].

¹⁹ An observation from Gee (1977) provides another respect in which small clause complements to psych predicates behave like constituents while complements to *consider* do not. Only the former undergo Right Node Raising:

- (i) a. We tried to imagine, but couldn't really imagine, pornography censored in America.
 b. *I considered, but Jane really didn't consider, it obvious that pornography should be censored.

²⁰ Of course, single event interpretations for ECM clauses are possible with auxiliary *be* or *have*: *I believe John to be running to school right now* etc. (See Stump 1985 for discussion of how *be* can make predicates from indi-

- (17) a. I believe John to run to school (every day).
 b. I want John to run to school (right now).

Interestingly, the complement types in (6) and (7) seem to maintain this pattern: both kinds allow punctual interpretations:²²

- (18) a. Jane remembers [John breaking the lamp yesterday].
 b. Jane is envisioning [John {naked/in a VW} tomorrow morning].

I suggest, then, that whatever underlies the contrast in (17a) versus (17b and 18), say an event binder, determines the ability of a constituent to license its subject position internally.

One potential wrinkle in maintaining this generalization is that finite simple present indicative clauses seem to pattern with (17a) with regard to temporal specification, but they clearly license overt subjects:

vidual- into stage-level.) The discussion in the text concerns whether the structure of the clause *by itself* inherently provides an event binder.

²¹ To a first approximation, Raising and *wager*-class infinitives continue to pattern with ECM infinitives:

- (i) a. John seems to run to school (every day/*right now).
 b. Bill was wagered to run to school (every day/*right now).

However, there are plenty of apparent counterexamples, e.g.,

- (ii) John is likely to run to school right now.

Also, the complement to *seem* can (at least marginally) inherit a temporal specification from the higher clause, while the complement to *believe* cannot:

- (iii) a. John seemed to run to school yesterday, but really he ran to the mall.
 b. *I believed [John to run to school yesterday.]

I ignore these complications in what follows.

²² More specifically, (18a) can get a single event reading. PPs and adjectives by themselves cannot generally encode events to begin with, so (18b) shows only that the complement can refer to a specific point in time distinct from that of the matrix predicate. In this respect it patterns with (17b) as against (17a):

- (i) a. *I believe John to be naked yesterday/tomorrow.
 b. *This morning, I believed John to be naked yesterday.
- (ii) a. (Right now,) I want John to be naked tomorrow.
 b. Last year, I wanted John to be naked yesterday.

I take this to show that small clauses can at least contain an independent temporal specification, while ECM clauses cannot.

- (19) a. John runs to school (every day).
 b. *John runs to school yesterday/right now.

One might argue that the absence of event binding cannot be a *syntactic* property of the simple present in English, since in its use in Headlines²³ it does allow punctual readings of eventive predicates:²⁴

- (20) CLINTON JOGS ALONG NORTH CAROLINA BEACH

Thus, one could try to say that the facts in (19) result from the interpretation of the clause but not from the inherent properties of [+present tense] INFL, while the fact in (17a) results directly from the syntax of the kind of nonfinite INFL involved.

If one accepts this way of dismissing (19) and maintaining that event binding and subject licensing correlate exactly, there is one more environment where that generalization should be tested, namely, in root nonfinite clause types.²⁵ Indeed, those that license overt subjects clearly pattern with (17b) in their temporal semantics:

- (21) a. What? Me run to school (now/tomorrow)?? You've got to be kidding!
 b. Oh, for her eyes to meet mine (now/tomorrow)!
 c. You run to school (now/tomorrow)!

In fact, there seem to be no root nonfinite clause types whose temporal semantics patterns with true ECM clauses. (There are some that disallow overt subjects, but I argue later that this is for independent reasons, not because licensing per se would be impossible.)

Thus, I suggest the following conclusion: ECM and Raising complements are the odd clauses out, the only ones that truly fail to license their own subject internally. As long as children's OIs do not have the structure of ECM complements, we should expect them to allow overt subjects.

²³ See §5.2 for detailed discussion of Headlines.

²⁴ The same point can also be made with the proximate future or historical present use of this morphology:

- (i) John leaves for Montréal at 3:00.
 (ii) This guy walks into a bar and orders a drink.

²⁵ See §5.2 for much more discussion of these clause types. (21a) is dubbed a Mad Magazine sentence by Akmajian (1984).

2.1.3 The distribution of PRO

Having established at least at a descriptive level where overt subject DPs are licensed, I now turn to the question of what makes PRO subjects possible or impossible. The aim is to argue that PRO is *not* generally in complementary distribution with overt subjects, contrary to the impression one could get by considering only the most common clause types. First, I set out the numerous environments in English where both PRO and overt subjects can be found. Next, I catalogue the clause types where only overt subjects and not PRO are found. Finally, I propose analyses of a few environments that seem to license PRO but not overt subjects.

The following paradigms show that PRO and (bare) overt DPs are both possible as subjects of argument and adjunct gerunds (22, 23),²⁶ adjunct small clauses (24), and imperatives (25).

- (22) a. John/PRO leaving early would be rude.
 b. My sadness over Mary/PRO leaving brought me to tears.
 c. Mary avoided John/PRO being informed.
- (23) a. PRO/Him not picking up the kids on time, John had really upset Mary.²⁷
 b. PRO/Mary thinking about quitting, John wasn't paying much attention to his work.
- (24) a. PRO {frightened/a suspect/under surveillance}, John didn't know which way to turn.
 b. His girlfriend {frightened/a suspect/under surveillance}, John didn't know which way to turn.
- (25) a. Nobody move! You put your hands up!
 b. PRO Move! PRO put your hands up!

There are also several nonselected *to*-infinitive constructions that show this alternation.²⁸

²⁶ It is a matter of some controversy how similar the structure of PRO-ing versus ACC-ing gerunds in English really is (cf. Abney 1987, Pullum 1991). Portner (1992) suggests that the syntactic differences in behavior noted by other authors follow from the "definiteness" of the gerund, which is a consequence of what fills its subject position. From my perspective, it would be ideal if such a claim could be maintained, though it is beyond the scope of this thesis to explore it adequately.

²⁷ Some speakers find bare small clauses and gerunds quite awkward with overt subjects. However, they often improve with contrastive focus on the subject:

- (i) a. Our group continued to make its way through the forest, JOHN limping slightly, MARY striding confidently.
 b. The embarrassed couple eventually answered the door, HIM in his boxers, HER in just a T-shirt.

²⁸ Of course, the (a) and (b) sentences differ on the presence versus absence of *for*. I assume that this is not a "deep" difference between the types of infinitival clauses that license PRO versus overt DPs. The assumption is supported by the variable degrees of optionality of *for* in infinitival complements to verbs like *want*, *desire*, *hope*, etc., and by the existence of bare DP subjects of noncomplement infinitival clauses in other European languages, which we will see in appendix 2.B.

- (26) a. Oh, PRO to be in Paris in the springtime.
b. Oh, for my life to be more like yours.
- (27) a. John hurried, only PRO to arrive late because of traffic.
b. John hurried, only for his friends to arrive late because of traffic.
- (28) a. PRO To think that I almost married her!
b. For anyone to think that I could be so easily fooled!
- (29) a. Now PRO to make our escape!
b. Now for us to make our escape!
- (30) a. (In order) PRO to be on time, we'll have to hurry.
b. (In order) for John to be on time, we'll have to hurry.

One further clause type is hard to assess. Akmajian (1984) claims on the basis of (31) that Mad Magazine sentences allow null subjects.

- (31) A: Why don't you get a respectable job?
B: PRO get a respectable job? What do you think I am?

But given the general availability of elliptical utterances (e.g., bare VPs) in this kind of conversational exchange, the conclusion hardly seems secure. He also gives examples like the following, purporting to involve topicalization across a PRO subject, where the utterance would have to contain a full clause:

- (32) What? That trash novel, PRO finish by tomorrow?! You've got to be kidding.

However, many speakers seem not to like (32). Though the evidence leaves something to be desired, I will assume that Akmajian's conclusion is correct, that PRO subjects are possible in MMs, so they pattern with examples in (22) to (30) above.

Let us turn our attention now to environments where PRO is disallowed. Most of these are uncontroversial: tensed indicative and modal clauses and subjunctive clauses. (For this purpose, true ECM clauses are not relevant, since I have argued that the clause itself licenses no subject of any kind; I assume that external licensing of PRO by a higher predicate is impossible for the same reason that PRO is impossible as the complement of a preposition or direct object of a verb.²⁹ I present no theory of that restriction.)

One more candidate for this group would be argumental small clauses (33), which unlike their adjunct counterparts (and unlike argumental gerunds, cf. (34)) must have overt subjects:

- (33) a. John/*PRO in a dress surprised Mary.
b. The twins/*PRO in New York is cause for concern.
c. Animals/*PRO frightened by gunfire would be sad.
d. Mary envisioned John/*PRO in a dress.
- (34) a. John/PRO wearing a dress amused Mary.
b. PRO/The twins being in New York is cause for concern.
c. PRO/Animals getting frightened by gunfire would be sad.
d. Mary envisioned John/PRO wearing a dress.

We have seen that some clause types that license overt subjects allow PRO and others do not. Are there constructions where PRO might be present but does *not* alternate with an overt subject? (35) and (36) illustrate two potential candidates.

- (35) a. Why (PRO?) not go to Paris?
b. *Why (for) you not go to Paris?
- (36) a. Where (PRO?) to turn?
b. *Where (for) me to turn?

In both instances, I claim that the analysis suggested is inaccurate. In particular, as discussed further in §5.2, (35a) and (36a) seem to involve elision of a matrix subject and an auxiliary:

- (37) Why (would you) not go to Paris?
- (38) Where (am I) (PRO?) to turn?

This means that (35a) contains no PRO to begin with, and (36a) contains an *embedded to*-infinitive (whose subject could be PRO). Then (36b) is out for whatever reason *Where am I for me/myself to turn?* is out, so the problem of ruling out (36b) reduces to the problem of obligatory control, discussed in the next paragraph.

This leaves just the most obvious example of PRO not alternating with overt DP, namely obligatory control. The question I wish to raise is whether there is a genuine *syntactic dichotomy* between obligatory control verb complements and complements to verbs like *want*. Complements to *want*-verbs generally allow PRO or an overt subject (often marked with *for*).³⁰ Descriptively, among verbs that take infinitives there seems to be a continuum of acceptability for the overt subject, ranging from perfect with *want* to somewhat marginal with *hope (for)* to quite difficult with *try (for)* to impossible with *start (*I started (for) Mary to leave)*. I suggest (though the point is not crucial beyond this section) that these contrasts in degree of acceptability are to be accounted for entirely by semantics. For instance, trying often but not always implies the involvement of oneself,

²⁹ I assume that the same should be said about obligatorily overt subjects of complements to causatives like *make*, perception verbs, and *consider*-type predicates. (See Watanabe 1993 for discussion.)

³⁰ As before, I take the comings and goings of *for* within this class as relatively "surfacey" facts that do not reflect a deep difference in how their overt subject is licensed.

while starting (in the relevant sense, with a thematic subject) *must* involve an action undertaken by its subject. (Thus, the *start* in *I started the ball rolling* must have a different semantic structure, apparently involving an additional causative component.) If this is the right way to look at these facts, then *I started for Mary to leave* converges as gibberish rather than crashing in the computational component, and there is no such thing as a type of clause in English that syntactically demands PRO as its subject and bars an overt DP.

The following chart summarizes the subject licensing properties of the clause types discussed in this section.

	<i>PRO allowed</i>	<i>PRO disallowed</i>
<i>subject licensed</i>	<ul style="list-style-type: none"> • <i>for-to</i> infinitive (complement, adjunct, or root) • (ACC-ing/PRO-ing) gerund • adjunct small clause(?) • imperative • Mad Magazine sentence(?) • “obligatory control” (overt subject ruled out by semantics)³¹ 	<ul style="list-style-type: none"> • tensed indicative • modal • subjunctive • argument small clause(?)
<i>no subject licensed</i>	<ul style="list-style-type: none"> • “true ECM” complement (unless selecting verb licenses overt subject) • Raising infinitive 	

I have proposed that the licensing/no-licensing split in this chart is governed by the presence/absence of an event binder. Is there any generalization behind the PRO/no-PRO split?

The six environments where PRO is allowed have in common the impossibility of marking tense contrasts. The indicatives and modals, which disallow PRO, *can* show tense contrasts. In order for this difference to fully capture the PRO/no-PRO split, we would have to show that subjunctives and argument small clauses pattern with tense-contrasting clauses even though they cannot morphologically express tense features. I am doubtful that this can succeed, but let us see how

³¹ If one wanted to treat truly obligatory control (as with *start*) as syntactically (rather than semantically) blocking an overt subject, the chart could be turned into a two by two matrix with obligatory control in the bottom left corner and ECM and raising in the bottom right. However, we could then no longer treat the impossibility of overt subjects in the way I have proposed, since obligatory control clauses contain event binders. I have not pursued this approach because I see no obvious way to capture ECM, Raising, and obligatory control as a class in contrast to everything else in the top half of the chart.

we might try.³² Although English shows no tense contrasts in subjunctives,³³ closely related languages do, so I hypothesize that a [±past] featural contrast might still exist there, with total conflation in the morphology.

What about argument small clauses—is there any way in which their temporal semantics differs from that of gerunds and adjunct small clauses? Consider again the contrast between (33) and (34), repeated here:

- (33) a. John/*PRO in a dress surprised Mary.
 b. The twins/*PRO in New York is cause for concern.
 c. Animals/*PRO frightened by gunfire would be sad.
 d. Mary envisioned John/*PRO in a dress.
- (34) a. John/PRO wearing a dress amused Mary.
 b. PRO/The twins being in New York is cause for concern.
 c. PRO/Animals getting frightened by gunfire would be sad.
 d. Mary envisioned John/PRO wearing a dress.

Alec Marantz (p.c.) suggests that the contrast of (33) versus (34) has to do with whether the INFL of the embedded clause is getting an interpretation subordinate to the matrix INFL or whether it is independent. He finds that it is harder to get a non-simultaneous reading for the PRO-ing gerunds in (34), relative to the matrix tense, than for the small clauses in (33). If this contrast is real, it suggests that the tense of gerunds is necessarily “anaphoric” to a higher tense specification, while that of small clauses is not. Of course, in order to capture all of the chart, we would additionally need to argue that *adjunct* small clauses are temporally anaphoric.

Another approach to the problem of small clauses not fitting with the rest of the chart could claim that there really is no (PRO) subject in a “subjectless” small clause (but see Baltin 1995 for counterarguments). Then the bad versions of (33) would be out because the sentence-initial predicate cannot be predicated of anything, but we would need to explain how clause-initial adjuncts can be predicated directly of the overt subject in examples like (39).

- (39) Tired/A dog/In a huff, Fido lumbered into his little house.

Since explaining the facts summarized in the chart is not my main goal, I do not take the matter any further. (See Williams 1983 and Hornstein and Lightfoot 1987 for other possible accounts.)

³² Pesetsky (1992) notes that, among complement infinitives, [+PRO] corresponds fairly closely to irrealis, and [-PRO] to propositional, with a few exceptions. It is not obvious how this characterization could be extended to the other clause types I am considering.

³³ I am dealing only with the “mandative” subjunctive here, not with counterfactuals such as *If I were you*.

The critical conclusion of this section is a descriptive one. Most, if not all, nonfinite clause types allow both PRO and overt subjects. If children’s OIs are nonfinite, it would be consistent with the grammar of English (and, by assumption, UG) for them to occur with both PRO and overt subjects.³⁴ As has been noted in the literature (see §5.5.2 for review), this is indeed what we observe.

2.2 Case

Having laid out what I intend by the term *licensing*, I now contrast it with my notion of *case*, which (for extra clarity) I will sometimes call *morphological case* or *m-case*. Following Marantz 1991 (inter alia), I use *case* to refer to those features of DPs and other elements that can be spelled out morphologically as the traditional Nominative, Accusative, Genitive, etc. distinctions. (Crucially, case does not refer to the morphemes themselves.) Under my proposal, case features occur in the syntax as features distinct from those involved in licensing; licensing features are never spelled out morphologically.³⁵ While m-case features are checked in the syntax, and the checking of any such features that are present is a requirement for convergence, there is crucially *no* requirement that a DP must receive an m-case feature specification in the syntax. Indeed, I will argue that there are many instances of DPs that receive *no* m-case specification in the syntax. For this to be possible, I must claim that m-case features, in contrast to licensing features, are not automatically added to every DP upon insertion into the derivation. Still, any m-case features that *are* put on a DP are subject to the general requirements on uninterpretable features³⁶ in Chomsky 1995, namely, they must be checked in a local (Spec-Head or Head-Head) configuration by LF.³⁷ Thus, heads such as INFL, V, P, and perhaps others, are specified as checking particular m-cases. This

³⁴ Infinitives with *to* are the only clauses that require a preposition/complementizer (*for*) to surface (most of the time) when they take an overt subject. As long as OIs are not *to*-infinitives, which they seem not to be, we should not expect them to require *for* (or any other overt marker) when taking overt subjects.

³⁵ As will be discussed in more detail in §4.4, Marantz assumes instead that case features exist only in the morphological component.

³⁶ In Chomsky 1995, a critical distinction is made between two kinds of syntactic features, interpretable versus uninterpretable. Interpretable features are relevant for interpretation at LF, uninterpretable features are not. Interpretable features include phi-features of nominals, tense features, etc. Uninterpretable features include phi-features and case features of verbs/INFLs, since these are irrelevant for (LF) interpretation. Interpretable features need never be checked; they *can* be checked, but do not delete after checking. In contrast, uninterpretable features *must* be checked or the derivation will crash at LF. Once they are checked, they delete, i.e., will not be visible at the LF or PF interfaces. (They may or may not immediately *erase*, i.e., cease to be visible *within* the computational component, depending on parametric differences in “multiple checking.”) Crucially for my purposes here, both licensing features (Chomsky’s “Case” features) and m-case features are uninterpretable, both on DPs and on V/I. Thus, any of these features that are inserted in the numeration must be checked for a derivation to converge.

³⁷ In point of fact, it is irrelevant for me if oblique cases work differently.

specification must, at least in many instances, be item-specific. That is, in languages with a visible distinction among more than one non-NOM m-case, a particular preposition or verb might check only one particular m-case on a particular argument. It will also turn out that we want this insertion of canonical case-assignment properties to be optional, since there will be occasions where, for instance, INFL is unable to check NOM because of the particular verb that happens to show up in its clause. If any m-case features of heads or DPs are left unchecked at LF, the derivation crashes in the usual manner, ensuring that, in the converging derivation, these will match up in some fashion constrained by independent principles such as Shortest Move.

To stress again the most crucial point, there is no requirement in the syntax that a DP receive an m-case feature, only that it must check such a feature if it has one. In fact, I suggest in chapter 4 that a DP can have more than one m-case feature, so the actual requirement is that *all* its m-case features must be checked: it may have zero or more of them. Given the previous paragraph, an immediate problem arises: to take a particular example, if m-case insertion is optional, both on DPs and on INFLs, what ever forces subject case-marking to take place? (The same issue arises for objects.) I will propose a solution in chapter 4. For now, it suffices to notice that among the possible derivations provided by assumptions so far, there will in general be one in which NOM checking on the subject occurs, unless it is explicitly blocked by some other factor (e.g., quirky case, as discussed below). I will treat the problem of ensuring NOM checking as one of ruling out competing convergent derivations where NOM checking has not taken place. That is, derivations without case would converge, but are blocked by preferred derivations that have case. (See chapter 4 for technical details.)

To help make the proposed framework concrete, I will show how it operates in a convergent sentence, in one that crashes due to licensing failure, and in one that crashes due to m-case checking failure.

- (40) a. She likes him.
 b. *It was seen she/her.
 c. *Him likes her.

The successful derivation of (40a) proceeds as follows. The DP *him* is inserted in the theme position with a licensing feature and an ACC m-case feature, the former obligatory, the latter one of many possible choices. The DP *she* is inserted in the experiencer position with a licensing feature and a NOM m-case feature. INFL is inserted with a licensing feature and a NOM feature, and *likes*³⁸ with a licensing feature and an ACC feature. Movement of *she* to Spec-IP allows INFL to

³⁸ Or, equivalently for my purposes, (small) *v* (Chomsky 1995).

check its licensing and NOM features against those of *she*, all of which delete (and erase). Movement (whether overt or covert) of *him* to the object checking position (for concreteness, Spec-*v*P) allows *v+likes* to check its licensing and ACC features against those of *him*, all of which delete. Other feature checking (e.g., of the D-feature of INFL, if this is used to implement the Extended Projection Principle) proceeds as in one’s favorite theory. Since no uninterpretable features are left unchecked, the derivation converges. The morphological component (not yet discussed) spells out the subject features (for argument’s sake, [prn, 3sg, fem, NOM]) as *she* and the object features ([prn, 3sg, masc, ACC]) as *him*.³⁹

(40b), traditionally labeled a Case Filter violation, is a licensing violation in the present terminology. Translating the familiar description, passive participles like *seen* are not licensers.⁴⁰ Thus, the only licenser in (40b) is INFL. Since there are two DPs that require licensing, *it* and the feminine pronoun, the latter cannot have its licensing feature checked and will therefore cause a crash at PF. Notice that the possible presence of m-case features on that pronoun is irrelevant: the sentence is equally impossible whether NOM or ACC is present in this position, and indeed, regardless of whether any element could have checked one of those features. (In particular, free insertion of an ACC feature on *seen* would in no way prevent the crash, illustrating that this free insertion does not overgenerate as far as Case Filter effects⁴¹ are concerned.)

(40c), on the other hand, could meet all its licensing requirements successfully. What is wrong with it is that the case feature of the subject DP cannot be checked, because it is ACC and the only potential case-checker for the subject, INFL, can check only NOM. Thus, this sentence also lacks a convergent derivation.

Let us now turn to an example where a successful derivation could include a case-less DP. I will suggest below that the second sentence of (41) might be such an example.

(41) What?? Me tell a lie?! Never!

³⁹ Chomsky (1995) notes that since uninterpretable features can have phonological consequences, after erasure they must still be visible to spell-out operations. He suggests that erasure actually converts syntactic features to phonological properties, but here I will assume that erased features are, by whatever mechanism, still visible as features at Morphological Structure, though invisible to the computational system and at LF.

⁴⁰ It does not matter here how this fact is explained. One could translate Baker, Johnson and Roberts’s (1989) classic analysis by stating that passive *-en* has a licensing feature, by virtue of being an argument, and since such features must be checked, it consumes the licensing feature of the verb *see*.

⁴¹ I use “Case Filter” as a shorthand for the machinery that implements the licensing requirement—see below.

I suggest that the subject of this sentence, *me*, is licensed but not case-marked in the syntax, because the flavor of INFL that occurs in such sentences (which I refer to as *Mad Magazine sentences* (MMs), following Akmajian 1984) cannot check any m-case. More precisely, *me* enters the derivation with a licensing feature to be checked, but receives no case feature (following the optionality of case-feature assignment); the MM INFL has the property of being able to check a licensing feature, but cannot check a case feature. (This property does not follow from anything I have said so far; assume for now that it is lexically stipulated.) A derivation involving these elements converges if *me* and INFL_{MM} enter a feature checking relationship that erases their licensing features. The question now arises, how is a DP lacking a case feature specification to be pronounced? Assuming as in Distributed Morphology that morphology is interpretive and not filtering, such a DP does not crash at Morphological Structure; rather, the morphology is obliged to find some way to spell it out. I will characterize the way it does so as using the *default case*, which I define as the form used to express a syntactically caseless DP (cf. Marantz 1991). I will argue below that the default case forms of pronouns in English are the ACC (or objective) forms. Thus, when confronted with a feature bundle such as [prn, 1sg], the morphology can spell it out only as *me*. Crucially, such an element neither crashes the derivation nor gets filled in by a *random* choice of feature (unlike the insertion of feature bundles feeding the syntax). Thus, there is no free variant of (41) with *I* replacing *me*.⁴²

I will have much more to say about the workings of default case shortly. For now, one crucial point should be emphasized. The existence in a grammar of a default case mechanism in the sense just defined in no way affects its ability to derive standard Case Filter effects. To make this perfectly clear, consider again (40b). Default case allows that if the postverbal DP should happen to lack an m-case specification in the syntax, the morphology would spell it out as *her*. However, this has no effect on the licensing requirements of that element, which fail to be met in (40b) because the need for licensing is obligatory on (at least argument) DPs, and no licenser for that DP is available in the sentence. Thus, the sentence will crash at LF, and default spell-out is irrelevant. The point is further brought home by observing that in (40b), as in all instances of traditional Case Filter violations, using a default ACC form yields no improvement over NOM (or any other) case—the ungrammaticality of such examples is unaffected by the choice of case form. In fact,

⁴² Of course, *I tell a lie?* is a valid utterance, but intuitively it has a different force from (41). MM sentences are syntactically constrained in ways to be discussed in §5.2.

things could not be otherwise: a notion of default case that *could* save Case Filter violations would render the Case Filter (or its functional equivalent in feature-checking terms) vacuous.^{43,44}

2.3 Agreement and varieties of case

It has long been observed that agreement relationships and case-marking relationships, at least between verbs and nominals, very often appear to be two sides of a unified coin. For example, the relationship between a subject and a verb might be reflected by the verb inflecting for features of the subject, or by the subject showing NOM case marking, or both. Conversely, in a clause where this subject-verb relationship is lacking, the verb might fail to inflect for features of the subject and the subject might fail to show the usual case marking; the latter is a superficially plausible description of the situation in (41) above. Indeed, many languages with rich enough nominal and verbal inflection show a particular case and a particular agreement system tracking the same argument, even independent of position, as with Icelandic NOM and number agreement (see §4.1.1). We can make this a deep principle by saying that there is a single syntactic relationship between a pair of elements that has case and/or agreement as its reflection. (I defer a discussion of potential counter-examples to this characterization until appendix 4.B.) I propose that this relationship involves the checking of particular features in a local (Spec-Head or Head-Head) configuration. I refer to this relationship as *Accord*.⁴⁵ Accord is not a synonym for feature checking, nor for the Spec-Head relationship: I allow that some features (e.g., D-features) can be checked in a Spec-Head relationship without this constituting an Accord relationship. That is, neither the structural configuration nor the checking of just any old feature(s) establishes an Accord relationship; Accord depends on particular features being checked, namely, a complex of phi-features⁴⁶ and case-features (42). I implement the connection between case and agreement by requiring that this complex must be checked as a unit: that is, there is no case-checking in the absence of phi-feature checking, nor vice-versa (43). (This position will be refined in chapter 4.)

⁴³ Thus, though I argue strongly in favor of a system of default case, there crucially can be no system of default licensing. (This is in contrast to Marantz 1991, where licensing is effectively for free if a DP can be interpreted in some fashion, except for a special statement about infinitival subject position.)

⁴⁴ The only coherent version of such a theory would have to limit the availability of default case to specific syntactic environments (e.g., if GEN were a default for the environment [_{DP} N _{DP}]). In fact, proposals of this latter sort have been made in the literature. In this thesis, the only notion of default case will be of the type proposed in the text, a purely morphological notion.

⁴⁵ Thanks to David Pesetsky for suggesting the use of this term.

⁴⁶ In this thesis I use *phi-features* to refer to person, number, and gender, but not case.

(42) Definition: *Accord* is a local feature-checking relationship in which both case and phi-features of a nominal projection are checked against those of a predicate-related head.⁴⁷

(43) *Accord Constraint*: A nominal projection and a predicate-related head cannot check each other's case- or phi-features except via Accord. That is, both sets of features, case and phi, must be checked at once.⁴⁸

I assume that, for canonical agreement between predicates and DPs of a clause, agreement is necessarily a reflection of Accord; other mechanisms by which agreement can arise (e.g., traditional examples of “concord”) will be discussed in chapter 4. Phi-features are interpretable for DPs but not for V and I; case is interpretable for neither category. This results in an important asymmetry: DPs can be specified for phi-features and converge even if those features can never check against any head, but V/I can only be specified for phi-features when these can be checked. Neither category can be specified for case features unless they can be checked. As a result, whenever we can argue that no Accord relationship is established between a pair of appropriate elements in the syntax, the appearance of case on the nominal member of that pair must reflect default case, and similarly, the appearance of person/number/gender inflection on the other member of the pair must reflect a default specification (typically, 3rd singular masculine or neuter). Returning once again to (41), I earlier stipulated that INFL_{MM} was not a case checker; if case checking is necessarily a reflection of Accord relationships, then the actual restriction will be that INFL_{MM} cannot enter an Accord relationship; this will also have the consequence that MM predicates themselves cannot show phi-feature contrasts, which is accurate (cf. (44)).

(41) What?? Me tell a lie?! Never!

(44) a. Me/Him cry?!
b. *Him cries?!

Nothing said so far relies on the presence or absence of a separate functional head AGR whose purpose is to mediate Accord relationships. Indeed, I can remain agnostic on the existence of AgrPs throughout most of this work. In principle, nothing excludes the Accord relationship from being established directly between, say, T and DP, or even V and DP. Notice that Accord is a purely syntactic notion; by contrast I will use (lower-case) *agreement* to refer to morphological markings that reflect this relationship. Crucially, an Accord relationship can obtain in the syntax

⁴⁷ By “predicate related head” I intend to encompass verbs, other contentful heads such as adjectives, and the functional heads (e.g., INFL) with which they are associated.

⁴⁸ I assume this constraint should follow from a suitable theory of features that would make them constitute an inseparable “bundle” in the relevant way.

without *any* overt realization: a language where verbs do not inflect for phi-feature distinctions, and DPs do not inflect for case distinctions, could nonetheless have Accord relationships in its syntax.

The discussion of case/agreement correlations so far has tacitly limited itself to what are often described as structural cases, in contrast, for example, to “quirky” cases of the Icelandic variety. Since the terminology for various types of case is often used without definition in the literature, I shall spell out what I intend by the terms. Note that all the kinds of case listed below are examples of m-case.

Structural case: A case checked on a structural position without there necessarily being any theta-relation between the checker and the checkee, hence independent of the choice of a particular predicate or other lexical head. For example, the canonical subject and object cases are structural cases. Passive and raising constructions show that subject case can be checked (presumably by INFL) in one clause on an element theta-marked in another (lower) position or clause. ECM shows that the object case can be checked (whether by V, v, AgrO, or some combination of these) on an element theta-marked in a lower clause. Other possible properties of structural cases will be covered in chapter 4. In principle, there is no reason why there need be a *unique* structural position associated with each structural case, so long as a feature-checking (by hypothesis, Accord) relationship can be established between relevant features of the structural case head and the DP checkee. (My analysis of Icelandic will take advantage of this possibility.)

Inherent case: A case checked on a particular argument of a particular head in conjunction with theta-role assignment by that head (cf. Pesetsky 1982). For example, the experiencer argument of numerous verbs in Icelandic surfaces with DAT case, regardless of its syntactic position, e.g., after having undergone ECM and passivization in a higher clause. The complement of prepositions in German receives a case determined partly or entirely by the particular preposition involved, e.g., *nach* ‘to(wards)’ always checks DAT, *durch* ‘through’ ACC, etc. Even though these P complements cannot be separated from the P head and thus have no opportunity to show case preservation under movement,⁴⁹ the fact that their distribution is not predictable based on syntactic position rules out an analysis as structural case.

It is important to note that there is no requirement that a *particular* theta role correlate with a *particular* m-case in order for inherent case assignment to be diagnosed. For example, Andrews (1982) and others have argued for Icelandic that there is no theta-role that all DAT arguments have

⁴⁹ David Pesetsky notes that other languages may afford others ways of testing for inherent case status, e.g., whether an ACC becomes GEN in a “genitive of negation” environment in Russian (Pesetsky 1982, Babyonyshev 1996).

in common, nor is there any one case that all Experiencers (or exemplars of most any other theta-role) share. The connection between m-case and theta-role assignment is simply assumed in such situations because theta-roles are one property guaranteed to depend on a local head and guaranteed to be preserved under movement.

Inherent cases are sometimes subdivided into *quirky* and *non-quirky*. Quirky inherent cased DPs behave as expected under the separation of m-case and licensing: they have the same A-movement requirements as structurally case-marked DPs, evidently needing to move to a licensed position. Icelandic quirky subjects are an example of this class (cf. Levin & Simpson 1981). Non-quirky inherent cases, on the other hand, must get their case in the domain of their case assigners, and then remain in that domain, as with genitive complements to nouns in English (Chomsky 1986). In some instances, it is difficult to determine which type of inherent case one is dealing with. Many inherent cases are assigned by prepositions, but it seems that prepositions are generally also licensers, so the fact that their complements need not move for further licensing is unsurprising. (Pseudo-passives of the English type, e.g., *This bed was slept in*, seem to support this assumption, since prepositions can apparently lose their licensing property just as verbs can.)

There are also examples of apparent adjunct bare DPs in rich case-marking languages that seem not to have an overt case assigner. This type of case marking is sometimes also referred to as *semantic case*, particularly when there is a close fit between the choice of case and the meaning of the adjunct. For instance, in Icelandic a DP like *dögum saman* ‘days(DAT) together’ receives a duration interpretation (“for days at a time”) and could be referred to as exemplifying the “semantic DAT of duration.” The presumption behind this label would seem to be that the m-case itself is determining the meaning, perhaps even contributing the theta-role to the DP. It is not obvious how this claim could be implemented given current assumptions, in particular, the non-interpretable nature of m-case. Non-interpretable implies both that semantic interpretation cannot see the case features and that they must somehow be checked and erased before LF. Invoking a null theta-assigning and case-checking head for such situations (cf. Emonds 1985) solves the formal problems, though one would obviously like to have some independent evidence for it in particular cases.

It is unclear, and a point of some controversy, whether inherent cases are assigned in the same way as structural cases. For the languages that will be the focus of this thesis, the answer seems to be No. That is, structural case seems to correlate with agreement while quirky case seems

to block agreement; a verb does not agree with arguments to which it assigns a quirky case.⁵⁰ Without committing as to whether this is a universal, a way of implementing the generalization where it holds is to say that quirky case assignment does not (in fact, cannot) occur in an Accord relation, i.e., while quirky case assignment might happen by Spec-Head feature checking (or not), there is no concomitant phi-feature checking on the head determining the quirky case, nor can there be any such checking after a quirky case has been assigned. Why this should be so has been a topic of considerable discussion recently; see chapter 4.

Default case: A case used by the morphological component to spell out a DP that checks neither structural nor inherent case in the syntax. Details of how this works will be explored in §§2.5–2.6. By definition, a default case feature cannot be assigned in the syntax; indeed, it cannot have any effect in the syntax, since it does not exist there. As noted, by definition a default case cannot co-occur with any other kind of case on a given DP.

Less obvious is the question of whether a structural and a quirky case could co-occur, and whether multiple structural cases could co-occur.⁵¹ I argue that a combination of quirky and structural cases is impossible, a conclusion that follows from previous assumptions: if structural case must be checked in an Accord configuration, and quirky cases block Accord for whatever reason, then the two cannot cooccur. (I argue in appendix 4.A that the most notorious apparent counter-example, co-occurrence of DAT and NOM on Korean subjects, is not a genuine counter-example.) As for multiple structural cases, the only thing that would seem to rule them out under present assumptions would be a stipulation, e.g., that DP contain exactly one m-case slot. While this would not be an unnatural stipulation, I explore the possibility that there is no such restriction, and that multiple structural case assignment is possible.⁵² Unfortunately, I know of no clear examples where multiple structural case features are morphologically realized on a single DP, though I will give some theory-internal circumstantial evidence in chapter 4 that the situation does arise.⁵³

⁵⁰ David Pesetsky asks why we would suspect a DP of having quirky case in the first place, if we saw it triggering agreement. The answer is that we would see its case marking fail to alternate as a function of syntactic position, and we would see the particular choice of case vary with the particular verb that theta-marks it.

⁵¹ I assume that whatever implements the θ -Criterion will generally prevent the potential for multiple quirky cases from arising. Though one could imagine pathological exceptions, e.g., involving secondary predication, I am not aware of any attested instances of this type.

⁵² As a result, I assume that insertion of m-case features on DPs may optionally iterate.

⁵³ There are well-known examples of apparent multiple case affixes, e.g., in Imbabura Quechua (Lefebvre and Muysken 1988), but it has been suggested (e.g., Ken Hale, p.c.) that only one of these cases is *assigned* to the DP in question, the other being *spread* to all members of an embedded clause by some sort of concord mechanism.

2.4 Why separate case and licensing?

A goal of subsequent chapters will be to provide new arguments for the separation of licensing and case; here I review some existing arguments from the literature that hopefully give the proposal some initial plausibility and appeal. (For similar points, see Massam (1985), Cowper (1988), Belletti (1988), Freidin and Sprouse (1991), Harbert and Toribio (1993), Holmberg and Platzack (1995).) All three of these arguments are based upon data from Icelandic.⁵⁴

1) Receiving an m-case does not satisfy the needs of a DP. If the Case Filter requirement were simply that a DP receive an m-case feature from some head that assigns such features, then quirky arguments in Icelandic ought to have their licensing requirements satisfied in their theta-position, since that is where (everyone assumes) quirky case features must be assigned. (Otherwise, it would be hard to keep them lined up with their corresponding theta-roles.) But, as has been observed by many authors (e.g., Andrews 1990b [1976], Thráinsson 1979, Zaenen et al. 1985, Sigurðsson 1989, Jonas 1995a), quirky-case DPs in Icelandic have exactly the same licensing requirements as structurally-cased DPs. In particular, all argument DPs must move to the same structural positions: specific subjects must raise in front of the finite verb (45, 46),

(45) a. *Það höfðu verið seldir stólarnir á uppboðinu.
there had(3pl) been sold the-chairs(N) at the-auction

b. Stólarnir höfðu verið seldir á uppboðinu.
the-chairs(N) had(3pl) been sold at the-auction

(46) a. *Það hafði verið stolið stólunum á uppboðinu.
there had(3sg) been stolen the-chairs(D) at the-auction

b. Stólunum hafði verið stolið á uppboðinu.
the-chairs(D) had(3sg) been stolen at the-auction (Sigurðsson 1992: 13–14)

nonspecific transitive subjects immediately follow the finite verb (47),⁵⁵

⁵⁴ Noam Chomsky (p.c.) points out that all three of the arguments presented below crucially involve the presence of quirky-case DPs. He suggests that what is actually being shown here is that inherent case has two components, assignment and realization—as in Chomsky 1986, except that case realization for quirky inherent cases need not happen within the domain of their case-assigner. (That is, denying his Uniformity Condition.) My proposal embodies the claim that what is characterized in Chomsky 1986 as “structural Case” also has two components, and further that the “realization” (licensing) component behaves identically for quirky and structural cases. Evidence that structurally-cased DPs have two distinct requirements, case and licensing, is harder to come by than for quirky-cased DPs. However, facts from Belfast English (discussed in §4.1.4) can be taken as such evidence, since overt subject DPs are allowed to surface even when they are not NOM.

⁵⁵ There are some examples where the subject is apparently in its base position in VP, to the right of a shifted object:

- (47) a. Það hefur þjófur stolið hjólinu mínu.
there has a-thief(N) stolen bicycle(D) mine(D)
 ‘A thief has stolen my bicycle.’
- b. Það hefur einhverjum þótt Ólafur leiðinlegur.
there has someone(D) thought Olaf(N) boring(N)
 ‘Someone found Olaf boring.’ (Zaenen et al. 1985)

indefinite intransitive subjects have two placement options (48–50),

- (48) a. Það hafði bátur sokkið um nóttina.
there had a-boat(N) sunk in the-night
- b. Það hafði sokkið bátur um nóttina.
there had sunk a-boat(N) in the-night
- c. Það hafði þremur málfræðingum kólnað.
there had three linguists(D) got-colder
- d. Það hafði kólnað þremur málfræðingum.
there had got-colder three linguists(D)
- (49) a. Einhver leikari var kosinn í forsetaembættið.
some actor(N) was elected to the-presidency
- b. Það var kosinn einhver leikari í forsetaembættið.
it was elected some actor(N) to the-presidency
- (50) a. Nokkrum strákum var bjargað af fjallinu.
some boys(D) was rescued from the-mountain
- b. Það var bjargað nokkrum strákum af fjallinu.
it was rescued some boys(D) from the-mountain
 (adapted from Andrews 1990a: 191–192)

definite direct objects can move out of VP under certain conditions (51–54),

- (51) a. Jón keypti ekki bókina.
John(N) bought not the-book(A)
- b. Jón keypti bókina ekki.
John(N) bought the-book(A) not. (Holmberg and Platzack 1995: 144)
- (52) a. Siggu líka ekki bækurnar.
Sigga(D) like-pl not the-books(N)

-
- (i) Það stungu smjörinn stundum einhverjir stúdentar í vasann.
there put the.butter sometimes some student in the.pocket
 ‘Sometimes some students put the butter in their pockets.’ (Jonas 1995a)

See Jonas 1995a and references there for discussion.

- b. Siggu líka bækurnar ekki.
Sigga(D) like-pl the-books(N) not (Holmberg 1994: 53)
- (53) a. Sigríður hjálpaði þessu barni ekki.
Sigríð(N) helped this child(D) not
- b. Sigríður saknaði þessa vinar ekki.
Sigríð(N) missed this friend(G) not
- c. Sigríði líkaði þessi bók ekki.
Sigríð(D) liked this book(N) not (Jonas 1995a)
- (54) a. Það borðuðu margir strákar bjúgun ekki.
there ate many boys(N) the-sausages(A) not
 ‘Many boys didn’t eat the sausages.’ (Jonas and Bobaljik 1993)
- b. Það líkaði morgum stúdentum þetta namskeið ekki.
there liked many students(D) this course(N) not
 ‘Many students didn’t like this course.’ (Harley 1995: 186)

and embedded infinitival subjects can shift across matrix adverbials (55, 56).

- (55) a. Ég tel hann í barnaskap mínum hafa keypt bíl.
I believe him(A) in foolishness my to-have bought a-car
- b. Ég tel honum í barnaskap mínum hafa verið hjálpað.
I believe him(D) in foolishness my to-have been helped
- c. Ég tel sjúklinganna í barnaskap mínum hafa verið vitjað.
I believe the-patients(G) in foolishness my to-have been visited
 (Andrews 1990b: 174)
- (56) Mér virðist Haraldur í barnaskap mínum hafa gert þetta vel.
me(D) seemed Harald(N) in foolishness my to-have done that well
 ‘Harald seems to me in my foolishness to have done that well.’ (Andrews 1982: 483)

Thus, having m-case does not satisfy the licensing requirement of a DP, so the two notions cannot be equated.

2) Passive does not absorb m-case. In Icelandic as in English, DP complements of passive verbs are generally not licensed, and this is traditionally attributed to the “absorption” of case, perhaps by the passive morpheme (cf. (57a vs. b)).

- (57) a. Við kusum stelpuna.
we(N) elected(1pl) the-girl(A)
- b. Stelpan var kosin.
the-girl(N) was(3sg) elected(N-fem-sg) (Sigurðsson 1992: 2)

If m-case were the relevant notion, then since quirky arguments in Icelandic have the same distribution under passive as nonquirky ones, they ought to have their m-case absorbed, but in fact, it is preserved under passivization (58, 59).⁵⁶

- (58) a. Við vitjuðum sjúklinganna.
we(N-1pl) visited(1pl) the-patients(G-masc-pl)
- b. Sjúklinganna var vitjað.
the-patients(G-masc-pl) was(3sg) visited(dflt) (Andrews 1990b: 170–171)
- (59) a. Þeir björguðu stúlkunni.
they(N) rescued the-girl(D)
- b. Stúlkunni var bjargað.
the-girl(D) was rescued (Andrews 1982: 466)

3) PRO receives m-case. (In this respect, it is no different from any other DP.) In earlier work, it was said that PRO could not receive case (Bouchard 1984, Sportiche 1983, Koster 1984, etc.), perhaps because it could not be governed (cf. Chomsky 1980, 1981). In Chomsky and Lasnik 1993 it is proposed that PRO receives a special “null” case. Under either of these proposals, we would expect PRO not to have the same case features that overt DPs have, yet Sigurðsson (1991) has argued that it does—PRO can have either structural (60a) or quirky m-case (61a–63a) features, as shown by overt case concord on floated quantifiers and secondary predicates associated with it.

- (60) a. Strákarnir komust allir í skóla.
the-boys(N) got all(N-masc-pl) to school
 ‘The boys all managed to get to school.’
- b. Strákarnir vonast til að komast allir í skóla.
the-boys(N) hope for to [PRO(N)] get all(N-masc-pl) to school
- (61) a. Strákana vantaði alla í skólann.
the-boys(A) lacked all(A-masc-pl) in the-school
 ‘The boys were all absent from school.’
- b. Strákarnir vonast til að vanta ekki alla í skólann.
the-boys(N) hope for to [PRO(A)] lack not all(A-masc-pl) in the-school
- (62) a. Strákunum leiddist öllum í skóla.
the-boys(D) bored all(D-masc-pl) in school
 ‘The boys were all bored in school.’

⁵⁶ However, in Russian, passivizing a quirky case complement is simply impossible. I assume this is *not* because of an incompatibility between passive and quirky case, but because the resulting clause with case preservation would violate some language-specific requirement (see Sigurðsson 1992 for a proposal).

- b. Strákarnir vonast til að leiðast ekki öllum í skóla.
the-boys(N) hope for to [PRO(D)] bore not all(D-masc-pl) in school
- (63) a. Strákanna var allra getið í ræðunni.
the-boys(G) was all(G-masc-pl) mentioned in the-speech
 ‘The boys were all mentioned in the speech.’
- b. Strákarnir vonast til að verða allra getið í ræðunni.
the-boys(N) hope for to [PRO(G)] be all(G-masc-pl) mentioned in the-speech
 (Sigurðsson 1991: 331–332)

(For a summary of similar data and arguments from Ancient Greek and Latin, see Vanden Wyngaerd 1994, §5.2.) Thus, the restriction of PRO to certain kinds of positions cannot be attributed to case, it must be due to some other factor, licensing under my treatment.

In these three sets of facts, Icelandic shows us that m-case certainly is not *always* sufficient for satisfying the Case Filter, and absence of licensing does not entail absence of m-case. In fact, I argue that we actually find a *double* dissociation between licensing and case: not only are there case-marked unlicensed positions as in Icelandic, there are also licensed non-case-marked positions, namely, precisely those where default case arises, as argued in section 2.6. Thus, we are clearly dealing with two distinct notions. The fact that they sometimes pattern together will follow from the fact that the same or closely-related heads are generally responsible for case-marking and licensing the same DP, though not always, as Icelandic shows particularly clearly.

2.5 Syntax and morphology

As already mentioned in chapter 1, I assume a late insertion theory of morphology along the lines of Distributed Morphology (DM). I further assume full specification of features in the syntax, but underspecification in vocabulary entries. I assume vocabulary entries contain only the feature specifications necessary to ensure their insertion in the correct environments. In particular, if a syntactic feature distinction is completely neutralized in the morphology, then no vocabulary entry for English makes this distinction. A basic tenet of DM and related theories is that the most highly specified vocabulary item that matches the features of a syntactic node is the one that must be inserted at that node. DM further claims that a default item is always available for insertion in any given slot; if there is no overt item completely lacking in feature specifications, a null default is always available. This property implements the non-filtering nature of morphology: no derivation is blocked because the morphology fails to find any way to spell out a representation.⁵⁷

⁵⁷ For purposes of this thesis it would suffice to assume that *inflectional* morphology is non-filtering.

Although I assume that syntactic case features are fully specified, I crucially do not exclude the possibility of (exactly one kind of) underspecification, namely, the complete absence of case features. There are in principle two ways for a morphological component of the kind I have described to deal with such a DP—by assumption, it must be dealt with; it cannot cause a crash. These approaches are familiar from underspecification theories in phonology. One will be referred to as *feature-filling*: a representation that comes out of the syntax without a case feature will be “filled up” by a feature-filling rule prior to any other morphological operations, so that morphology proper really only deals with fully-specified items. Continuing the analogy to phonology, the feature value supplied by such a rule would be thought of as the unmarked value for the feature. A second approach, *default spell-out*, would take advantage of the default mechanisms already described and allow the least specified member of the relevant paradigm to spell out the DP without it ever receiving a value for the case feature.

These two approaches are not notational variants: they make different empirical predictions. The feature-filling account predicts that DPs lacking case in the syntax will be spelled out uniformly in the same manner as one of the syntactically specified cases. For example, if the feature-filling rule supplies the value ACC, then DPs in default case environments will show exactly the same case paradigm as DPs in syntactic ACC environments (e.g., direct objects of verbs). Further, there is not expected to be any correlation between what the case paradigms of the language look like and which case is the default case in that language. On the other hand, the default spell-out account predicts that the form of a caseless DP must be the most general, least specified member of the relevant paradigm in a given language,⁵⁸ and it predicts that which case this looks like could vary across the paradigm. For example, if the most general masculine case suffix were the ACC suffix, but the most general feminine case suffix were the NOM suffix, then masculine caseless DPs should look like ACC and feminine ones like NOM, despite occurring in exactly the same syntactic environments. In general, then, the feature-filling approach predicts that the shape of the case paradigms in a particular language has no effect on its default forms, while the default spell-out approach predicts that those forms should be highly dependent on the paradigm. For empirical reasons I adopt the feature-filling approach.

To illustrate briefly both the predictive appeal of default spell-out and the problems that mitigate against it, consider English and German, obviously closely related but differing in that default case forms in English are ACC and in German are NOM. (Evidence for this can be found in section 3.2.3.) Like German, English used to have a contrast between DAT and ACC case forms,

⁵⁸ The most general item is the one that shows up in the greatest number of contexts, where a context is defined as a fully specified feature matrix.

which was lost several centuries ago; many of the present-day objective forms were historically the DAT forms. Suppose, for purposes of illustration, a universal syntactic contrast among (at least) NOM, DAT, ACC and GEN, and consider the English paradigm as filling out that space. We will find complete syncretism between DAT and ACC, but only partial syncretism between NOM and ACC, and no syncretism between NOM and GEN. Thus, the most general, least specified vocabulary entries for English case forms will be those that are used in DAT and ACC environments. Under a default-spellout approach, this would correctly derive ACC as default in English. In German, on the other hand, there is no complete syncretism between any pair of the four cases.⁵⁹ Furthermore, the greatest degree of syncretism among cases occurs for different cases in different person/number parts of the paradigm, as exemplified in (64).

(64)

		<i>3sg-fem</i>	<i>1pl</i>
a.	NOM	sie	wir
b.	ACC	sie	uns
c.	DAT	ihr	uns

Though I do not go through all the details here, there seems to be no way to make the NOM forms fall out as least specified across the German paradigm. Thus, facts force us to adopt a feature-filling account, with the consequence that it is an accident that ACC is the default in English. Opting for default by feature filling also means that the child has something extra to learn about default case beyond learning the paradigms; in chapter 3 we will see explicitly how learning the default case from positive evidence might be accomplished.

Since the possibility for multiple case features on a DP has been raised above, I should also discuss how the morphology treats such DPs. In principle, nothing special need be said about them. Most languages allow only a single case morpheme to be realized on any one (piece of a) DP; vocabulary insertion as described above is guaranteed to make a choice of which feature to realize, based on the order of specification for the available morphemes. For languages that do seem to allow multiple case markings on one DP, each feature can presumably be spelled out independently. Again, the general point is that such situations are in no danger of causing the derivation to crash in the morphology.

One further point about the availability of default case should be stressed: it obscures the underlying syntactic features. Once we admit it as a possibility, we can no longer conclude that a particular case marking on a DP reflects the corresponding case feature in the syntax, if that form happens to look identical to the default form. In such instances, we must argue from other facts whether or not we are dealing with a syntactically featureless DP.

⁵⁹ For ease of exposition, I limit discussion to pronoun forms.

1. The real me/*I is/*am finally emerging. Lucky me/*I gets/*get to apply for a Green Card. How much would us/?we with insurance have to pay? (modified pronoun)

They have in common that ACC is the only grammatical case form,⁶⁵ and that the DP in question either is a subject or is related to subject position by coreference or predication. That is, these are positions where we might have expected to find NOM (or GEN) case—superficially at least, none of these DPs are complements to prepositions or verbs (with the possible exception of (65i)). The question we are trying to answer is the following: Is there some plausible assigner or set of assigners of ACC case in all of these environments, such that ACC makes sense given what we already know about case assignment in English, or is their only common feature the *absence* of any independently motivated case assigner, such that their ACC case properly deserves to be treated as a default? The logic of the argument is such that, even if several of these cases *can* be elegantly treated as instances of ACC being *assigned*, for those that remain, one must either adopt the default analysis or invent ad hoc case assigners. Notice that, for any DPs that lack an assigner, nothing specific about their environment needs to be said in order for default case to apply—it will happen automatically. Thus, the burden of proof lies rather heavily on the side of a non-default analysis to avoid arbitrary stipulations. That said, let us consider the examples one by one. I first examine environments where syntactic checking of ACC is conceivable, progressing to those where default ACC seems the only reasonable analysis.

a) *Mad Magazine sentence*: What? Her/*she cheat on you? Never!

Since this construction will be a focus of attention in §5.2, I do not discuss in it full detail here. A potentially relevant property of it is that the verb fails to show either tense or agreement contrasts. While we cannot immediately conclude anything from this, given my assumptions about morphology, it is at least possible that INFL in this kind of sentence lacks some of the features of finite clauses, in particular, phi-features, so that the absence of case assignment here would not be unexpected. Of course, there are other alternatives. The kind of INFL in (65a) could be a kind that assigns ACC to its subject position. Alternatively, the DP could be some sort of left-dislocation, in which case it would reduce to examples like (65f). However, Akmajian (1984) argues against that possibility, on the grounds that quantificational DPs that cannot be topicalized can nonetheless be subjects of MMs:

(66) What? No one eat this wonderful cake?! Impossible!

⁶⁵ Or at least, ACC is clearly preferred; there seems to be considerable variation in how bad NOM sounds in some of these environments, a point I return to shortly.

b) *Argument small clause*: Her/*She in New York is what we must avoid.

Here, INFL appears to be absent from the constituent of which *her* is the subject, though one could challenge that assumption (cf. Heycock 1995). A topic analysis of *her* seems implausible in this position. An alternative to a default case analysis might be to suggest that the small clause, being clause-like, does not need (perhaps cannot receive) case itself, and so the case from INFL of the main clause can be “transmitted” to the SC subject. But even if one were to accept such a baroque analysis, it would lead us to expect *NOM* case on the small clause subject, precisely what we do not find. Furthermore, I am not aware of any evidence that argumental small clauses do not need case: in terms of “Case Resistance” environments (Stowell 1981), they pattern with DPs, not clauses:⁶⁶

- (67) a. We expected [that she would be in New York].
 b. We expected [her in New York].
 c. It was expected [that she would be in New York].
 d. *It was expected [her in New York].
 e. [Her in New York] was expected.
 f. We are excited (*about) [that she is on Broadway].
 g. We are excited *(about) [her on Broadway].

Thus, the best alternative to default ACC would be to claim that some functional element *within* the small clause checks ACC.

c) *Adjunct small clause*: Him/*He tired, they decided to camp for the night.

Here, unlike in b), transmission of case from the matrix INFL is not available, since it already has a subject. However, one might observe that there is a variant of (65c) with an overt preposition: *With him tired*, Thus, one could imagine a “null *with*” assigning ACC in (65c). This seems rather unsatisfactory, in that it leaves us to wonder why *with* cannot be omitted in other adjunct environments if it has a null variant, e.g., *I walked to the park *(with) Mary*.^{67,68} Another

⁶⁶ In my analysis these are facts about licensing, not case, anyway.

⁶⁷ A possible response might be that *with* in the variant of (65c) is semantically empty, while it has some content in the example just given. However, as shown by Stump (1985), the presence versus absence of *with* in such adjuncts actually has effects on their interpretation. Thus, the null *with* cannot be exactly a phonologically null variant of overt *with*, and the proposal again looks ad hoc.

⁶⁸ There is an odd use of conjoined constituents in English that probably belongs either under the heading of small clauses, gapping, or ellipsis, exemplified in (i). Again, the subject is ACC:

- (i) How could you be so spiteful, and her your best friend?

possible counterargument to a null preposition/Comp case assigner is that such elements (e.g., the *for* of infinitival *for-to*) are generally obligatory sentence-initially in English, presumably because their empty variants require a higher licenser (Stowell 1981).⁶⁹ For more on the nature of adjunct-introducing *with*, see appendix 2.A.

d) *NP-ing gerund*: Him/*He liking beans surprised them. Him/*He liking beans, they bought some.

This construction looks very similar to the small clause examples in b) and c), except that here it seems more plausible to say that a special INFL is present in the gerund, perhaps the *ing* morpheme itself (e.g., Reuland 1983). Again, one would need a theory in which gerund INFL has something in common with the other instances of alleged ACC-assigning INFLs in order to maintain a unified account.

e) *Predicate nominal*: It was us/*we. There's me/*I. The murderer is her/*she.

This example is rather different from those considered so far, in that the ACC DP is clearly a constituent of a finite clause and is not itself in a subject position.⁷⁰ Indeed, given just this one fact, one's first inclination is to say that *us* is syntactically a direct object being case-marked ACC by the verb *is* in the canonical fashion. That might well be the correct analysis (as argued by Maling and Sprouse (1995)), but there are at least two reasons to question it. First, in closely related languages such as German, we find NOM case in this position, which suggests that the copular verb is not necessarily an objective case assigner, and in many other languages we find a special

Quirk et al. (1985) cite the following examples from texts, observing that one sometimes finds a NOM pronoun in these positions, but ACC is more common.

- (ii) a. They left without a word, and he so sensitive.
 b. Not a gentleman, eh? And him with his knighthood too.
 c. Fancy now, ... and him such a nice young fellow too. (cited in Quirk et al. 1985: 844)

⁶⁹ Laurençot (1994) uses this reasoning to argue for Russian that overt DAT subjects in infinitival subject clauses like (i) cannot be getting DAT case from a null Comp.

- (i) Ivanu zit' odnomu — nje interesno.
Ivan(D) to.live alone(D) not interesting
 'For Ivan to live alone would not be interesting.' (Laurençot 1994: 21)

⁷⁰ Another possible example of default ACC in predicate nominal position could be the following:

- (i) Who's to take care of him if not me/*I?

It is not obvious what the structure of the *if* constituent is, but one possibility would be that it is an elided form of ... *if it is not me*.

case other than the direct object case here, or we find case matching between subject and predicate nominal (see §3.2.2.4 for details). Second, NOM case is an option in this position in prescriptively-governed speech (see discussion below). The possibility of NOM would be surprising if *be* really assigned ACC, since NOM is completely impossible on the complement of any other verb.

f) *Left dislocation/appositive*: Me/*I, I like beans. Judy thinks that the best student, her/?*she, should be president.

Since these sentences already contain an overt subject assumed to be case-marked by INFL, INFL does not seem like a good candidate for the ACC assigner. A plausible candidate for the first kind of example would be some sort of null preposition, perhaps analogous to *as for*. It is not obvious that this can be made to work, however. First, bare DP left dislocations (LDs) in English seem to have a requirement for a resumptive element that *as-for* topics do not (68); why should covertness of a hypothesized licensing preposition in (68c) induce this effect?

- (68) a. Me, I like beans.
 b. As for me, Tuesday is fine.
 c. *Me, Tuesday is fine.

Another argument against appealing to null prepositions for this and several of the other potential default case environments is that other languages such as German show default NOM in the same configurations. (See §3.2.3 for more details.)

- (69) Ich, ich mag Bohnen.
I I like beans

However, German has no NOM-assigning overt prepositions, so an appeal to a NOM-assigning null preposition would seem very ad hoc.

g) *Ellipsis*: Me/*I too. Me/*I neither. Me/*I next!

This construction appears to involve omission of INFL and an antecedent VP, and perhaps insertion of a pro-form. That the absence of INFL is relevant is shown by the contrast between (65g) and *I/*me do too*. Thus, INFL is not merely a silent *do*, it is either absent or featurally distinct from that of a finite clause. If some sort of INFL is still present, it could in principle be an ACC assigner. Alternatively, *me* could be a topic case-marked by a null preposition, as discussed under f) above, although one would need to explain why it is not intonationally set off as an *as-for* topic would have to be.

h) *Subject of understood predicate*: Everyone but them/*they gets on John's nerves. Students smarter than her/*she get no scholarship. The Jets did that, not us/*we.

Again, the ACC pronouns here are subjects, at least semantically, but there is no INFL associated with them. One might treat the ACC form *them* in the first example as being assigned by *but*, which might be argued to be functioning as a preposition rather than as a conjunction in this environments. Such an analysis seems much harder to motivate for *than* and *not*, however. It is possible that these examples can be assimilated to the prior examples of “ellipsis.”

i) Bare DP reply to question: Who did it?—Me/*I.

As in g), (65i) contrasts minimally with an alternative containing INFL: *I/*me did*. Indeed, (65g) and (65i) could involve the same structure. Notice, however, that here a null topic-marker analysis becomes highly implausible, since by definition the answer to a *wh*-question is not semantically a topic, and no paraphrase beginning with *As for me...* is possible. This leaves the option of a null INFL (taking a null VP complement, presumably) that case-marks its subject. It is hard to see how such a proposal could be falsified, but there seems to be no independent support for it either.

j) *Gapping*: We can't eat caviar and him/*he (eat) beans.

In the relevant cases of gapping, INFL material is gapped (and optionally the verb as well), with the modal of the first clause semantically taking scope over both clauses (Siegel 1987, Johnson 1996). What remains in the second clause resembles a Mad Magazine sentence in that there is a modal meaning not overtly expressed, apparently taking an uninflected VP complement, as noted by Siegel (1987).⁷¹ However, using INFL as the ACC assigner here seems more problematic than for MMs like (65a), since this would entail some INFL material unique to the second clause, whereas semantically the content is fully expressed by *can't* in the first clause (and indeed, is not paraphrasable by inserting overt *can't* in the second).⁷² Another alternative that has been

⁷¹ In a different context, Sobin (to appear) discusses what might also be an example of gapping resulting in a default case subject, this time involving omission of infinitival *to* plus the following verb:

(i) For Mary to be the winner and me/*I the loser is unfair.

Of course, here one might also imagine that *for* is assigning ACC to the subjects of both conjuncts.

⁷² Furthermore, Siegel (1987) notes that when INFL is taking scope within each conjunct, NOM is possible again. Thus, the following minimal pair of sentences have very different meanings.

suggested for this construction is that the conjunction assigns ACC (Johnson 1996, citing a suggestion by Zoerner), parallel to what has been suggested for (65k) in the literature (see below). Again, it is hard to know how to falsify this, beyond noting that in (65j), unlike (65k), the DP in question is not one of the conjuncts, but rather, is contained inside the second conjunct. Further, one can construct examples where an adverb intervenes between *and* and the subject, showing that there is no case adjacency effect between these elements:

(70) WE can't eat caviar and then HIM beans.

k) *Conjoined subject*: Us and them/*We and they are gonna rumble tonight.

English seems to be an unusual language in that none of a set of conjoined DPs needs to take the same case marking that a simple DP in the same syntactic position would. Thus, unlike many of the preceding constructions, this phenomenon seems to bear little resemblance to anything we are familiar with elsewhere in language. Of course, as already noted, one could suggest that the English conjunction for some reason is a case assigner, assigning ACC to each of its daughters. But this will not help with any of the other instances of ACC in (65). Furthermore, we must again puzzle over the possibility of prescriptive expressions such as *you and I*⁷³—if *and* were really an ACC assigner, such expressions ought to sound thoroughly impossible.⁷⁴ What has been more often said about conjunction in English subjects is that it creates a configuration in which the daughter DPs are not themselves directly specifiers of INFL, and only Spec-IP itself can check NOM case. This idea will be brought more in line with known facts shortly.

It has sometimes been suggested that case in conjoined DPs in English does resemble the situation in other languages. In particular, there are languages where only *one* of a string of coordinated DPs has the expected case (71a) or triggers the expected agreement (71b) (see Borsley 1994 for a survey).

(i) a. WE can't eat corn and SHE beans. (= We can't eat corn and she can't eat beans.)
 b. WE can't eat corn and HER beans. (= We can't allow a situation where we eat corn and she eats beans.)

Siegel herself suggests a default case treatment of the ACC subject.

⁷³ I do not take the possibility of conjoined NOM pronouns to be a genuine option for any grammar of English. As Maling and Sprouse (1995) point out, prescriptive dogma seems not to have made it into our use of plurals, which concomitantly sound quite ridiculous in this environment: **we and they*, **she and they*, etc. (cf. Sobin to appear).

⁷⁴ See below for why I do not think these prescriptive alternatives argue against the default case analysis.

- (71) a. [Io e te] andremo insieme a Roma. [Italian]
I-NOM and you-ACC will.go.1pl together to Rome
 (Borsley 1994: 223, citing Renzi 1988: 537)
- b. Půjdu tam [já a ty.] [Czech]
will.go.1sg there I and you
 ‘I and you will go there.’ (Borsley 1994: 222, citing Trávníček 1949: 433)

English examples like *She and him will drive to the movies* might appear to be behaving the same way. However, this will not help with the equally possible *Him and her, Me and you*, etc. (as noted also in Hudson 1995).

l) Modified pronoun: The real me/*I is/*am finally emerging. Lucky me/*I gets/*get to apply for a Green Card. How much would us/?we with insurance have to pay?

Most modified pronouns in English must be ACC, not NOM, even in subject position, and they trigger 3rd person agreement (cf. Klima 1964). With post-pronominal modification, some speakers find both NOM and ACC acceptable (72).

- (72) a. We/Us two left.
 b. We/Us linguists are a strange lot.

(See Emonds 1976 for the claim that NOM here is simply a prescriptive artifact. I disagree with this, in part because, to my ears and those of some others I have asked, the NOM examples in (72) do not feel like part of the same “artificial” register that things like *It is I* and *He and I* do.)

I propose that what the facts in (65l), (72), and the conjunction facts discussed above all boil down to is that English lacks case concord within DP. More specifically, in English an m-case feature of a DP is necessarily a feature of its head D, and (unlike in languages like German) is not “copied” or “percolated” to other elements of the DP (cf. Emonds 1986). This will derive the lack of NOM case on conjoined pronouns if we claim that neither of the pronouns heads the conjoined DP.⁷⁵ The examples in (65l) fit this claim if the presence of modifiers preceding the pronoun forces it out of the (highest) D head of the subject, into some lower position. Then the NOM case feature will be on a word that does not show case contrasts (e.g., *the* in the first example of (65l)), and the pronoun position will not have any case feature specification, so it must be spelled out as a default. Finally, the variants in (72) can all be generated if the structure of a DP containing a pronoun plus postmodifiers is ambiguous, such that the pronoun can be the head but need not be. (See

⁷⁵ Thus, conjoined complement pronouns would also involve default case, allowing for hypercorrective oddities like *between you and I*.

J. Hoekstra 1996 for evidence for the former possibility.) In each instance, then, the pronoun itself can lack a case feature even though it is contained within a DP that has a case feature.

In summary, the appearance of ACC in the diverse environments of (65a–l) can be unified under the claim that nominal elements lacking a case feature when they come out of the syntax are supplied with a default feature, ACC in English, by the morphology. An analysis of the data in (65) without appeal to default case seems to require ACC-checking INFLs of several different sorts, null prepositions that do not straightforwardly correspond to any overt prepositions, and some special case assignment principles for conjunctions—and even then the analyses are not without problems. There is clearly no plausible candidate for a unified case-checking analysis of these constructions. Thus, while I leave open the possibility that *some* of them could involve checked ACC (which would make it by definition not a default case in those environments), default ACC is clearly a desirable construct.^{76,77} Furthermore, it provides at least some hope of understanding the curious fact that, to varying degrees under various circumstances, NOM is marginally an alternative to ACC in many of these constructions, in particular, (65d, e, j and k).⁷⁸ Since there is no such vacillation in any examples of uncontroversial case assignment in English, it cannot simply be that we/us English speakers are mushy when it comes to case. Rather, the problem has specifically to do with non-Spec-of-finite-INFL subject-like environments. If the DPs in these

⁷⁶ A very different kind of alternative that has sometimes been entertained is that the English pronominal system is actually much like French, embodying a clitic-tonic contrast. In French, only tonic pronouns can be conjoined, which might lead one to suggest that what are standardly called ACC forms in English are really tonic and the NOM forms actually clitics. This seems like a plausible approach with regard to (65b, c, e, f, g, i, k), where the pronoun is not adjacent to a verb, but looks less promising for (65a, j, d, l)—one would need a theory of why cliticization to these verbal forms is not possible. More problematic in my view is the fact that NOM pronouns in English have a much wider distribution than subject clitics in French (cf. Kayne 1975): they can receive focal stress, be separated from the verbal clitic cluster by several kinds of intervening material, and occur in numerous prescriptively-induced expressions where they are not adjacent to verbs, such as *Not I, He is younger than I* and *Between you and I*, which are not clitic positions, in addition to their marginal appearance in some of the environments in (65). It is unclear what independently-motivated definition of *clitic* would lead one to expect this distribution.

⁷⁷ David Pesetsky observes that the pronoun *it* is impossible in several of the constructions in (65), and suggests that *it* might have no corresponding default form. If this were so, it would have to be the case that none of the environments of (65) where *it* does appear are default environments. Unfortunately, judgments are less than decisive in several instances. For instance, Siegel (1987) claims that weather *it* is possible as the subject of a *Mad Magazine* sentence, though some speakers may find this not very good:

- (i) It rain on *her* birthday?? Never!

My suspicion is that the prohibitions on *it* are actually showing that it is incompatible with focal/emphatic stress, which happens to be a feature of several of the constructions in (65).

⁷⁸ NOM subjects of NP-*ing* gerunds seem more viable in adjunct rather than argument positions, and to my ears sound best with the particular lexical item *being*.

positions are fundamentally different in their syntactic features in the way I propose (i.e., by lacking any case specification), then it is not so surprising to find such behavior.⁷⁹

Appendix 2.A: Adjunct subject licensing and *with*

In this appendix I consider the status of the element *with* that appears optionally introducing gerund and small clause adjuncts. I argue that it does *not* license the subject of those constituents, but is rather simply a subordinating complementizer. This supports the conclusion in the text that small clauses and gerunds license their subjects internally, extending it to adjunct environments. The point is made by comparing *with* to *for* on the one hand, which does seem to be somehow implicated in licensing the overt subject of a *to*-infinitive, and complementizers such as *that* and *if* on the other hand, which are not generally assumed to license the subject of their IP complement; *with* patterns with the latter.

Emonds (1976: 196) observes that *for* is the only clause-introducing element that excludes adverbials between itself and the subject:

- (73) a. Mary asked me if, in St. Louis, John could rent a cheap house.
 b. They suggest that initially he be put on probation.
 c. You should do that so that, when you're old, you'll be protected.
 d. I was watching TV when suddenly the lights went out.
- (74) a. *John hopes for, next week, Mary to buy the books on sale.
 b. *They intend for initially him to be put on probation.
 c. *It is important for, under normal circumstances, anyone to be able to use the facilities.

Although corresponding examples with *with* tend not to be as smooth as those in (73), they nonetheless seem substantially better than (74):⁸⁰

⁷⁹ Of course, one still needs a theory of morphological performance to explain how this is possible. But we already know that slips of the tongue involving closely-related vocabulary items occur commonly, whereas slips involving a change of syntactically-important features such as lexical category are extremely rare. This suggests that slippage is generally post-syntactic and can involve insertion of the wrong member of a set of vocabulary items competing for the same slot. This of course characterizes alternations like *I/me*, and in particular, it would involve insertion of an item whose features are a superset of those on the syntactic node into which it is being inserted, but crucially do not conflict with any features of that node. Thus, *Mary likes he* is not marginally acceptable, because the entry for *he* is not a superset of the features of *him*, since it has a NOM instead of an ACC feature. So, the hypothesis would be that substitution occurs only when there is no case feature in the syntax. This is of course not even the beginning of an explanation, merely a suggestion that an explanation can be more easily envisioned if the examples of case vacillation look different syntactically from those of unwavering certainty.

⁸⁰ Contrary to my claim, Rizzi (1995) argues that *with* small clauses pattern with *for* infinitives in requiring adjacency for Case reasons, citing examples like the following:

- (i) a. With John unavailable on the weekend, ...
 b. *With, on the weekend, John unavailable, ...

- (75) a. ?With suddenly hundreds of people flocking to the event, the police became desperate.
 b. ?With, in ST. LOUIS, a crowd of people clamoring to see the film, and in NEW YORK, an alliance of activists protesting it, ...
 c. ?With, in the meantime, three secret agents having arrived at my doorstep, ...
 d. ?With, in DENVER, houses available cheap, and in ASPEN, log cabins costing \$1 million, ...
 e. ?What with, NEXT week, your relatives coming to visit, and the FOLLOWING week, my best friend staying with us, ...
 f. ?With at that time only 50 bodies recovered, ...
 g. ?The police were on edge, what with, just a week ago, a bomber striking in Olympic Park.

Recall also from §2.1.3 that for gerund examples, *with* is more or less equally optional⁸¹ whether their subject is overt or PRO (76). This observation yields two arguments that *with* is not involved in licensing the overt subject. First, one would not expect the licenser of an overt subject to be omissible in this environment—notice that *for* is obligatory in adjuncts (**(For) us to arrive on time, we need to leave now*). Second, one would not expect the licenser to be possible with a PRO subject—this is in contrast to *for*, which is completely out when the embedded subject is PRO,⁸² and also in contrast to the complete impossibility of PRO subjects under ECM verbs like *believe*.⁸³

I think (ib) can be substantially improved with contrastive stress, as in the similar (75d). With non-parenthetical adverbials there clearly are some unsalvageably bad examples, as noted by McCawley (1983):

- (ii) a. *With currently lawyers subjected to frequent attacks in the press, ...
 b. *With obviously Emil afraid of snakes, ...
 c. *With still his wife in Florida, ...
 d. *With currently Mexico City the largest city in the world, ...

However, I suspect the problem here is not nonadjacency between *with* and the subject per se, but rather the fact that these small clauses simply do not have a valid position for this kind of adverb above the subject. (Notice that (ii) does not improve at all if *with* is omitted.)

⁸¹ However, its presence or absence has consequences for the semantic relation between the subordinate and main clauses, as noted by Stump (1985).

⁸² At least in standard English. See Henry (1992) for arguments that in dialects that allow *I hope for to get the books* etc., *for* is part of INFL, not in a position above the subject.

⁸³ The following fact remains puzzling given what I have said so far: an overt introducer of a small clause is impossible when its subject is null (i), though the same introducer is possible (and optional) when the subject is overt (ii):

- (i) (*What with) PRO tired/a doctor/under the table/to dive next, John ...
 (ii) ((What) with) John tired/a doctor/under the table/to dive next, he...

Evidently, small clauses and gerunds differ here—compare (76). I claim that the difference *cannot* be that the small clause subject requires the preposition to license it while the gerund subject does not. Rather, my suspicion is that it is a requirement of the preposition that is failing to be met in (i), causing a crash. Since gerunds have the external character of nominals, the whole gerund can serve to satisfy *with*'s need for a DP complement

That is, PRO is bad in a position that does receive external licensing, so the goodness of PRO in (76) suggests that *with*, unlike *believe*, does not license the subject of its complement clause.

- (76) a. (What with) PRO/?him not picking up the kids on time, John had really upset Mary.
 b. (?What with) PRO/Mary thinking about quitting, John wasn't paying much attention to his work.
 c. ((What) with) PRO/me being in musicals and all, I hardly have time for linguistics.
 d. (What with) PRO/him being a doctor, John should know better than to smoke.

There is also crosslinguistic evidence to support my claim. Rizzi (1995: 19) notes that adverbs between *with* and the *NOM* subject of an infinitival adjunct are possible in West Flemish, citing Haegeman (1986 and p.c.):⁸⁴

- (77) Mee (?gisteren) zie nie te kommen, ...
with (?yesterday) she(NOM) not to come, ...

The lack of adjacency effect suggests that infinitives in West Flemish, as in English, can license their subjects internally. The fact that *zie* is not in the case one would expect if it were being licensed by the preposition *mee* makes the evidence somewhat more compelling than in English.⁸⁵

in (76). In a small clause, an overt DP subject can satisfy that need as in (ii), but a PRO subject cannot, presumably for the same reason that PRO cannot be a complement to a preposition by itself.

David Pesetsky points out the corroborating fact that introducers that are not prepositional *can* introduce null-subject small clauses, as in (iii):

- (iii) a. When [PRO in Rome], do as the Romans do.
 b. If [PRO sick], call a doctor.

⁸⁴ Rizzi assumes that *NOM* must be coming from abstract *AGR* here, but under my assumptions it could simply be a reflex of *NOM* as default case in West Flemish.

⁸⁵ Supporting this reasoning, there is a contrast in the possibility of nonadjacency in Brazilian Portuguese as a function of the case of the embedded subject:

- (i) a. Ela me deu o livro pra (amanha) eu ler.
she me gave the book for tomorrow I to.read
 b. Ela me deu o livro pra (*amanha) mim ler.
she me gave the book for tomorrow me to.read

(Rizzi 1995: 19)

Appendix 2.B: Subjects of nonfinite clauses in other languages

In this appendix I reinforce the descriptive claim of §2.1.2 that overt subjects can generally be licensed by nonfinite clauses, considering examples in the literature from seven languages.

Let us first consider Russian, where bare overt subjects of certain nonfinite clauses are found in the dative.⁸⁶ This includes a set of root infinitivals (with modal meanings), where there is no sign of a subject licenser other than *INFL*:

- (78) Kak mne/*ja skazat'.
*how me(DAT/*NOM) say(INFIN)*
 'How could I say it.', 'How can I put it.' (Neidle 1982: 405)
- (79) Emu nas ne obmanut'.
he(DAT) we(ACC) NEG deceive(INFIN)
 'He wouldn't deceive us.' (Kondrashova 1994)
- (80) Vasje ne byt' obmanutym drugom.
V(DAT) NEG be(INFIN) deceived(PASS) friend(INSTR)
 'Vasja won't be deceived by his friends.' (Kondrashova 1994)

Bare *DAT* *DP* subjects also occur in embedded infinitivals:

- (81) Ivanu žit' odnomu ne interesno.
Ivan(DAT) to.live alone(DAT) not interesting
 'For Ivan to live alone isn't interesting.' (Laurençot 1994: 19)

The contrast between (81) and its English translation supports my contention that the obligatoriness of *for* with English infinitival subjects does not reflect nonfinite *INFL*'s inability to license the subject itself, but rather reflects the impoverished case morphology of English.

Finnish can use a bare infinitival clause as an adjunct, and such clauses can take bare overt subjects in the genitive:

- (82) Tädi-n kaata-e-ssa kahvi-a kuppe-i-hin, tuijo-tti Eeva ikkuna-sta
aunt-GEN pour-INF-IN coffee-PAR cup-PL-ILL stare-IMPV.3sg Eva window-EL
 ulos.
 out
 'While aunt was pouring coffee into the cups, Eva stared out of the window.'
 (Blake 1994: 115, citing Whitney 1956: 142)

⁸⁶ Unlike *DAT* subjects of finite clauses in Russian, which occur only with certain verbs and adjectives, *DAT* subjects of nonfinite clauses can occur with any predicate, including derived subjects of passives (80), where quirky *DAT* arguments are impossible. Given this, *DAT* could not be a quirky case in this environment, it must be either structural (as concluded also by Schein 1982), checked by nonfinite *INFL*, or default. The choice of analysis here has no bearing on the main point concerning licensing.

Another well-known instance where licensing by nonfinite INFL has been appealed to is that of the Latin Accusative with Infinitive (AcI) construction.

- (83) a. Dicunt illum venisse.
they.say him(ACC) have.come
 ‘They say that he has come.’
- b. Certi sumus perisse omnia.
certain(NOM) we.are have.died all(ACC)
 ‘We are certain that they are all dead.’
- c. Tempus est hinc abire me.
time it.is from.here go me(ACC)
 ‘It is time for me to go away from here.’
- d. Me interest te studere.
me(ABL) it.is.good you(ACC) study
 ‘It is to my advantage that you study.’ (Vanden Wyngaerd 1994: 123–4)

The AcI shows up in several environments where positing licensing of its subject by an external head seems implausible: as complement to an adjective (83b), noun (83c), or passive verb, as complement to a verb that takes only DAT or GEN DP objects (Vanden Wyngaerd 1994, citing Hantson 1992: 12), and as a bare answer to a question (Pillinger 1980). Latin also has root infinitives, occurring in narrative contexts (“infinitivus historicus”), that take bare NOM subjects:

- (84) Igitur reges populique finitimi bello temptare.
therefore kings(N) people(N)-and neighbouring(N) with.war try-(INFIN)
 ‘Therefore the neighbouring kings and people tried (the Romans) with war.’
 (Reuland 1981: 166, citing Sallustius 1938)

Like Latin, Irish has nonfinite clauses with ACC subjects that occur in environments where external subject licensing seems unlikely, as argued by McCloskey (1985), including as independent sentences in narrative (85, 86), and complements to nouns and adjectives (87).

- (85) Tháinig sé isteach agus é iontach sásta leis féin.
came he in and him very satisfied with-himself
 ‘He came in very satisfied with himself.’ (Chung & McCloskey 1987: 175)
- (86) Cánathaobh í a bheith chomh deacair?
why it(ACC) be(INFIN) so difficult
 ‘Why should it be so difficult?’ (McCloskey 1985: 194)
- (87) a. Bhead lúcháir air iad a bheith i láthair
would.be joy on.him them be(INFIN) present
 ‘He would be delighted for them to be present.’
- b. Bheinn sásta iad a bheith i láthair
I.would.be glad them be(INFIN) present
 ‘I would be glad for them to be present.’ (McCloskey 1985: 192–3)

Dutch also allows infinitives to be used as independent statements in narration. These take bare DP subjects in the nominative.

- (88) Driesje vocht met Aadje. Hij/*Hem toen snikkend naar zijn moeder lopen.
*D fought with A. He/*him then sobbing to his mother run(INFIN).*
 (Reuland 1981: 165)

European Portuguese has nonfinite environments, namely root and argumental small clauses, where bare overt DP subjects occur (they are NOM):

- (89) a. Ele um imbecil? Não acho.
he an idiot? I don't think so!
- b. O que eu vi foi eles nus.
that which I saw was they naked
- c. Eles com febre é um espectáculo triste.
they with fever is a sight sad (Raposo 1989: 290)

Finally, Romance Aux-to-Comp constructions are nonfinite and take overt subjects. Consider the Italian gerunds in (90) and the Spanish adjunct infinitive in (91):

- (90) a. Avendo Maria accettato di aiutarci, potremo risolvere il problema.
having Maria accepted to help.us, we.can resolve the problem
- b. Gianni sostiene non essere lui in grado di dare un contributo.
Gianni maintains not to.be he able to make a contribution (data from Rizzi 1982)
- (91) Al ver yo/*mi los resultados del examen, se puso furioso.
*at.the to.see I/*me the results of.the exam...*
 ‘On my seeing the results of the exam, he got furious.’ (Emonds 1985: 242)

Interestingly, the post-infinitival subject in (91) is NOM, even though the adjunct is introduced by a preposition: it seems highly improbable that the licensing (or the case) of that subject would be coming from the preposition in (91), or from outside the adjunct clause in (90). Rather, internal licensing by the nonfinite verb and either default NOM or NOM assigned by INFL should be posited.

3

Background on Acquisition

A child does not ‘adopt the hypothesis’ and ‘seek to formulate the exceptions’: a child is not a pocket edition of a linguist! (Kaper 1974: 441)

In this chapter I lay out the background for the use of acquisition data in subsequent chapters. I first set out the basic analysis of early child syntax that I adopt, positioning it in relation to other analyses of the same family of phenomena and showing why many of these fail to accommodate some central findings from the literature. I then turn to an equally important component of acquisition research, the child’s inflectional morphology, and how it both interacts with the syntax and affects our ability to uncover the syntax. Following up the discussion in chapter 2, I discuss how the child might acquire default case. This is followed by a general discussion on the methodology of interpreting data from transcripts of spontaneous child speech, as well as experimentally elicited production, and why some previous work in this area has yielded apparently contradictory findings. I conclude the chapter with background details of the specific child data to be presented in subsequent chapters: relevant facts about the children, the transcripts, what was tabulated and how, etc. Having presented the fundamental points in this chapter, I will focus in subsequent chapters on the empirical findings and their implications for the theory.

3.1 Interpreting the OI/EOI stage

3.1.1 Theories of Optional Infinitives

Children around age two acquiring a wide variety of languages produce utterances whose verbal inflection differs from that of apparently synonymous adult utterances, typically by dropping tense/agreement marking or replacing it with a neutralized form such as the infinitival suffix (Pierce 1989, Weverink 1989).¹ These constructions have been studied extensively in recent years, with the consensus emerging that they are syntactically different from their counterparts with inflection, within the grammar of a child who produces both sentence types, as argued originally by Wexler (1992, 1994), who dubs them *Optional Infinitives* (OIs); see Phillips 1995, Haegeman 1995, and Schönenberger et al. 1995 for recent reviews. OIs are crucially not mere phonetic reductions involving dropping of inflectional affixes like *-s* or unstressed auxiliaries. The evidence for this is that OIs have consistently different syntactic properties from their inflected variants in child pro-

¹ I have nothing to say in this thesis about why some languages might not show an OI stage in development (cf. Wexler 1995, T. Hoekstra & Hyams 1995). See Phillips 1995 for the contrary claim that all languages display this phenomenon.

duction: 1) In languages with overt finite verb raising, to second position or across negation, inflected verbs move to that position in child utterances, but OIs do not (Pierce 1989, 1992; Poeppel & Wexler 1993; Harris & Wexler 1996, etc.); 2) In non-null-subject languages, OIs license a high proportion of null subjects while inflected verbs do so to a much smaller degree.² In this thesis I add a third type of evidence for this conclusion: 3) Inflected verbs assign NOM case to their subjects, while OIs need not. This is the major result presented in chapter 5. These three contrasts point to differences between OIs and finite sentences in the features of the INFL complex.

Accounts of OIs have been of three basic types. The first assumes that the features not expressed on the verb (tense and/or agreement) are syntactically but not phonologically present, e.g., in the form of a null modal or null auxiliary (Boser et al. 1992; Whitman 1994; Phillips 1995). A second, which I refer to collectively as truncation accounts, suggests that child clauses are not full CPs but involve smaller projections excluding (parts of) the INFL system, e.g., bare VPs or small clauses (Rizzi 1994a, b; Radford 1990, 1994). A third class, sometimes called Full Competence accounts (cf. Wexler 1992, 1994, 1995; Hyams 1992, 1996; Poeppel & Wexler 1993; T. Hoekstra & Hyams 1995), assumes that child clauses can contain the full set of functional projections up to CP, but that certain functional heads can be featurally underspecified.³ My account is essentially of the third type; I claim that the first two are empirically falsified by the data I present—see §5.4. However, I argue that possible child INFLs are not underspecified in the sense of being impossible adult INFLs, but rather in the sense of being distinct from adult matrix indicative INFLs while crucially conforming to the range of INFL types allowed by UG.⁴ In the rest of this subsection I set out in more detail the points of similarity and difference between my OI account and others in

² But see Phillips 1995 for a different interpretation of the null subject data.

³ By this it is meant that features can be completely absent from the syntactic derivation, hence missing at LF, not just unpronounced.

⁴ As pointed out by David Pesetsky, a stronger claim would be that by the time they are producing multi-word utterances, children limit themselves just to INFL types that are possible in the language they are learning. Indeed, in chapter 5 I will suggest that the presence of GEN subject errors in child English versus their absence in several other European child languages might have to do with the availability of a certain kind of GEN-subject gerund in English. However, even my weaker claim in the text might be falsified by the very same data, depending on which grain size one takes an “INFL type” to refer to. Specifically, alongside utterances like *my running*, which are possible adult gerunds, we also find utterances like *my sing* and *my tired*, which occur nowhere in adult English, though at a coarser grain size they are consistent with the presence of “GEN subjects of nonfinite predicates.” Thus, to really assess the veracity of either the universal or the language-specific version of the adult conformity claim, one needs to spell out more details. I make a strong claim for adult conformity only on the following point: all four combinations of [\pm Tense features] and [\pm Accord] represent possible INFLs in UG, as argued in chapter 4.

the literature.⁵ Comparisons specifically concerning the treatment of case errors will be discussed in §5.4, after the relevant data have been presented.

A null modal or null auxiliary account of OIs would essentially be claiming that child grammars embody a morphological difference from adult grammars (in that certain INFL features can be spelled out by a zero form), but no syntactic difference (except perhaps with regard to V-raising, as discussed by Phillips). While the presence of an invisible auxiliary in T could account for V placement effects in OIs, a null auxiliary account requires additional assumptions to account for the null subject properties of OIs (see Phillips 1995 and works cited there for various ways of doing this). These auxiliary assumptions do not strike me as having much motivation from other grammatical phenomena. However, the intuition behind such accounts might well be on the right track semantically: that is, among the range of possible meanings for OIs seem to be some that correspond to modal interpretations.

Truncation accounts have syntactic problems with the full range of OI constructions, as has been noted in the literature: such accounts predict that OI clauses cannot contain elements higher than INFL, since those projections are not part of the representation, but this seems to be clearly false for non-subject *wh*-questions, which occur in OIs with or without null subjects (Roeper and Rohrbacher 1994; Bromberg and Wexler 1995; Phillips 1995, etc.). However, the intuition in Radford's approach at least, namely that child root clauses correspond closely to adult non-root clause types, is one I wish to pursue, though I take it to hold at the level of features of the INFL system and crucially *not* to involve missing phrasal syntactic projections outside VP. That is, I continue to assume full clausal projections are available for every utterance, including OI utterances. Thus, a child OI that sounds like an adult small clause might be like a small clause in terms of the features (or lack thereof) in the INFL heads, but it is unlike a small clause in containing projections above VP, potentially at least as high as CP. Additionally, I argue that Radford's small clause proposal is too narrow, in that children have more nonfinite clause types available to them than just small clauses.

⁵ Some accounts of the OI stage (e.g., T. Hoekstra, Hyams & Becker 1996, Clahsen et al. 1996) attempt to unify the characterization of the inflectional system with an account of the child's determiner system at this age, which also appears to allow omission of elements, particularly determiners, in environments where they would be obligatory for adults. I will not bring this phenomenon into my proposals. The reasons are partly practical, namely that there is already a lot to say about the INFL system, and there has been much less quantitative study of D-drop and its interactions with other syntactic phenomena. Another reason is that D-drop does not readily fit into the kind of account I am building up, since in the adult grammar, no clause type seems to put syntactic restrictions on the realization of D material. (There is one register, however, where D-drop is attested, namely in newspaper headline style and related forms of "abbreviated English" discussed in §5.2.) Thus, if child D-drop really depends directly on underspecification in the INFL domain on an utterance by utterance basis (as claimed by T. Hoekstra et al.), it is unclear how to relate that to anything we know about adult grammar.

My approach is thus closest to those of Wexler and Hyams in maintaining full clausal structure for OI utterances and positing missing material only within the INFL system. Where I differ from both these approaches is that I argue that a *single* missing feature in INFL is insufficient to account for the range of types of OIs that are attested. In particular, neither appealing just to missing Tense as Wexler (1994) did, nor solely to missing number, as T. Hoekstra et al. (1996) do, seems to make the correct predictions about possible inflection/case combinations in child grammars. Rather, I propose that both Tense and Accord are (independently) optional. I also differ from T. Hoekstra et al. in assuming that children are limited to possible adult clause types; in allowing missing number combined with specified tense and person, T. Hoekstra et al. seem to appeal crucially to an unattested type of INFL crosslinguistically. Details aside, I concur with many of the above authors in the belief that children seem to know virtually everything about the syntactic effects that the various INFL components have; what I suggest they do not know is how to use the different types of INFLs to express the right meanings in the right syntactic/semantic/discourse contexts. This should not be taken to imply that they know *nothing* about the semantic properties of the (contentful) INFL elements, but something in the mapping is missing (see chapter 6).

I am also agreeing with Wexler and differing from some of the other work cited above on the issue of inter-utterance variation in child production. Wexler uses the term "*Optional* Infinitive stage" to indicate that OI utterances occur alongside fully inflected adult-looking utterances for a long period of development (a year or more, in the case of English children). In contrast, some other approaches (Radford 1990, Clahsen, Eisenbeiss & Penke 1994a, 1994b; Vainikka 1994; Clahsen, Eisenbeiss & Vainikka 1994) assume that at the stage when OIs are being produced, children *never* use full adult clause structures, and that what might appear to be adult sentences on the surface must therefore have some non-adult representation, e.g., *wh*-words in Spec-IP instead of Spec-CP (Vainikka 1994), inflections that are not syntactically checked but simply "inserted from the lexicon," etc.⁶ My account will crucially be an utterance-based rather than a stage-based account of the OI phenomenon, in that I assume that full adult clause structures are usable by children from the earliest stages.

A terminological caveat is in order here. Like Wexler, I do not assume that all OI clauses contain *infinitives*. Indeed, the OI stage has been argued to occur in a language that lacks infinitives altogether, Modern Greek (Varlokosta et al. 1995). I assume that participles, adjectival and nominal predicates, etc., are alternatives to infinitival verb forms in child English. (Indeed, in languages with somewhat richer verbal morphology than English, children may use more than one kind of

⁶ See Schütze 1995a, 1996b for empirical and conceptual arguments against Clahsen et al.'s proposals in the context of case acquisition.

nonfinite verb form in OI utterances, e.g., infinitives and bare stems in German, infinitives and perfect participles in French.) Another common term in the literature is “root nonfinite forms,” but this too is problematic. First, it is quite possible that children use uninflected forms in *embedded* clauses in ways that adults cannot, i.e., this is not strictly a root phenomenon. Second, the characterization “nonfinite” is problematic, if it is taken to mean “unspecified for tense,” since I want to argue that some OIs are actually specified for Tense but missing other parts of INFL. A more descriptively accurate term for the phenomenon would be “INFL Optional Underspecification” (IOU), but for familiarity’s sake I will generally continue to use OI as a cover term in this extended sense until chapter 6.

3.1.2 Theories of SLI

Specific Language Impairment (SLI) is a condition characterized by nonverbal intelligence in the normal range for a child’s age, but specifically language-related skills that are years behind normal (Menyuk 1964). It has long been noted that among the biggest problems these children have is the use of functional morphemes. This has led to two deeply different characterizations of the deficit involved: 1) it is attributed to the morphophonological nature of these morphemes, which tend to be short, unstressed, perhaps not very acoustically salient, leading to the idea that these children have essentially a perception problem—they fail to perceive this material consistently and accurately in the input, and therefore get it wrong in their output (Leonard 1989, Tallal et al. 1985); or 2) SLI children are much slower to outgrow the stage that all children go through, where certain functional morphology is dropped though it is demonstrably known; that is, there is a problem with their grammar. (See also Curtiss et al. 1992 for relevant discussion.) Hypotheses 1) and 2) make very different predictions. For instance, morphemes that sound the same but serve different syntactic functions, such as 3sg *-s* and noun plural *-s* and their allomorphs in English, ought to show the same patterns of omission under hypothesis 1), *ceteris paribus*, but should pattern differently under hypothesis 2), since they pattern differently for normal children. Recent work by Mabel Rice, Ken Wexler and colleagues (e.g., Rice, Wexler & Cleave 1995) argues for the second view (based in part on this very comparison), and my own work with their project adds new evidence from case distribution to support that claim. Rice and Wexler (1995, 1996) have shown that English SLI children’s verbal inflection looks almost exactly like the OI stage, albeit years later in their development. Thus, for essentially the same reasons that normal OI cannot be successfully analyzed as mere phonological drop of morphemes, SLI, having the character of an Extended Optional Infinitive (EOI) stage, cannot either—this would not account for the correlations between verbal inflection and other syntactic properties that are found in these children’s speech. If Rice et al. are right about SLI and I am right about case errors, we should expect SLI children to be making the same pattern of case errors as younger normally-developing children. Preliminary data from

a study by Loeb and Leonard (1991) suggestively support this view, which will be substantially strengthened by the new data in chapter 5.

3.1.3 Theories of null subjects and licensing in acquisition

One of the most puzzling aspects of the OI phenomenon is that while null subjects are relatively more frequent in OI utterances than in finite utterances in many languages,⁷ the absolute proportions show a great deal of cross-linguistic variation (see Phillips 1995 for review). For example, child English has many more overt subjects with OIs than child French, and conversely, child French has many more null subjects with finite verbs than child English (Pierce 1989, 1992). I make no attempt to address these differences in this thesis, but I do make a strong claim concerning how overt subjects of OIs are possible in child English alongside null subjects.

As was noted above, a general expectation for null subjects with OIs derives from a view in which finite Tense is missing, since Tense is assumed to be required to license overt DPs in subject position (cf. Guilfoyle 1984, Pierce 1989, Weverink 1989).⁸ But if this were correct, one would predict there should be no overt subjects with OIs, which might well be correct for French and some other languages, but is blatantly false for English. There have been many attempts to get around this apparent wrong prediction in OI analyses, e.g., by claiming that the troublesome subjects are really topics, perhaps base-generated outside IP and coindexed with a PRO in subject position (cf. Gruber 1967). In addition to it being hard to find syntactic motivation for this analysis, unambiguous instances of topicalization among English children of this age are rare enough, relative to the rate of overt subjects with OIs, that it seems unlikely that all of them could be accounted for in this way. Another idea is that these subjects are licensed by “default case.” Given the discussion in chapter 2, this is obviously not a coherent claim in the sense in which I use that term; what would be meant would be “default licensing,” which I have argued does not exist. If it did, it would be rather mysterious why the adult language cannot use it.

My approach to the null/overt alternation in OI subject position is to look for places in the adult grammar where such an alternation is found, and pursue whether OIs might receive the same analysis. Infinitives are not obviously such an environment in adult English, though they might be

⁷ But see Phillips 1995 for possible confounds and a different interpretation.

⁸ Other approaches to OIs derive this result in very different ways. In Rizzi’s truncation analysis, the subject can be null because it can undergo Topic-Drop if it is in the Spec of the root of the sentence. In Roeper and Rohrbacher’s (1994) proposal, children’s null subjects in languages like English are small *pro*, whose presence is related to the absence of AgrSP and delayed acquisition of agreement. In Phillips’s (1995) approach, overt subjects are assumed to be impossible in finite clauses in V-raising languages if V fails to raise.

in other languages (see §4.3), but gerunds, adverbial small clauses, and imperatives are. The key question is, are overt subjects of these constructions, when they appear, licensed internal to the phrase or is an external licenser required? I have argued the former, in §2.1, which would allow overt OI subjects to receive the same treatment. That is, I claim that absence of Tense in OIs allows null (PRO) subjects, but does not disallow overt subjects. We then will have to explore why the latter are much rarer in other OI languages.⁹

Before moving on, I should mention a potential problem for the claim that child null subjects in non-null-subject languages such as English and German are (big) PRO. As noted by Guilfoyle and Noonan (1992) and Rizzi (1996), for example, while these null subjects can be argued to have the syntactic distribution expected of PRO, i.e., they are limited to subject position of nonfinite clauses, they seem to have the referential properties of (small) *pro*, in that they seem to be used with specific rather than arbitrary reference while apparently not requiring a sentence-internal antecedent. One response to this would be to suggest that there is no real problem, because syntactic theory does not lead to any specific expectations about the semantics of PRO in the contexts where children seem to be using it. That is, to the extent that we have no good theory of why an element with the syntactic distribution of PRO in adult language should have the referential character that it has, we make no predictions for how it should behave in a (slightly) different syntactic environment, namely as subject of an OI, particularly since we also have no very clear notion of how OIs can have the temporal reference they seem to have for children.¹⁰ (I return to the latter issue in chapter 6.) While it would be reasonable to leave the matter there, I think it is worthwhile at least to note that there are potential precedents for what children are doing within the adult grammar of English.

Specifically, there are several constructions where one might argue that PRO takes on a specific referent that does not appear overtly as an antecedent in the same sentence. I do not propose an analysis of the reference of PRO here; I simply wish to make the descriptive point that such cases exist. The first set of such examples, discussed by Bouchard (1984; see references there), are given in (1).

- (1) a. John said PRO to meet at 6.
 b. John said PRO to talk to each other.
 c. PRO going there was fun. [PRO = me/us]
 d. PRO tearing up my new paper dolls was mean. [PRO = you]

⁹ Given the general approach here, one way to pursue this question is to examine the range of PRO/overt subject alternations in the corresponding adult language and ask whether these are more limited and/or might be unavailable as structures for OI utterances for some independent reason. This program is left for future work.

¹⁰ Thanks to Alec Marantz for discussion of this point.

These sentences involve a PRO coreferent with what could be an implicit argument of one of the predicates in the sentence: the person to whom John spoke in (1a), John's addressee(s) plus perhaps John himself in (1b), the experiencer of fun in (1c), the person of whom meanness is predicated in (1d). (Thanks to Alec Marantz for bringing this generalization to my attention; see Vanden Wyngaerd 1994, §6.1, for references and discussion.¹¹) Obviously, one would like to know whether or in what sense these implicit antecedents can be argued to be syntactically present in the examples in (1), but I do not pursue that question here. If they are, then we would need to ask whether children's OIs with PRO subjects could also contain a covert antecedent for PRO, e.g., in the form of an invisible topic. (This might be problematic as an account for *all* child non-finite null subjects in English, since they can occur in fronted *wh*-questions, where topicalization is degraded in the adult language.)

A second class of examples seems to show that the speaker is available as an antecedent for an empty subject in various nonfinite clauses:

- (2) a. PRO_i to tell the truth, Mary_j is a fool.
 b. PRO_i knowing you, the secretary_j had better make those copies.
 c. PRO_i seeing as how it's raining, there won't be a baseball game.
 d. Oh, PRO_i to see myself in her arms once again!

Similarly, the addressee is always available as the antecedent of the null subject of an imperative. Of course, in some of these cases it might be debated whether PRO is syntactically present at all. Nonetheless, it is worth noting that many of a child's null subjects probably do refer to herself or to her addressee, so if 1st and 2nd person PRO are grammatically licit without an antecedent, as the cited facts suggest, then it should not be surprising that children can use them that way.

The final set of examples reminds us that PRO can take a specific antecedent from a preceding sentence in the discourse.

- (3) a. Tom_i felt embarrassed. PRO_i pinching elephants/himself was a mistake. (Bouchard 1984)
 b. The king_i was mortified. PRO_i to have worked so hard and not see the job completed!

¹¹ Vanden Wyngaerd (1994: 209) notes that there is disagreement in the literature over the grammatical status of sentences where PRO is forced to be a topic distinct from an overt experiencer, e.g.,

- (i) a. John is courageous. But getting himself arrested still surprised Sue.
 b. I know that my wife is courageous and adventurous. But getting herself into such a dangerous spot really scared me.

Alec Marantz (p.c.) points out that this last possibility still seems to be limited to instances where a psychological state has been mentioned and the implicit subject is its experiencer. He notes that sequences like (4) are harder to get on the relevant reading:

- (4) ??Michael Johnson tripped coming around the last corner. PRO_i to have worked so hard and not even cross the finish line!

By analogy to (3), then, one might suggest that children can use PRO when they have in mind the psychological state of its referent, even if they happen not to express that psychological state. Alternatively, since we already know that children can use overt pronouns without overt antecedents under conditions where adults would find them infelicitous (e.g., Karmiloff-Smith 1985), it would not be surprising if they could use PRO without an overt antecedent too.

Given these three observations about adult PRO, it seems plausible to me to maintain the claim that within their grammars, children's treatment of PRO does not differ from that of adults.¹²

3.1.4 Theories of case acquisition

The presence of subject case errors (both ACC and GEN) among children learning English has been observed in the acquisition literature since at least the mid-1960s (see references in §5.3.1.1). There have been numerous attempts to explain this phenomenon, and I shall not catalog all of them here (cf. Vainikka 1994, Rispoli 1994, Powers 1995a, b for reviews). Broadly speaking, they can be placed into three categories. First, it has been claimed that children in the OI stage do not know the syntax of case marking and are simply randomly picking (pronoun) forms from their lexicon to insert in subject position (e.g., Radford 1990). Second, some have claimed that the choice is syntactically free but not random, governed instead by some semantic/pragmatic generalizations such as “use *my* as an agentive subject, *I* as a stative” etc. (Budwig 1989, 1995).¹³ Third, it has been claimed that nonNOM subjects are directly generated by the child's grammar. My analysis will fall in this third category. The patterns of data uncovered will argue directly against the random-choice approach. To the extent that there are semantic generalizations of the type alluded to (and this is not at all clear from the literature), my account would not directly explain them, but

¹² Another way of summarizing the observations about PRO in adult language, suggested by Noam Chomsky (p.c.), is that what is grammatically PRO_{arb} with no antecedent can be interpreted from context as having a specific referent.

¹³ A major puzzle for Budwig-type proposals has to be what is leading children to hypothesize semantics associated with the choice of subject case, since they are hearing no such pattern in the input. One might suggest that there are languages that display some correlations of this sort (e.g., split intransitive languages where unaccusative subjects take a different case from unergative subjects (Van Valin 1990), but why would an English child suppose that she is learning such a language, and what would prompt her later to revoke that supposition?

would allow for an indirect explanation whereby semantic factors drive the choice of INFL type for the utterance, and that in turn fully determines the choice of pronoun case. The key point is that neither of these types of account can explain the fact (detailed in §5.3.1) that pronoun case correlates with INFL form at this age. As I will show, many English children go through a prolonged period when they use both NOM and nonNOM pronouns as subjects, and both finite and nonfinite verbs, yet nonNOM subjects never appear with finite verbs. Thus, any theory that will capture this pattern must relate subject case choice to INFL features in some way. I propose that the way they are related is the same for child and adult, observing that both GEN and ACC subjects of certain nonfinite clause types occur in adult English, and that NOM subjects occur only under Accord. I take the further strong position that there is no free choice from the lexicon involved. For a child who produces both and distinguishes them in nonsubject environments, the difference between *me* and *my* must be that different syntactic features are assigned to the two subjects—by hypothesis, by different kinds of INFL. (As far as I am aware, this claim has not been made before.) In chapters 5 and 6 I discuss whether my proposals about case and OIs can be merged with proposals about other OI phenomena, and how they account for case errors in the acquisition of languages other than English, about which much less has been written.

3.2 Syntax-morphology interaction in acquisition

3.2.1 Importance of the inventory

If one takes a late-insertion view of syntax-morphology interaction as advocated in the previous chapter, it is natural to expect the possibility that a child could construct a syntactic representation that corresponds perfectly to an adult's, but would produce it in a non-adult form because her morphological representations for inflectional elements are non-adultlike, either lacking some of the adult vocabulary items or having non-adult featural representations for some of those items.¹⁴ Therefore, it is in principle conceivable for a completely adult syntax to produce very non-adult-looking utterances, which means if we wish to assess the state of the child's syntax, we must first try to ascertain what their inflectional morphology is. (This is true even if one believes that acquiring vocabulary entries for inflection has no bearing on acquiring the *syntax* of inflection.) This is obviously a large, difficult, and not well-explored area that could form a separate study on its own, so I limit myself here to certain narrow questions of particular relevance to the syntactic issues under discussion.

¹⁴ There could also be situations where evidence for some piece of the adult syntax must come from an analysis of the morphology, in which case a child's failure to produce adult forms *could* reflect their syntax.

I presuppose recent claims (e.g., Wexler 1996, Harris & Wexler 1996, Pinker 1984) that verbal inflections are typically not *misused* by children at any stage of acquisition, e.g., *-s* is not used by English children in non-3sg environments, though it can be *omitted* from 3sg environments, and similarly for agreement and tense morphology in other languages. I therefore assume that when we see a child who is producing the verbal affixes *-s* or *-ed*, she has the correct features associated with these items.¹⁵ Superficially, the same claim could not be made in the domain of case morphology in English or German: there are many clear instances of overt presence of NOM case forms in nonNOM environments in German, and of ACC forms in non-ACC environments in English, as well as other errors of commission rather than omission. One response to this observation would be to suppose that, unlike verbal morphology, case morphology has not been mastered by age two, say, and these errors result from incorrect features associated with case morphemes. It is possible that some children go through such a stage,¹⁶ but the evidence here will show that this cannot be the explanation for *all* child case errors. This conclusion is based on the following observation (again, see §5.3 for details): while there is one environment (clausal subject) where incorrect case forms are used (as well as correct ones), in most or all other environments (e.g., object of verb, object of preposition, possessor of DP), an inappropriate form is virtually never used.¹⁷ One must conclude that children have the correct features associated with case morphemes, and the problem lies elsewhere.

It is crucial to understand this claim as one concerning the distribution of *contrasting* forms. That is, when a child is producing multiple case-distinct forms for a particular combination of features, e.g., *he/him/his* for 3sg masculine, none of the forms is used in incorrect environments other than clausal subject position. However, it seems clear that at least some children go through a detectable stage at which some of the English pronoun forms are not produced at all; this is particularly common with respect to *she*. What behavior we should expect at such a stage depends on assumptions about the architecture of syntax-morphology interaction. If one took an early insertion view under which only complete words from the lexicon could be inserted in syntactic derivations, then a child lacking a lexical entry for the features [pron, 3sg, fem, NOM] should be unable to generate a sentence requiring such an item. Assuming for purposes of illustration that her syntax was

¹⁵ The use of *-ed* might require somewhat more scrutiny—see discussion in §5.3.1. Also, there are some apparent exceptions in French verbal morphology—see §5.3.5.

¹⁶ To rule this out, one would need to show that no child displays the following pattern of behavior: multiple contrasting case forms are being produced (e.g., *I, me, my*) but their distribution in syntactic environments is either random or is systematically incorrect, e.g., *me* always used as clausal subject, *my* as complement of V/P, *I* as possessor. As far as I am aware, such behavior has never been reported.

¹⁷ See §5.3.1 for one potential exception.

otherwise fully adult, utterances of the form *X goes* should never occur, where *X* is some form representing a 3sg feminine pronoun. Hence, this could be referred to as *blocking* by the morphology. In contrast, on a late-insertion non-blocking view of morphology, there is always some form (possibly null) that can be used to realize the output of a syntactically valid derivation. The syntactic tree could be built up using feature bundles such as [pron, 3sg, fem, NOM], without regard to which vocabulary item might fill such a position. The architecture of Distributed Morphology dictates that if there is no vocabulary entry with exactly this set of features, then the item containing the greatest subset of these features will be inserted.¹⁸ Thus, a child who knows the word *her*, and knows that it is a feminine singular pronoun, could insert it in such a tree, producing *Her goes*. If *her* were explicitly specified for a contradictory feature such as [ACC], she would insert a less-marked form, perhaps *he* or *it* if these were unspecified for gender. If there were no vocabulary items specified for a subset of the features [pron, 3sg, fem, NOM] then the resulting utterance would be \emptyset *goes*.

It should thus be clear that the significance of an utterance such as *her goes* as evidence concerning the child's *syntax* depends entirely on the child's repertoire of related vocabulary items and their feature specifications. Furthermore, the output of *her* from a structure containing a NOM feature on its subject does not entail that the child has encoded *her* as a NOM form. Rather, it simply means that *her* was the "best match" to the syntactic features that was available, in the specific technical sense of "best match" in DM. It is therefore possible that child errors like *her goes* do not indicate that children ever have incorrect vocabulary entries for case forms, *if* such errors pattern in a way consistent with the child's syntax plus a lexicon that may be missing some of the adult items altogether. This is the strong claim that will be pursued in this thesis, namely that case morphology, like verbal inflection as far as we know, is never "mislearned."

3.2.2 Acquiring the default case

3.2.2.1 Motivation

Since it will be crucial for my analysis of child case errors that children know what the default case of their language is by around age two, some discussion of how they might come to know this is warranted, given my claim below that the choice of default case is language-specific. If it were true that syntactic default case environments (i.e., environments where no case is syntactically checked) were universal, then any or all of these environments could be used by the child for the determination of the default case. That is, a child could be listening for a left-dislocation, for

¹⁸ Further principles are used to choose among items with equal numbers of matching features.

example, and could conclude in one fell swoop that whatever case she heard in that position was the default case. This would then be the case that must be supplied by morphological fill-in rules to an unspecified DP. Matters are not quite so simple, however, because it appears that default case environments are not identical across languages. For instance, in German, several of the environments discussed in §2.6 must agree in case with a corresponding DP elsewhere in the sentence or discourse. For example, a bare DP reply to a *wh*-question must take the same case marking as the corresponding *wh*-phrase took; this therefore cannot be a default case environment, since the case is not constant. The same is true in German for many instances of left dislocation, and for conjoined DPs.¹⁹ Nonetheless, this approach strikes me as more promising than some alternatives, so I will pursue it further below.

Another possible way for the learner to learn the default case would be to use the developing grammar of her own language to compute what the default case environments should be, rather than having this information precoded. That is, once she has learned a fair bit of the syntax, she will see that certain structures involve DPs with no syntactic case feature. The child could in principle conclude that the default case must be whatever case she hears in a position that her syntax tells her is caseless. The difference between this and the previous suggestion is that no information about default environments would be pre-wired, and it would allow that there might be no single universal environment that shows default case in every language. The price for this power is of course the need to wait until enough of the syntax has been learned before standing a good chance of making the right choice. In particular, if I am right that children in the OI stage can grammatically use default case in many environments where adult speakers of the same language cannot, then this “deductive” way of setting the default case is in danger of doing so incorrectly because it will be looking at the wrong environments. Since there is considerable empirical evidence that English children know ACC is the default long before they exit the OI stage, the deductive approach does not strike me as a likely possibility.

Perhaps the most obvious intuitive guess about where default case comes from can be excluded from consideration. The guess would be that whatever form you hear most often is the one you take to be the default, a not unreasonable guess since default case almost by definition is one that occurs in a wide range of environments. Unfortunately, what is true at the type level is false at

¹⁹ Another worry for this sort of triggering approach is precisely the variability in case marking between NOM and ACC in many of the English default environments discussed in §2.6. One might expect a child whose parents compulsively said “It is I,” “They gave it to you and I,” etc. to conclude that NOM was the default, if predicate nominals or conjoined DPs were triggering environments. The problem, of course, is that the constructions that have escaped prescriptive dogma are generally ones that are rarer (e.g., *Mad Magazine* sentences), so that one might wonder if they would be frequent enough in the input of a two-year-old to be useful.

the token level: despite the limitation of NOM to subject position of finite clauses, NOM forms are several times more frequent than corresponding ACC forms in corpora of English, as Phillips (1995) notes (see §5.3.1).²⁰ Thus, a frequency strategy would yield the wrong result for English, since ACC is the default in English. This observation heightens the need for a *grammatical* approach to child nonNOM subjects: for children to produce these in environments where they never hear them and to use a *less* frequent form than the one they do hear, there must be a strong principle at work. Further evidence of this is the observation that it is not difficult to find SLI children 5 years old who never produce some of the NOM pronoun forms, instead using the ACC forms even in unambiguously inflected environments like *her’s walking*, which could not be modeled on *any* adult clause type.

Having rejected some obvious alternatives, I now return to pursue the possibility of cue-based learning of default case, turning to specific constructions in specific languages that might be relevant. In particular, it has been noted (e.g., Kaper 1976) that the predominant kind of case error made by children is different in different languages. Kaper points out that English children’s errors are almost all in subject position, while Dutch and German children make essentially no subject case errors but do make errors on complements of verbs and prepositions, substituting NOM forms for ACC. In Schütze 1995a I proposed that this contrast be traced to a difference in what the default case of the language is: in English it is ACC, while in Dutch and German it is NOM.²¹ How to derive this generalization from child grammars will be the subject of chapter 5. In the meantime, if it is correct, then we predict that for any language, (at least many of) children’s case errors involve overusing the default case of their language, which they must therefore have already learned. In the next subsection I use this picture of child case development to explore which constructions children could be learning the default case from, and whether the ensuing crosslinguistic predictions seem to be going in the right direction.

3.2.2.2 Crosslinguistic differences

Recall the 12 potential default case environments proposed for English in (65) of §2.6, repeated here:

- (65) a. What? Her/*she cheat on you? Never! (*Mad Magazine* sentence)
 b. Her/*She in New York is what we must avoid. (*argument small clause*)
 c. Him/*He tired, they decided to camp for the night. (*adjunct small clause*)

²⁰ As David Pesetsky reminds me, this is also true of German noun plural *-s*, which Clahsen et al. (1992) argue is the default plural suffix even though it is by far less frequent than other suffixes.

²¹ At the time of writing that paper, I was unaware that the basics of this idea vis-à-vis Dutch versus English appeared in Kaper 1976, expanding on a suggestion by Tanz (1974).

- d. Him/*He liking beans surprised them. Him/*He liking beans, they bought some.
(NP-ing gerund)
- e. It was us/*we. There's me/*I. The murderer is her/*she. (predicate nominal)
- f. Me/*I, I like beans. Judy thinks that the best student, her/*she, should be president.
(left dislocation/appositive)
- g. Me/*I too. Me/*I neither. Me/*I next! (ellipsis)
- h. Everyone but them/*they gets on John's nerves. Students smarter than her/*she get no scholarship. The Jets did that, not us/*we.
(subject of understood predicate)
- i. Who did it?—Me/*I. (bare DP reply to question)
- j. We can't eat caviar and him/*he (eat) beans. (gapping)
- k. Us and them/*We and they are gonna rumble tonight. (conjoined subject)
- l. The real me/*I is finally emerging. Lucky me/*I gets to apply for a Green Card.
How much would us/?we with insurance have to pay? (modified pronoun)

Even a very cursory comparison of English with German, where we have evidence that the default status of NOM is learned quite early, will allow us to rule out several of these environments as candidates for universal default cues.

Conjunction is not a default case environment in German: conjoined DPs each show the same case marking as would a simple DP in the same position, unlike in English. Similarly, ellipsis, bare DP replies, and arguments of understood predicates can be ruled out, because in German the DPs in these constructions must take the case marking corresponding to the position that the DP would have occupied in a complete sentence:

- (5) a. Ich will schwimmen gehen.—Ich/*Mich auch!
I(NOM) want to.swim to.go I/*Me too
- b. Wir haben dich gesehen.—Deinen/*Dein Freund auch!
we have you(ACC) seen your(ACC/*NOM) friend too
- (6) a. Wer mag die Maria?—Ich/*Mich.
who(NOM) likes Maria I/*Me.
- b. Wen mag die Maria?—Mich/*Ich.
whom(ACC) likes Maria me/*I
- (7) a. Du schwimmst besser als ich/*mich.
you swim better than I/*me
- b. Ich liebe ihn mehr als dich/*du.
I like him more than (I like) you(ACC/*NOM)

Also, subjects of gerunds can only be genitive in German:

- (8) Sein/*Ihn/*Er Verschwinden regte mich auf.
his/*him/*he disappearing shook me up (Uli Sauerland, p.c.)

Adjunct small clauses generally have to be introduced by a preposition (9); when they occur (marginally, in a literary register) with a bare DP subject, it sometimes appears in ACC (10), other

times in NOM (11). The choice of NOM versus ACC seems to depend on what sort of implicit predicate one reconstructs in the small clause, and judgments seem to get murky here, with some examples (e.g., (11b)) allowing both possibilities.

- (9) a. *Er hinter ihnen, [pause] sie querten das Feld.
he(NOM) behind them they crossed the field
- b. ?*Ihn hinter ihnen, [pause] sie querten das Feld.
him(ACC) behind them they crossed the field
- c. Mit ihm hinter ihnen, querten sie das Feld.
with him behind them crossed they the field
'(With) him behind them, they crossed the field.' (Uli Sauerland, p.c.)
- (10) a. Neben ihm saß der dünnhaarige Pianist, den/*der Kopf vorgeneigt.
beside him sat the thin-haired pianist, the(ACC/*NOM) head bent.forward
- b. Den/*der Hut in der Hand, stand er in der Tür.
the(ACC/*NOM) hat in the hand stood he in the doorway
- (11) a. Der Fürst fuhr durch das Schloßtor, ein/*einen Reiter voraus.
the prince drove through the castle.gate a(NOM/*ACC) horseman in.front
(Grebe et al. 1973: 594)
- b. Der Fürst ritt durch das Tor, einen/den/ein/der Reiter im Gefolge.
the prince rode through the gate, a/the(ACC/NOM) horseman in (his) wake
(Uli Sauerland, p.c.)

Thus, even if children were hearing sentences like (10) or (11), which seems unlikely, this would not guide them to NOM as the default.

Some of the other potential default case constructions in (65) are also problematic as cues in that, at a purely impressionistic level, it seems highly unlikely that two-year-olds could be sure ever to have heard them: I would characterize gapping sentences, modified pronouns, and perhaps Mad Magazine sentences in this way; adjunct small clauses probably hardly occur in spoken English anyway. Argumental small clause subjects are impossible for some adult German speakers to begin with,²² so I assume they would not be terribly frequent in a two-year-old's input. This leaves us

²² Uli Sauerland finds the examples in (i) grammatical, and Markus Bader (p.c.) accepts similar examples, while Martin Hackl and Susi Wurmbrand (p.c.'s) find them impossible, requiring the clausal subject to be left-dislocated with a resumptive *das* in subject position as in (ii).

- (i) a. Sie in New York ist was wir am meisten vermeiden müssen.
she in NY is what we at.the most avoid must
- b. Er in der Mannschaft wäre fürchterlich.
he on the team would.be awful

with the following candidates for triggering environments: left dislocation and predicate nominal. These each require more detailed discussion, which I undertake in the next two subsections.

3.2.2.3 Left dislocations

At first blush, left dislocation (LD) seems to be an unhelpful environment as a cue for default case because in German, the normative description is that the case of the left dislocated DP must usually match that of the coreferential DP within the clause (Grebe et al. 1973).²³ In van Riemsdijk's (1978) description, this is claimed to be true except when the coreferential DP is inside a PP, in which case the left dislocation must be NOM and cannot match its coreferent:

- (12) a. Der Hans, der ist nicht gekommen.
the(NOM) H he has not come
 b. Den Hans, den mag ich nicht.
the(ACC) H, him like I not
 c. Dem Hans, dem sag ich nichts.
the(DAT) H, him(DAT) say I nothing
 d. Der/*Den Hans, an den erinnere ich mich nicht.
*the(NOM/*ACC) H, of him remember I myself not*
 e. Der/*Dem Hans, mit dem spreche ich nicht mehr.
*the(NOM/*DAT) H with him(DAT) speak I not anymore*
 (van Riemsdijk 1978: 167–8)

However, in discussing these facts with several German speakers,²⁴ a considerably hazier picture emerges. In particular, the matching case alternatives with PPs seem to be only marginally degraded for some speakers, and of equal status to the NOM version for others (13). Conversely,

when the corresponding DP is not within a PP in the main clause (12b–c), NOM is sometimes an alternative to the matched case form (14a, c).

- (13) a. Der/*Den Hans, an den erinnere ich mich nicht.
*the(NOM/*ACC) H, of him remember I myself not*
 b. Der/*Dem Hans, mit dem spreche ich nicht mehr.
*the(NOM/*DAT) H with him(DAT) speak I not anymore*
 (14) a. Dieser/Diesem Kerl, dem werde ich es noch zeigen.
this(NOM/DAT) fellow him.EMPH(DAT) will I it yet show
 ‘This character, I’ll show him yet!’
 b. Diesem/*Dieser Kerl, ihm werde ich es noch zeigen.
*this(DAT/*NOM) fellow him(DAT) will I it yet show*
 c. Dem/*?Der, ihm habe ich geholfen.
*him.EMPH(DAT/*NOM) him(DAT) have I helped*
 ‘That one, I helped him.’ (Hubert Truckenbrodt & Uli Sauerland, p.c.)

One might also wonder about the fact that the ‘resumptive’ element is a demonstrative in all the examples in (12). As van Riemsdijk notes in a footnote, there is a great deal of variability on the degree to which German speakers will accept LD with a coreferential neutral (not emphatic or deictic) pronoun. For some of my consultants, a neutral pronoun blocks the possibility of a non–case-matched NOM LD, as indicated in (14); however, for others it makes no difference, leaving both options open. Much of this variability might be limited to third person LDs, however: a left-dislocated *ich* with a coreferential *mich* seems to sound fairly bad to all speakers:

- (15) a. Ich, ich mag Bohnen.
I I like beans
 b. Mich, mich mag die Maria.
me me likes Maria
 c. Mich/??Ich, jeder mag mich.
me/??I everyone likes me

Thus, it seems that LDs are an optional concord environment in German, with default NOM coming in when concord fails to apply. This makes LD a tricky environment for children to try to learn default NOM from. (In fact, it seems implausible that many instances of LD occur in speech to young German children at all, though it would be worth undertaking a corpus analysis to confirm this.) Children cannot simply set the default case based on the first clear instance of a LD they hear. They must keep track of several instances, observe that they are hearing a range of cases on LDs, then wait to hear one that could *not* be the result of concord, and conclude that that must be a

-
- c. Ich Politiker kann man sich nur schwer vorstellen.
I politician can one (self) only with.difficulty imagine
 ‘Me a politician is hard to imagine.’
 (ii) a. Der Hans im Raumschiff, das muß unter allen Umständen vermieden werden.
the(NOM) H in.the.space.shuttle, that has to be avoided under any circumstances
 b. Der Hans in unserem Team, das wäre hilfreich.
the(NOM) H on our team that would.be beneficial
 c. Der Hans ein Politiker, das kann sich niemand vorstellen.
the(NOM) H a(NOM) politician, that can (self) no-one imagine
 ‘Hans a politician, no-one can imagine that.’

²³ I use the term “left dislocation” in a purely descriptive sense with regard to the German construction in (12).

²⁴ Thanks to Hubert Truckenbrodt, Uli Sauerland, Matthias Schlesewsky, Markus Bader, and Theodor and Dorly Schütze for judgments.

default. This is possible, but requires rather a lot of bookkeeping. Let us see whether a simpler trigger could be found.

3.2.2.4 Predicate nominals

The other remaining place where children might look for a cue to the default case of their language is in what I have loosely classed as predicate nominal positions. Impressionistically, these seem to be abundant in the input to young children: *That's a doggie*, *There's Daddy*, etc. seem like canonical examples of adult-to-child speech, and *It's me* is certainly a common everyday utterance. In terms of initial plausibility, then, things look hopeful. Furthermore, in matrix clauses predicate nominals *are* uniformly NOM in German.

- (16) a. Das bin ich.
 that am I(NOM)
 ‘That’s me.’
 b. *Das ist mich.
 that is me(ACC) (Maling & Sprouse 1995: 185)

One might doubt whether this is actually a default case environment in the syntax of adult German, however. As noted by Maling and Sprouse (1995), one could make an argument for predicate nominals having to agree in case with the subject of their clause, i.e., having to undergo concord rather than being left unmarked. This is because in ECM-like contexts, ACC marking of the predicate nominal seems to be possible (cf. Haider 1984):

- (17) Er läßt ihn {einen guten Mann/ein guter Mann} sein.
 he lets him a good man(ACC/NOM) be
 ‘He lets him be himself.’ (Haider, Olsen & Vikner 1995: 13)

The Duden reference grammar (Grebe et al. 1973, p. 614) notes that ACC is the older form in this environment and is being replaced by NOM nowadays, however the facts seem to be considerably more complex (see the appendix of Maling and Sprouse 1995 for discussion).²⁵ The fact that there

²⁵ For instance, the preferred case can flip as a function of the person of the embedded subject, as mentioned by Maling and Sprouse (1995):

- (i) a. Laß mich dein/*deinen Liebhaber sein.
 *let me(ACC) your(NOM/*ACC) lover be*
 b. Laß ihn deinen/*dein Liebhaber sein.
 *let him(ACC) your(ACC/*NOM) lover be* (Martin Hackl, p.c.)

No native German speaker that I have spoken to seems to have any idea about what is going on here, but the contrast is quite robust.

is NOM/ACC variability in this embedded context presumably need not matter for our learning problem, if the child looks only at predicate nominals in matrix clauses, or if the embedded examples are rare in her input. (If the child *were* sensitive to examples like (17) with ACC, the same type of bookkeeping discussed for LDs would need to apply.)

Do we really wish to entertain the possibility that the child uses as a cue for default case a construction that actually does not involve default case in the target language? This seems to be a problem only if it leads to empirically wrong results in other languages, so we should proceed by trying to ascertain what effect it would have. *Prima facie*, one might worry that there seems to be a great deal of cross-linguistic variation in the strategies for case marking on predicate nominals. On the other hand, we do not have very good data on what sorts of case errors, if any, children learning those languages make early on. For the moment, then, we can at least draw out what predictions a predicate nominal cue approach to default case would make for acquisition. Note that this environment need not be flagged as an *explicit* cue for the learner, so long as she starts out assuming as the unmarked UG setting that predicate nominals receive default case, until she encounters evidence to the contrary. It seems plausible that the kind of counter-evidence needed to reset this assumption for German, namely embedded nonfinite copular clauses, might not be accessible to the child until after the choice of default case has been fixed in her grammar (cf. Lightfoot’s (1989) degree-0 learnability proposal). In the rest of this subsection I explore how a predicate nominal cue strategy would apply in other languages. In assessing its predictions, I assume that the predominant pattern in children’s case errors reflects overuse of the default case.

Dutch behaves just like German in root copular clauses: the predicate nominal must be NOM:²⁶

- (18) a. Dit/Dat ben ik.
 this/that am I
 ‘That’s me.’
 b. Daar ben ik.²⁷
 there am I
 c. De man met de rode hoed ben ik.

²⁶ There is one exception, which I ignore here. When both the subject and the complement are pronouns, they cannot both be NOM.

- (i) Ik ben haar/*zij.
 *I am her/*she*

²⁷ With regard to (18b), Schaeffer notes that it can have either the locative or the list reading, or be ambiguous, depending on stress placement.

the man with the red hat am I

- d. Meneer Smid {ben ik/*is mij}.
*Mr. Smith am I/*is me* (Jeannette Schaeffer, p.c.)

This jibes with the observation that Dutch children do not seem to make any case errors in subject position, but *do* make the error of using NOM pronouns in non-NOM positions, particularly as complements to prepositions (see discussion in §5.3.3).

In Russian, the possibilities for case on a predicate nominal depend partly on tense: in the present, only NOM is possible (19), while in the past and future, both Instrumental and NOM are possible, with a difference in meaning (20): the NOM version implies an inherent property, while the instrumental is neutral. Furthermore, according to Masha Babyonyshev (p.c.), the NOM in contexts like (20b) is starting to sound old-fashioned, and Instrumental is gaining ground in this environment.²⁸

- (19) a. Saša muzykant.
Sasha(NOM) musician(NOM)
 ‘Sasha is a musician.’ (Bailyn 1995: 318)
- b. Eto ja.
this(NOM/ACC) I(NOM)
 ‘It’s me.’ (Masha Babyonyshev, p.c.)
- (20) a. On byl pisatel’.
he(NOM) was writer(NOM)
 ‘He was a writer (by profession).’
- b. On byl pisatelem.
he(NOM) was writer(INSTR)
 ‘He was a writer (temporarily).’ (Neidle 1982: 420)

According to Babyonyshev’s (1993) study of case acquisition by two Russian children, they make no case errors in NOM subject position, and do make some errors using NOM incorrectly in non-subject positions (details can be found in §5.3.4). This suggests that the Russian children identify NOM as the default case, which is probably the correct conclusion for the adult language, since NOM is possible on left-dislocations associated with ACC arguments (as in German, it alternates with case concord in that environment):

- (21) a. Vanja, ego ja ne ljublju.
John(NOM) him I don’t like
- b. ?Vanju, ego ja ne ljublju.
John(ACC), him I don’t like (Masha Babyonyshev, p.c.)

²⁸ Babyonyshev’s intuition is that children would hear more Instrumental than NOM in these contexts.

If my hypotheses so far are correct, then the Russian child must use utterances like (19), and not ones like (20a), to decide the default case, otherwise they should be erroneously using Instrumental case on subjects and overextending it to other complement positions as well. There are a couple of ways by which this result might come out. First, it is not implausible that the child would be hearing many more copular sentences in the present than in other tenses, given the “here-and-now” character of interactions with zero- to two-year-olds. Second, the child might pay attention only to present tense copular utterances.

So far, then, the hypothesis that children learn the default case from predicate nominals seems to get the right results for languages where quantitative data about child case errors is available. I now draw out the predictions that this claim makes for other languages where, as far as I am aware, no data about child case errors have been reported. Maling and Sprouse (1995) note that there is a split within Germanic as to the case of predicate nominals: we have already seen that English uses ACC, while German and Dutch use NOM. Icelandic and Swedish pattern with German in using NOM:²⁹

- (22) a. Hún er kennari/*kennara. [Icelandic]
*she(N) is teacher(N/*A)*
- b. Að vera kennari/*kennara er mikilvægt.
*COMP to.be teacher(N/*A) is important*
- c. Ég taldi hana/*hún vera kennara/*kennari.
*I believed her(A/*N) to.be teacher(A/*N)* (Maling & Sprouse 1995: 168–170)
- (23) Det är jag/du/*mig/*dig. [Swedish]
*It is I(N)/you(N)/*me(A)/*you(A)* (Maling & Sprouse 1995: 185)

In contrast, Danish and Norwegian pattern with English: predicate NPs are ACC, not NOM.³⁰ Maling and Sprouse analyze this ACC as being assigned by the copular verb, rather than

²⁹ Note in (22c) that adult Icelandic clearly uses case concord for predicate DPs, like one of the patterns in German. The fact that (22c) involves case concord, rather than ACC case assignment conditioned on the nonfiniteness of the clause, is clear from examples where the matrix verb takes a NOM subject of its “ECM” complement clause and the predicate nominal in that clause is NOM. Thus, if children interpret (22a) as involving *default* NOM, that is once again an incorrect analysis from the point of view of the adult grammar. (Maling and Sprouse (1995) propose an alternative analysis under which all the Icelandic facts could be consistent with predicate nominals being assigned case rather than getting it via concord.) However, NOM does seem to be the default case in Icelandic, since it occurs uniformly on left dislocations:

- (i) Strákarnir, við þá hafði aldrei verið talað.
the.boys_i(N), with them_i had never been talked (Sigurðsson 1992: 9)

³⁰ Thanks to Arild Hestvik (p.c.), I am able to compare the Norwegian facts with English in somewhat more detail. Left dislocations associated with a subject are NOM; for LDs associated with an object, there is no clear preference between NOM and ACC, and the construction is overall rather hard to get. ACC is used in elliptical

being a default case, but the correct analysis of the adult facts is not the central concern here. The important point is the prediction that child case errors in Danish and Norwegian should look like those in English, i.e., overextension of ACC to subject position, and not like German, Dutch, and Russian. I so far have only anecdotal evidence with which to assess these predictions. Ute Bohnacker (p.c.) reports based on her observations of one child acquiring Icelandic that she occasionally makes errors using NOM pronouns as nonsubjects, a few as objects of verbs but mostly as objects of prepositions, particularly those that govern the genitive. Jonas (1995a, b) reports no nonNOM subjects in her analyses of child Icelandic and Faroese. Lynn Santelmann (p.c.) reports that Swedish children make errors similar to those found in Dutch, overextending NOM, particularly to complements of prepositions. She also observes that one Danish child whose transcripts she studied behaved like English children in overextending ACC to subject position. While these predictions should obviously be verified with careful quantitative analysis of several children for each language, the direction of reports so far seems promising.

A particularly interesting situation obtains in Frisian: according to Maling and Sprouse, ACC case is used on predicate nominals, but left dislocations are NOM. (Of course, (24a) by itself does not show that, since the LD could be in concord with the subject—we need an LD object example.)

- (24) a. Ik, ik praat net botte goed Frysk
I(N) I(N) speak not very well Frisian
- b. At ik dy wie, soe ik . . .
if I you(A) were would I (Maling & Sprouse 1995: 172)

If this is descriptively correct, then Frisian acquisition data would provide a crucial test of whether the child comes preprogrammed to pay attention just to left dislocations or just to predicate nominals, since these hypotheses make opposite predictions about children's overextensions. Unfortunately, I am aware of no literature on Frisian case acquisition.

Moving beyond Germanic, the predictions also seem to be on the right track, though the examples are less convincing. In French, Pierce (1989, 1992) observed that children use only the tonic pronoun forms with OIs but both tonic and clitic subject pronouns with inflected verbs. (See §5.3.5.) They never make the error of using subject clitics in object clitic position or vice versa. Of course, in adult French, only the tonic form is possible as a predicate nominal or a left-dislocation:

sentences like *Me too*. Bare answers to *wh*-questions match the case of the corresponding element, as in German. Mad Magazine sentences take NOM subjects, though ACC might not be completely out. A pronoun with a restrictive relative clause is NOM; to the extent that adjectival modification like *The real me* is possible, ACC is used; pseudo-appositives like *We linguists* get the case appropriate to their syntactic position.

- (25) a. C'est moi/*je.
*it's me(TONIC)/*I(CLITIC)*
- b. Moi/*Je, j'aime chanter.
*me(TONIC)/*I(CLITIC), I like to.sing*

Thus, there is a sense in which the tonic forms are defaults and represent the only kind of case overextensions made by children. Of course, the fact that the subject forms are clitics is an important confound, and it is possible that children are sensitive to the clitic/tonic distinction independent of default case environments: they might simply know that *je, tu*, etc. must cliticize to a finite verb word, while *moi, toi*, etc. lack such a restriction, so that when an OI is produced, only the tonic pronoun is a valid possibility. I will discuss this issue further in chapter 5, when I consider French in more detail. For now, the French facts seem to be consistent with my hypothesis but do not provide independent support for it.

Things seem a bit clearer in Spanish, where the NOM pronouns do not behave like clitics of the French type: they can be conjoined (26a) and appear sentence-finally (26b), and they occur in predicate position (27):

- (26) a. Eran Juan y tú/*ti los que merecían el viaje.
*were J and you(NOM)/*ACC those that merit the trip*
'It was John and you that deserve the trip.'
- b. Juan es mas inteligente que tú/*ti.
*John is more intelligent than you(NOM)/*ACC*
- (27) El hombre con gafas era yo/*mi.
*The man with glasses was I/*me*

Based on the fact in (27), my hypothesis predicts that if Spanish children produce any case errors, they should go in the direction of overextending NOM. Unfortunately, no one seems to have observed any case errors in Spanish child corpora (John Grinstead, p.c.). This could be because case errors arise only in OI languages (but see chapter 6 for further discussion).

I return to children's case errors in §5.3, where I examine their interaction with verbal morphology.

3.3 Interpreting the data

Given the general assumptions above, I now spell out the specific principles I follow in gathering and interpreting acquisition data, with the major focus on data from transcripts of spontaneous child speech.

The first and most important point is that purported generalizations must be based on quantitative findings. It would not be reasonable to expect a theory of acquisition to account for every utterance ever produced by children learning a given language, just as it is not expected that theories of adult grammar should account for every adult utterance, including slips, deliberate misuses, etc. Just as with adults (cf. Schütze 1996a), we expect that actual child performance is a result of numerous factors, of which the grammar is only one. (In addition, transcriptions may be inaccurate representations of actual child performance, due to children's nonadult pronunciation, unconscious biases and slips on the part of transcribers, and other factors.) While we eventually desire theories of the performance factors too, we need some basis to tease apart grammatical versus performance effects. Since eliciting grammaticality judgments from two-year-olds is difficult, we must rely chiefly on frequency data: if a child produces an utterance type many times over many recording sessions we have greater confidence that it represents a grammatical construction for her than if it appears only once. Similarly, a consistent pattern of behavior in several children is less likely to reflect flukes of a particular child's situation.

The second methodological point concerns the use of data from multiple children, or multiple recordings of the same child at different ages, which are often necessitated by the limited size of any single transcript. It is legitimate to pool data from different sources only to the extent that they can be argued to represent a similar stage of development in relevant respects. For instance, in assessing the proportion of case-marking errors produced by English children, Rispoli (1994) pools the numbers of instances across 12 children each recorded from ages 1;0 to 3;0. Since there is every reason to believe that one-year-olds' case-marking is very different from three-year-olds', the resulting percentages clearly cannot be taken to reflect any one stage of development.³¹ Worse still, they could well overestimate the *range* of error types that any given child produces. For example, one cannot conclude from the presence of both *me* and *my* as subject pronouns in these data that any given child's grammar could produce both error types concurrently.

The third point is more subtle. Even for a particular child at a particular point in time who produces errors with reasonable frequency, the interpretation of such errors is not straightforward. For example, the production of errors such as *Him goes* does not necessarily imply that the child's grammar allows ACC subjects with agreeing verbs, because production data reflect the vocabulary

³¹ Indeed, as Ken Wexler points out, pooling child data over a large period of time almost inevitably leads to overestimating the degree to which they resemble adult patterns, because older children produce more interpretable utterances in general, so that the more advanced features of these later grammars tend to wash out the data from earlier stages. Additionally, interactions can arise: for instance, any measure related to the nature of elements in subject position (e.g., the proportion of subjects that are nonNOM) will be distorted by the fact that subjects are much less likely to be overt among younger children.

as well as the grammar. As discussed in §3.2.1, if the child does not know the NOM form of the masculine pronoun, then she will never produce *He goes*, regardless of her grammar. Rather, it is reasonable to expect her to substitute some other form, for instance, to use *him* everywhere a masculine is called for. Thus, it must first be established that the child has sufficient lexical resources to produce a contrast before concluding anything about the significance of the data. Similarly, a child who *never* produces errors like *I like he* cannot be argued to have the grammar of object case marking correct unless she knows the word *he*; if she never produces the nominative pronoun, she is incapable of such errors and we cannot draw the conclusion about her grammar. Indeed, given present assumptions, we should expect to find potentially very different patterns of data among children who do or do not have certain lexical items available to them. We will see in chapter 5 that this is true: for instance, SLI children lacking the resources for a case contrast in subject position produce substantial numbers of errors of the form *him's walking*, whereas children who have a NOM pronoun in their repertoire almost never do so.

A fourth problem arises also in the interpretation of time course data. We frequently wish to show that two grammatical factors interact in a particular way, by showing that the patterning of one factor is dependent on that of the other. For instance, I will argue that subject case forms depend on verbal inflection. In order to gather sufficient numbers of instances, one often must pool data from several transcripts that may be separated in time by many months. However, as has been noted in the literature, showing that two variables correlate in aggregate totals is not sufficient to show that they correlate on an utterance-by-utterance basis, which is what a purported grammatical link between the variables would entail. Returning to the case example, imagine the following hypothetical scenario. At stage 1, a child is producing no inflected verbs and only ACC subjects; at stage 2, she has acquired NOM pronouns and produces only NOM subjects, but still has no verbal inflection; at stage 3, she acquires verbal inflection. We can now predict with 100% certainty that this child produced no utterances containing an ACC subject with an inflected verb, but we cannot conclude that she knows that ACC subjects and inflected verbs are incompatible. This scenario could equally well arise if she learned two independent facts at different times, namely that subjects must be NOM, and that (matrix) verbs must be inflected. To show that these facts are related in the child's grammar, one has to establish that there was a stage at which the unattested combination *could have* occurred, i.e., when all its component elements were being produced. This would not be a problem if there were sufficient data in a single transcript taken on a single day, since (we assume) the developing grammar does not go through more than two stages in one day. When single-day data are not sufficient, the next best thing is to show that for each group of contiguous transcripts that provides meaningfully large numbers, the prerequisite features are all attested in suffi-

cient quantity to predict some number of occurrences of the crucial combination of features, if there were no grammatical factors acting to block it.

In chapter 5 I provide quantitative data from English children to show that failure to take account of the above considerations has led to incorrect conclusions about their grammatical knowledge. In particular, it has been claimed (e.g., Radford 1994) that there is a stage when children do not know that agreement must co-occur with NOM case because they make errors like *her goes*. I show that such examples either represent extremely rare isolated occurrences or are produced by children who never produce the word *she*. Once these inappropriate data are removed, one can show statistically that children clearly do know this constraint.

3.4 Details of data analysis

The new acquisition data reported in this thesis are of three types. The first are analyses of transcripts of spontaneous production by normal English- and German-speaking children from the CHILDES database (MacWhinney and Snow 1985, 1990). The second are transcripts of both normal and SLI English-speaking children from the Kansas/MIT project being conducted by Mabel Rice and Ken Wexler (Rice & Wexler 1995, 1996; Rice, Wexler & Cleave 1995); these differ from the first kind of transcript in that experimenter/transcribers were explicitly watching for certain features of the utterance situations, in particular, the intended temporal reference of the child. The third are results of elicitation experiments performed with the same groups of normal and SLI English-speaking children. In this section I first describe specific points concerning the way acquisition data were coded and reported in this thesis, and then provide details on the specific children whose data will be reported in later chapters.

I first enumerate types of child utterances that were always excluded from the analysis entirely:

1) Utterances that were an exact repetition of all or a subset of the words of an adult's most recent utterance. The assumption behind this is that the child might make relatively unanalyzed phonological repetitions of what she hears but leave out chunks of it due to memory limitations, or for other reasons. We cannot assume that such utterances are generable by her grammar. Also excluded were utterances explicitly flagged as "imitative" in the transcript.

2) Utterances that were clearly (attempts at) rote repetition of memorized material, especially nursery rhymes, song lyrics, etc., which are often flagged as such in transcripts.

3) The child's own self-repetitions, if as in 1) they were exact repetitions of the entire utterance or a subset of it. An utterance was considered a self-repetition if the child had not produced any other contentful utterances since the previous occurrence (though she might have said "um" or "yeah" or "mommy" or "daddy" in between). The assumption behind this is that one can repeat one's own utterance without "regenerating" it in the syntax, by some "articulatory loop" mechanism.

4) All occurrences of highly frequent utterances that appeared to be formulaic. This is obviously a more subjective category than the preceding ones, but one does get a feel after reading many transcripts that certain frequent utterances are being produced without analysis by the child, particularly if they involve words or constructions that occur nowhere else in transcripts at the same age.

In contrast, whenever a child repeated her own or someone else's previous utterance but altered it in some way other than word omission (and phonology), it was included in the analysis, on the assumption that adding or changing words would require the child to employ her grammar rather than just a phonological repetition loop. Utterances that included unintelligible material or unsure transcriptions, as indicated in the files, were included if the point of uncertainty did not involve any of the issues under analysis (e.g., verbal inflection, case forms, etc.) and the remaining clear portion of the utterance could be analyzed successfully. Utterances where any critical feature was marked as unclear were completely excluded. Utterances where the form of the utterance plus the situation as described in the transcript did not make clear what the intended meaning was were excluded. For instance, if a child said *him kiss* in a context where it was doubtful whether the referent of *him* was likely the kisser, then the utterance was counted as unclear with respect to the grammatical function of the pronoun.

Based on the considerations discussed above, all counts of case form distribution were conducted on transcripts at an age where the child had produced all of the contrasting forms at issue. In particular, in tabulating use of *he* versus *him* as a subject, counts began at the first transcript by which each of these forms had been used spontaneously by the child at least once. For parallel reasons, counting did not continue past the last instance of such a contrast, e.g., the last use of a *him* subject. This is to ensure that all the critical data come from a stage at which both possibilities are available to the child. In some instances, counts were stopped earlier if such errors disappeared for several files and then an isolated example appeared substantially later, where it was felt that this was no longer an active possibility for the child.

For the purpose of assessing case/finiteness interactions in the Kansas/MIT data, children were divided into three groups whose data were tabulated separately. The first group were those who never produced subject case errors in either the transcripts or the elicitation probe. As argued

above, pooling their data with those of children who are making such errors would create a meaningless aggregate. The second group consisted of children who produced no or virtually no inflected verbal forms. For the same reason just mentioned, they were treated separately. The third group were children who were producing substantially non-zero amounts of verbal inflection and some mixture of NOM and nonNOM subject forms, i.e., these children were all at a stage where case/finiteness interaction could be meaningfully examined. One further exclusion was applied, however. As argued above, the ability for children to display sensitivity to case contrasts depends on their having the necessary lexical resources. Therefore, children who never produced a particular NOM pronoun form (e.g., *she*) at all, either in transcripts or the probe task at a given age, were excluded from the pooled data for the use of that particular pronoun.³² Those uses of the nonNOM form(s) were tabulated separately, and will be used to show that this methodological assumption is justified by the observation that case/finiteness patterns in such instances are markedly different from those observed when a child has a lexical contrast available. For CHILDES transcript data, I chose transcripts for analysis only if children had both kinds of contrast available and were making subject case errors. Thus, those do not represent a random sample of children learning English; indeed, in order to gather the largest possible samples, the children analyzed were those who seemed to use the most nonNOM subjects.

For all purposes here, potential gender errors were ignored; that is, utterances potentially containing such errors were treated like all other utterances. Such errors could be of two types: either a mismatch between the actual gender of the referent and the form used to refer to that referent, e.g., using *she* or *her* to refer to a male; or, in the German data, a mismatch between the grammatical gender of a noun and a word used to modify it. While gender errors are an interesting topic in their own right (see, e.g., Pensalfini 1995), I assume that the factors involved in their production are orthogonal to those of interest here.

For the German analysis, I tabulated only frequencies for words that were uniquely identifiable as NOM or ACC in form. Thus, *die* and *das*, the NOM/ACC feminine and neuter singular determiners, were excluded when they occurred in NOM and ACC contexts, since they could not tell us anything about whether the children knew which case the context demanded. This also excluded reduced determiner forms such as *de*, which show no case ending and appear to be used in a range of environments, not simply as a reduction of one particular full determiner form. One-word utterances containing pronouns or demonstrative articles were included when the context made it clear what the intended sense was and which case would be demanded in the corresponding

³² In principle, one would also want to exclude children who had produced *only* the NOM form and never the corresponding ACC form, but this situation never arose.

adult elliptical utterance. (This differs from the treatment of such utterances in English, because in adult English one-word pronoun utterances must be ACC, regardless of the implicit grammatical function of the pronoun. In the English counts, environments that call for default ACC were tabulated separately.)

I conclude this section with a discussion of two points concerning the way missing tense marking was counted. First, as discussed above, many OI researchers have claimed that OIs can be uttered by a child intending to refer to a past event. This possibility is claimed to arise *not* because the child's grammar indicates that present tense forms can be used to describe past events, but because the intended tense features of an utterance can be omitted from the grammatical representation of that utterance. That is, a child syntactic structure containing a present tense feature has the semantics of adult present tense, one containing a past feature has the semantics of adult past tense, but an additional option for the child but not (in main clause declaratives) for the adult is the complete absence of a tense feature. If this is true, then there are two ways to diagnose the absence of tense features from a child's utterance: its absence may trigger the absence of an otherwise obligatory morpheme such as *-s* or *am*, or it may yield a surface-grammatical utterance whose form is inappropriate to its intended meaning, according to the adult grammar. The former effect is detectable based on the child's utterance alone, whereas the latter requires a determination as to intended meaning. This is generally difficult when working only with the limited contextual information available in transcripts, but is feasible in experimental elicitation situations and perhaps when transcribers of spontaneous speech are specifically watching for it. Such utterances should be analyzed as nontensed, even if as surface strings they represent valid utterances, because under the assumptions made here, tense features must be missing from the representation of the utterance. For example, *you fall*, used an hour after the referent of *you* fell, is most likely missing a past tense feature. In the Kansas/MIT materials, where intended tense was a specific focus and experiments were designed to elicit particular tenses, I follow the transcriber's assessment of what the child's intended tense was. In my own transcript analyses, I made the conservative decision to ignore potentially missing past tense, so that bare main verbs were always treated as missing *-s* if the subject was 3sg, and ambiguous as to tense/agreement marking with any other kind of subject; ambiguous forms were not included in the counts. Given the theory I propose in chapter 5, this choice has the consequence that I could be omitting only confirming evidence, not disconfirming evidence.

The second point about coding missing verbal elements is that I have ignored potentially incorrect *aspect* in English, assuming that obligatory aspectual markings have not been omitted. (Examples of overt auxiliaries with missing *-ing*, e.g., *I'm sing*, were fairly rare.) Thus, *I sing* is never treated as missing progressive *be* and *-ing*, even though it might be unusual for an adult to use a simple present form like this. As with intended past tense, the result of this conservative

choice will be that some utterances that might actually be missing inflection will be counted as ambiguous with regard to inflection. I make this choice because it is not obvious given current understanding what the syntactic representation of a nonprogressive utterance used in a progressive context would be. We do not know whether children learning English can use OIs to express progressive meanings and/or whether they can use (inflected) simple present forms to express progressive meanings. The latter possibility should at least be considered, in light of the fact that many related languages allow simple present tense forms to be used to describe ongoing activities, whereas English does not; i.e., there is something the children must learn about the English system that is not universal and perhaps marked. It is possible that whatever the relevant difference is has not been mastered at the OI stage.

4 Agreement and Case

There is little if any point to doing formal syntax if one is not prepared to allow the formalisms to suggest some surprising analyses. (Andrews 1990a: 213)

The goal of this chapter is to motivate a theory of the distribution of agreement and structural case features. This will be done in several steps. First (§4.1), I use data from Icelandic to motivate several descriptive generalizations about where Accord relations do and do not obtain, with a focus on nonfinite clauses and cross-clausal agreement. These generalizations will motivate one component of my theory, the Accord Maximization Principle (AMP). Further data from Icelandic are used to show how the AMP interacts with other principles of grammar. Data from several other languages are used to reinforce the claimed generalizations, and some apparent problems for the AMP are discussed. §4.2 is devoted to summarizing the range of phenomena in which Accord is claimed to play an explanatory role, and extending this range, most importantly to switch-reference phenomena. §4.3 covers a second component of the proposed theory of case, which deals with “competitions” between the two structural cases available in a clause. Data are presented that are problematic for existing accounts, and these are used to motivate a new implementation of the notion of “dependent case.” §4.4 presents the third piece of the case theory, covering what the morphological component of grammar must do to allow the rest of the theory to yield the correct output forms. The appendices deal with additional data that appear to pose problems for my account.

4.1 Agreement and structural case: Two sides of one coin

In this section I use data from a variety of languages to support the following two claims:

1) Structural case marking goes hand-in-hand with agreement.^{1,2} More specifically, I want to show that a single syntactic relationship, Accord (defined in §2.3 as combined phi-feature and case checking) underlies both structural case features on DP and agreement features on V/INFL.

¹ Noam Chomsky informs me that this proposal is attributable to Leland George and Jaklin Kornfilt.

² There are numerous apparent counterexamples to this claim in the literature, that is, case/agreement mismatches, which I do not review here (except for some examples of split ergativity, discussed in appendix 4.B); see Falk 1996 for some intriguing examples. It is possible that these could succumb to alternative analyses under which they would not be problematic for the theory I present in this chapter. At worst, if this proves impossible, I could revert to the position taken by Ura (1996: 253, citing Chomsky’s 1995 fall lectures), namely that the unity of case and agreement holds in some languages as a parametric option and not in others. What is important for present purposes is that it holds in a large set of languages, including all those from which acquisition data are discussed in chapter 5.

2) The presence or absence of agreement is independent of the presence or absence of Tense features in a clause. More specifically, I want to show that all four combinations of the INFL properties [\pm Tense] and [\pm Agreement] are attested.

4.1.1 Icelandic

In this subsection I use facts from Icelandic to make the following argument.

1) Overt verbal agreement is associated only with NOM arguments, and NOM arguments in finite clauses always trigger agreement, so I claim NOM is always checked under Accord;

2) There is at most one NOM argument per clause, so I claim the Accord relation that checks NOM must involve INFL.

3) Quirky-case DPs never trigger agreement (perhaps universally), hence I claim they cannot enter into Accord relations.

4) There are tensed clauses (those with no NOM arguments) where no Accord relations obtain, hence no syntactic agreement features are present on V/INFL. Therefore, I claim there can be no absolute requirement that a finite clause have agreement.

5) NOM arguments are found in nonfinite clauses, and we can argue in some cases that NOM could not be coming from a higher finite clause, so nonfinite INFL must be able to check NOM.

6) Therefore, by my hypothesis concerning Accord, nonfinite INFL undergoes Accord and so must have agreement features, although their contrasts are not spelled out.

7) Although nonfinite INFL can check NOM, there are configurations in which a NOM argument of a nonfinite clause *must* trigger (overt) agreement on a higher finite clause. Given 4) and 5), this long-distance agreement cannot be a convergence requirement, since neither higher INFL nor the NOM DP *need* this Accord relationship.

8) Generalizing from 7) and recalling 4), I propose that the presence of features that trigger Accord is *never* forced by convergence requirements, but instead is enforced by the post-convergence application of the AMP. In §§4.1.1.5–4.1.1.6 I demonstrate additional convergence conditions that override the AMP.

In §4.1.1.7, which is not part of the chain of reasoning, I use facts from Icelandic to argue that structural ACC object case is also checked under Accord, and to show the need for a feature-copy-

ing process distinct from Accord, namely Concord, to explain instances where quirky cases appear to trigger agreement on predicates (unlike those covered by 3)).

4.1.1.1 NOM and agreement

I now describe the distribution of agreement and NOM case in finite clauses. (1) and (2) show that NOM subjects and objects must trigger verbal agreement.³ (3) and (4) also show that finite clauses do not all have Accord with INFL: in particular, finite active and passive clauses lacking a NOM argument necessarily lack Accord (4).⁴ (2) and (4) show that nonNOM arguments cannot trigger verbal agreement.

- (1) a. Strákarnir voru ekki svangir.
the-boys(N) were(3pl) not hungry(N-pl-masc)
- b. *Strákarnir var ekki svangt.
the-boys(N) was(3sg) not hungry(sg-neut)
- (2) Henni leiddust/?*leiddist þeir.
*she(D) was.bored.by(3pl/?*3sg) they(N)* (Taraldsen 1995a: 307)
- (3) a. Strákunum var ekki kalt.
the-boys(D) was(3sg) not cold(sg-neut)
- b. *Strákunum voru ekki köldum.
the-boys(D) were(3pl) not cold(D-pl-masc) (Sigurðsson 1993: 38)
- (4) a. Okkur vantaði vinnu.
us(A) lacked(3sg) a-job(A)
- b. Mig vantar skó.
me(A) lacks(3sg) shoes(A) (Einarsson 1945: 105)
- c. Ferðunum seinkaði.
the-journeys(D) was-delayed(3sg) (Sigurðsson 1993: 4)

Note that tense contrasts can be marked in all the above clauses. Thus, presence of Tense features does not force an Accord relationship, and hence, does not force presence of phi-features in INFL. (The possibility of (4) also shows that agreement cannot be required for the licensing of an overt subject.) Rather, the descriptive generalization is the following: If there is a NOM argu-

³ Strictly speaking, this description holds only for *number* agreement. The status of person agreement when the NOM element is not the subject is complex—see discussion below.

⁴ In Icelandic tensed clauses with no NOM arguments, such as those in (4), the verb surfaces in a 3sg form, regardless of the features of that subject. The presence of a 3sg form does not constitute evidence for the presence of 3sg phi-features on that verb *in the syntax*; indeed, the absence of contrast implies the *absence* of those features, since they would be uninterpretable and would have nothing to check against.

ment in the clause,⁵ INFL must agree with it, i.e., it *must* enter an Accord relation; otherwise, Accord is impossible. I continue to defer the question of how to implement this state of affairs formally, proceeding instead to consider its consequences. We have established the descriptive correlation *NOM iff Accord* for finite clauses. What about nonfinite clauses in Icelandic? These show no person or number contrasts on their verbs. How can we determine the distribution of Accord there? At this point, the reasoning becomes more indirect.⁶

4.1.1.2 NOM and infinitives

Let us now turn our attention to control, raising and ECM clauses in Icelandic. None of these show any tense or agreement contrasts, yet all allow NOM objects.⁷ How is this NOM case checked?

Crucially, NOM objects in nonfinite clauses occur with exactly the same distribution as they do in finite clauses (Schütze 1993b, Harley 1995). That is, a finite clause with a NOM object (which triggers number agreement on the verb) always translates to a nonfinite clause with a NOM

⁵ There are no instances of more than one NOM argument in a clause in Icelandic, a point to which I return below.

⁶ There are examples in the literature of arguments for the presence/absence of AGR(ement) on the basis of binding facts, under the assumption that AGR, as an accessible SUBJECT, should correlate with binding domains. However, to my knowledge, the Icelandic finite clauses that I claim must lack Accord behave no differently for binding of their subjects than do agreeing clauses. (Relevant test cases would involve an anaphoric subject of an embedded tensed nonagreeing clause bound from a higher clause.) Gair and Wali (1988) make the same point for Hindi. I conclude that whichever INFL element might be relevant for binding domains, it cannot be the features involved in Accord. (However, there is one attested interaction between agreement and cross-clausal binding in Icelandic, which will be examined below.) The inappropriateness of appealing to agreement features for defining binding domains is also indicated by the fact that Portuguese clauses headed by an infinitive with agreement are transparent for binding: coreference is disallowed in the following example.

(i) Os actores viram eles representarem a cena.
*the actors_i saw [them_j/*_i to-represent-3pl the scene]* (Raposo 1989: 302)

⁷ Actually, the generalization goes beyond complement infinitival clauses: adjunct and subject infinitives also allow NOM objects under the same conditions:

(i) a. Það komu margir strákar í skólann án þess að hafa batnað hálsbólga.
there came many boys to school without COMP to-have recovered-from sore-throat(N)

b. Það komu engir stúdentar án þess að hafa verið gefinn styrkur.
there came no students(N) without COMP to-have been given scholarship(N) (Maling & Sprouse 1995: 179)

(ii) Að batna veikin er venjulegt.
COMP PRO(D) to-recover-from the-disease(N) is usual (Freidin & Sprouse 1991: 409)

object, and vice versa; finiteness is clearly irrelevant to object NOM case. (5) shows that ‘love’ must take an ACC object in a finite clause; (6) shows the same is true in an ECM clause, (7) shows this for a raising clause, and (8) for a control clause. (9a) shows that ‘be bored by’ takes a NOM object in a finite clause; (9b) shows that this is also unchanged in an ECM clause; (10) shows this for a raising clause, and (11) for a control clause.

- (5) a. Hún elskar þá.
she(N) love(3sg) them(A)
 ‘She loves them.’
 b. *Hún elska/elskar þeir.
she(N) love(3pl/3sg) they(N) (Taraldsen 1995a: 318)
- (6) Við töldum hana/*hún elska Harald/*Haraldur.
*we(N) believed(1pl) she(A/*N) to-love Harold(A/*N)*
 ‘We believed her to love Harold.’ (Taraldsen 1995a: 323–4)
- (7) Hún þótti elska Harald/*Haraldur.
*she(N) seemed(3sg) love Harold(A/*N)*
 ‘She seemed to love Harold.’ (Taraldsen 1995a: 323)
- (8) Við reyndum að elska hana/*hún.
*we(N) tried(1pl) COMP [PRO(N)] to-love her(A)/*she(N)⁸*
 ‘We tried to love her.’ (Taraldsen 1995a: 322)
- (9) a. Henni leiðist Haraldur/*Harald.
*her(D) is.bored.by Harald(N/*A)*
 ‘She is bored by Harold.’
 b. Ég taldi henni leiðast Haraldur/*Harald.
*I believed her(D) to-bore Harold(N/*A)*
 ‘I believed her to be bored by Harold.’
 (Maling & Sprouse 1995: 178)
- (10) Henni þótti leiðast Haraldur.
she(D) seemed(3sg) to-be.bored.by Harold(N)
 ‘She seemed to be bored by Harold.’ (Taraldsen 1995a: 323)
- (11) Við reyndum að leiðast hún ekki.
we(N) tried(1pl) COMP [PRO(D)] to-be.bored she(N) not
 ‘We tried not to be bored with her.’ (Taraldsen 1995a: 322)

This tells us that either INFL as a whole is irrelevant to object NOM in Icelandic, or that some INFL feature other than Tense is relevant. I will argue against the first possibility and in favor of the second.

⁸ The analysis of various uses of the particle *að* is controversial (cf. Thráinsson 1993), but not relevant to issues under discussion here. The gloss used here is not meant to imply any particular theoretical stance.

Let us first explore the possibility that INFL is irrelevant to Icelandic object NOM. Object NOM could then arise in one of only two plausible ways in this general framework: it could be checked by V, or it could be the default spellout of a syntactically caseless DP. If it were checked by V, this would mean that in Icelandic V can in general check NOM on its object, independent of anything INFL might be doing. Since we already know that the structural V case is ACC, NOM from V would have to be quirky. There are at least three reasons not to adopt this analysis. First, it would then be mysterious why there are no predicates in Icelandic that take two NOM arguments.^{9,10} Second, only structurally cased DPs can trigger agreement with verbs and perfect participles (see §4.1.1.7); if NOM were quirky, why should it still be able to agree while quirky ACC, DAT and GEN cannot? Third, we need structural NOM object case anyway, for objects of passives of NOM-DAT-ACC ditransitives, since they show position-based NOM/ACC alternations (12); there is no evidence that NOM objects of active verbs are in any way different.

- (12) a. Ég tel honum hafa verið sýndir drengirnir.
I believe him(D) to-have been shown(N) the-boys(N)
 b. Ég tel drengina hafa verið sýnda honum.
I believe the-boys(A) to-have been shown(A) him(D)

The absence of multi-NOM clauses also mitigates against the possibility of default case as the source of NOM objects in nonfinite clauses. If argument DPs in these clause types could generally escape having a case feature in the syntax,¹¹ why should this never happen to more than one

⁹ There is one clause type that can contain two NOM DPs, namely copular constructions. It is clear that NOM is not assigned to the predicative DP by V or any other element, since that DP tracks the case of the subject, e.g., by changing to ACC when the subject is ECMed, as shown in §3.2.2.4. I conclude that the second NOM arises by Concord, not Accord with INFL or V—see §4.1.1.7.

¹⁰ There is no general restriction against multiple instances of the same case in the same clause, as examples in (ib, c) and (ii) illustrate for DAT and ACC, respectively. This is specifically a restriction of NOM.

- (i) a. Ég skilaði henni peningunum.
I returned her(D) the-money(D)
 b. Henni var skilað peningunum.
she(D) was returned the-money(D) (Zaenen et al. 1985: 459–460)
 c. Henni var lofað því.
she(D) was promised it(D) (Thráinsson 1979: 465)
- (ii) Mig vantar peninga.
me(A) lacks money(A) (Zaenen et al. 1985: 454–455)

¹¹ As usual, I am excluding the possibility of “syntactic default case assignment,” not only because it seems not to be needed, but also because it is unclear how it could be implemented: since case features are uninterpretable, it would apparently require some *deus ex machina* to reach into the syntactic tree and check that default feature.

DP per clause? The gap would have to arise by lexical accident. I conclude, then, that neither option for non-INFL-related object NOM is feasible, so some INFL feature other than Tense must be responsible.

Indeed, there are striking alternations that strongly imply that the absence of NOM-NOM clauses is not an accidental gap. All ditransitive verbs in Icelandic take a NOM subject in their active form; neither of the complements can be NOM (13a). However, when passivized, some classes of these same verbs obligatorily take a NOM argument with the same theta-role borne by an ACC argument in the active form, e.g., the theme in (13b, c).

- (13) a. Þeir sýndu honum drengina.
they(N) showed him(D-masc-sg) the-boys(A-masc-pl)
- b. ?Drengirnir voru sýndir honum.
the-boys(N-masc-pl) were(pl) shown(N-masc-pl) him(D-masc-sg)
- c. Honum voru sýndir drengirnir.
he(D-masc-sg) was(pl) shown(N-masc-pl) the-boys(N-masc-pl)
 (Andrews 1990b: 179)

If the NOM case in (13b, c) were assigned by V in the passive, why should the same V not assign the same case to the same argument in the active, given that other cases assigned by V (e.g., DAT in (13)) are *always* preserved in active/passive alternations? Also, the same theme argument shifts back to ACC if it is embedded as the subject under an ECM verb (14a). In contrast, quirky-case DPs, whose case is uncontroversially assigned by V, do not change case in this environment (14b). (These arguments are also presented in Harley 1995.)

- (14) a. Ég taldi hestana hafa verið gefna konungi.
I believe the-horses(A) to-have been given a-king(D)
 ‘I believe horses to have been given to a king.’ (Jonas 1992: 189)
- b. Hann taldi henni hafa verið gefnir hattarnir.
I believed her(D) to-have been given hats(NOM) (Jonas 1992: 190)

The alternations in (13), coupled with the total absence of multi-NOM clauses, strongly suggest that there is but a single source of NOM in a clause,¹² and it is not V.

One other source that has been suggested for NOM object case in Icelandic infinitives (Ura 1996) is that it comes from agreement with INFL in a *higher finite* clause. We will now see that

¹² I assume that all finite verb agreement in Icelandic results from feature checking with the same INFL head. This is in contrast to several earlier proposals that NOM case could be checked by either AgrS or AgrO (Harley 1995, Taraldsen 1994a, Watanabe 1993). This choice avoids the need to explain why Icelandic happens to have object agreement just in case the subject is quirky and can therefore not trigger subject agreement.

this possibility too can be excluded, for two reasons. The first argument is that the distribution of NOM objects in a nonfinite clause is never influenced by the case properties of the arguments in higher clauses. For example, it is *not* true that a NOM object is barred in an infinitive if some higher clause contains a NOM argument: NOM objects are perfectly possible in infinitival clauses dominated by a matrix clause with a NOM subject, which should not have NOM “to spare.”

- (15) Ég tel strákunum ekki líka slíkir bílar.
I(N) believe the-boys(D) not to-like such cars(N) (Jonas 1992: 190)

Additionally, a downstairs infinitival clause does not acquire an “extra” NOM by virtue of being embedded under a clause with no NOM argument, i.e., the hypothetical alternation in (16) is unattested. (Compare (16) with the alternation *within* one clause seen in (13).)

- (16) a. DP_{NOM} V₁ [e V_{3[-finite]} DP_{ACC}]
 b. DP_{DAT} V₂ [e V_{3[-finite]} DP_{NOM}]

These patterns demonstrate that if each INFL can check at most one NOM feature, then nonfinite NOM arguments must *not* depend on finite INFLs for their NOM features.¹³ Thus, we can reaffirm the conclusion that nonfinite INFL itself suffices to check NOM.

There is a second argument against Ura’s proposal that infinitival NOM comes from a higher finite clause. This will require considering some more complex examples. In brief, the argument will be that if NOM objects of infinitives had to get their NOM checked by a finite INFL, such checking might be expected to induce overt agreement, and indeed in some configurations it does—but in others it does not, so the latter configurations must *not* involve the higher finite INFL.

Specifically, if a finite clause does not itself contain a NOM argument, it will agree (in number) with a NOM DP in a lower clause *if that is the closest DP to V*. This situation can arise when the finite clause contains a quirky subject, either generated in its own clause or raised from a lower clause. Then INFL cannot agree with its local subject, and hence it can potentially agree with some other element. Such agreement occurs if a NOM DP is the structurally highest DP below INFL. Since these facts have received scant attention in the literature, I provide several examples. (Details of some of these constructions will be explored below.) (17a) shows a thematic DAT subject upstairs and (obligatory) agreement with the downstairs NOM (passive) subject. (17b and c) show a raised quirky subject, and agreement between upstairs INFL and the NOM object in the

¹³ A remaining possibility under a theory that allows multiple feature checking (Chomsky 1995, Ura 1996) is that each INFL can check multiple NOM features. But this would reintroduce the same problem as allowing NOM to be assigned by V or by default: Why would NOM never appear on two arguments in the same clause?

clause below. (17d) is like (17b, c) except that both DPs originate two clauses below the finite INFL.¹⁴ In sharp contrast, examples in (18) show the impossibility of long-distance agreement with a NOM DP when a quirky DP intervenes between the NOM DP and the V. (18e), where the goal is the downstairs subject, contrasts minimally with (17a), where the theme is; (18f), where ‘John(DAT)’ is below matrix INFL, blocking agreement, contrasts minimally with (17d), where it is above, and agreement takes place.

- (17) a. Mér virðast/??virðist hestarnir hafa verið gefnir konunginum.
*me(D) seem(pl/??sg) horses(N-pl) to-have been given the-king(D)*¹⁵
 (Thráinsson p.c.)
- b. Henni eru taldir hafa verið sýndir bílarnir.
her(D) are believed to-have been shown the-cars (Freidin & Sprouse 1991: 407)
- c. Honum eru taldir hafa verið gefnir peningarnir.
he(D) are(pl) thought(N-masc-pl) to-have been given(N-masc-pl) the-money(N-masc-pl)
- d. Jóni virðast/?*virðist vera taldir/*talið líka hestarnir.¹⁶
*John(D) seem(pl/?*sg) to-be believed(N-masc-pl/*neut-sg) to-like horses(N-masc-pl)*
 ‘John seems to be believed to like horses.’ (Thráinsson p.c.)
- (18) a. Mér fannst/*fundust henni leiðast þeir.
*I(D) seemed(3sg/*3pl) she(D) to-be.bored they(N)*
 ‘I thought she was bored with them.’ (Taraldsen 1995a: 317)
- b. Mér hefur/*hafa alltaf virst honum líka bækur.
*me(D) has(sg/*have(pl) often seemed him(D) to-like books(N-pl)*
- c. Mér virðist/??virðast Jóni líka hestarnir.
*me(D) seems(sg/?*pl) John(D) to-like horses(N)* (Thráinsson p.c.)
- d. Mér virðist/*?virðast stráknunum líka þessir bílar.
me(D) seem(3sg/?3pl) the-boy(D) to-like these cars(N-pl)*
 (Watanabe 1993: 417–418)

¹⁴ Notice in (17c) that the downstairs object triggers agreement both in the middle clause and the matrix clause, providing evidence for successive A-movements at LF.

¹⁵ The Icelandic verbs glossed as ‘seem’ have two uses: as raising verbs and as ECM verbs. In the latter use, they take a DAT experiencer subject that passes all structural subjecthood tests. Though I have generally preserved the translations of these as ‘X seems to Y to be ...’, a closer correspondent in English would be ‘Y perceives X to be ...’.

¹⁶ Höskuldur Thráinsson (p.c.) notes that some speakers might accept nonagreement in (17d).

- e. Mér hefur/??hafa alltaf virst honum hafa verið seldar/*selt þessar bækur
*me(D) has(sg/?*pl) often seemed him(D) to-have been sold(pl/*sg) these books(N-pl)*
 á alltof hárf verði.¹⁷
at far.too high a-price (Thráinsson p.c.)
- f. Mér virðist/?*virðast Jóni vera taldir líka hestarnir.
*me(D) seems(sg/?*pl) John(D) to-be believed(masc-pl) to-like horses(N-masc-pl)*
 ‘I perceive John to be believed to like horses.’ (Thráinsson p.c.)

In other words, there seems to be a Minimality effect: the closest lower DP is the only one that can be attracted by INFL when its local subject is nonNOM, but if that lower DP is incompatible (because it is not NOM), checking cannot take place. The crucial point is brought home by the examples in (18): since the resulting sentences are grammatical, the lower NOM DP clearly has no absolute requirement for checking with the upstairs INFL.

There is a technical problem in implementing the Minimality effect illustrated in (17) versus (18). The fact is that Icelandic INFL can *never* agree with a quirky DP; therefore, it is natural to say that quirky DPs cannot undergo Accord. Given this, it is unclear why INFL should be able to attract phi- or case-features of such DPs, which it must do if we are to explain the blocking of NOM-attraction by the DAT element in (18). If INFL could not attract that quirky DP, we would expect it to be able to “see past” it to attract the closest NOM element, counter to fact. Thus, it appears that Attract-F can apply whether or not checking will actually be possible after the attraction happens. Somehow, we need to arrange that quirky DPs have features that are visible to Attract but not available for checking. Perhaps the solution is to say that Attract-F targets a *kind* of feature (e.g., phi), but is insensitive to the *value* of the feature.

Regardless of how the Minimality facts are treated, they argue that NOM nonfinite objects do not *require* checking by a higher finite INFL, although such checking is allowed. Having ruled this out, and ruled out default NOM and inherent NOM as sources of case for those NOM objects, we are left with the conclusion that NOM can be checked by nonfinite INFL. (Since case is not licensing, this conclusion has no unwanted consequences for the (im)possibility of overt subjects of infinitives.) By hypothesis, Accord between INFL and the NOM object is responsible, just as I argued it must be for finite clauses. By definition, this would mean that Icelandic infinitives can contain (morphologically unrealized) agreement features. Since there are languages like Portuguese that

¹⁷ For reasons that are mysterious to me, without the auxiliary in the matrix clause, neither the agreeing nor the nonagreeing version of the sentence seems very good:

- (i) ?Mér virðast/virðist honum hafa verið seldur þessar bækur á alltof hárf verði.
me(D) seem(pl/s)g) him(D) to-have been sold these books at far too high a price
 (Thráinsson p.c.)

overtly show agreement on infinitives (cf. §4.1.3), we should not be surprised to find evidence for the same pattern even when it is not morphologically apparent.

4.1.1.3 Infinitival subjects

If nonfinite INFL can check NOM on its *object*, can it also do so on its subject? I argue that it can.¹⁸ I show that the distribution of case in infinitival clauses makes sense only if we assume that NOM can be assigned to their subjects.

In Icelandic, when INFL does not check NOM on its subject, it checks NOM on a non-quirky object if there is one. In particular, recall the ditransitive ACC complements that obligatorily flip to NOM when passivized with a DAT subject (13): when passivization removes the original NOM subject, and the DAT goal becomes the subject, NOM must be marked on the theme object, which cannot maintain the ACC marking it had in the active. This generalization continues to hold in nonfinite clauses. Similarly, every monotransitive verb in Icelandic that takes an ACC object in the active must take NOM on that same argument in the passive.¹⁹ Therefore, we would expect that if NOM were not checked on an infinitival subject in downstairs Spec-IP, it should become available to be checked on a nonquirky object in the embedded infinitival clause. This is false, however: ACC is the only possible case marking in such a situation.

- (19) Hún þótti elska Harald/*Haraldur.
*she(N) seemed(3sg) to-love Harold(A/*N)*
 ‘She seemed to love Harold.’ (Taraldsen 1995a: 323)

The most parsimonious explanation for this under my assumptions is that Accord obtains between ‘she’ and the downstairs INFL. I propose that this is true: NOM is checked on the trace of ‘she’ in (19a), making NOM unavailable for ‘Harold’. But overt upstairs agreement in (19a) tells us that ‘she’ is in Accord with upstairs INFL. How could this multiple Accord be implemented with the technology I am assuming here? I propose that DPs can have more than one case feature, as long as each one can be checked by an appropriate head.

Before continuing, I briefly consider whether allowing DPs to check multiple case features has any dire consequences. One might worry is that violations of the Chain Condition (Chomsky 1986) could ensue if DPs can check case multiple times, e.g., *John seems (that) likes Mary, John*

¹⁸ With respect to Control clauses, Sigurðsson (1991) has argued, convincingly in my view, that PRO can have a case feature, as discussed in §2.4.

¹⁹ That is, there are no quirky ACC direct objects of NOM-subject verbs. (See Schütze 1993a for a proposal about this interesting gap.)

seems to that Mary likes Bill, etc.²⁰ But in this respect, we are no worse off than other accounts such as that of Ura (1996). Since Ura assumes (correctly, I believe) that we must allow case and agreement checking of T to be optional, and since strong EPP features can drive movement to the higher subject position independent of case considerations, such sentences should be good even if we did not allow multiple case feature checking for DPs.²¹ The clear conclusion is that whatever blocks this kind of movement, it cannot be the unavailability of a case feature on the DP. I do not propose a solution to this problem. I simply assume that the ultimate solution will be unaffected by admitting the possibility of multiple DP case features. For instance, it could be that finite CPs simply are barriers to A-movement.

We have now concluded that both Control and Raising infinitives check NOM case on their subjects when these are not quirky. Let us now turn finally to ECM clauses. The same argument that was made above for Raising clauses applies here: ECM does not “free up” the NOM feature of the downstairs INFL to be assigned to a nonsubject when the subject gets ACC case from the higher clause.

- (20) Við töldum hana/*hún elska Harald/*Haraldur.
*we(N) believed(1pl) her(A/*N) to-love Harold(A/*N)*
 ‘We believed her to love Harold.’ (Taraldsen 1995a: 323–4)

Within my framework of assumptions, the most parsimonious account of this fact is that Accord obtains between downstairs INFL and the ECMed DP, which, however, surfaces with ACC marking. I assume that the ACC marking reflects checking of an ACC feature on the DP by a head in the higher clause. We are thus led to the conclusion that Accord is possible between (nonfinite) INFL and a DP that bears an ACC feature. How is this to be implemented? I propose that the DP can bear both a NOM and an ACC feature, and the presence of one does not interfere with the checking of the other.

²⁰ Such examples are totally ungrammatical in Icelandic, even when the raised DP has quirky case, such that double agreement is not an issue:

- (i) *Mér virðist (að) vanta peninga.
me(A) seems(3sg) (that) t lacks(3sg) money(A) (Thráinsson, p.c.)

²¹ Optionality of case on T means that Chomsky’s (1995) solution for the English examples will not work for Icelandic. He rules them out by saying that the subject would be unable to satisfy the obligatory case-checking needs of upstairs Tense, since the DP would already have checked its case feature in the lower clause.

Now we need to make sure that a DP bearing both NOM and ACC features will get spelled out as ACC.²² That is, ‘her’ in (20) checks NOM downstairs and ACC upstairs.²³ This “case conflict resolution” is a task for which the morphological component is ideally suited. In many treatments, a hierarchy of cases is used in which ACC takes precedence over NOM, which is the desired result for Icelandic ECM. The Distributed Morphology framework makes available specific machinery for implementing this, which I discuss in §4.4.

With regard to what forces upstairs checking of ACC in (20), we crucially cannot appeal to an absolute requirement that ACC must be checked (for a particular set of verbs), precisely because this does not happen when the downstairs subject happens to be quirky (21).²⁴ Instead, the lower subject simply retains its case. I hypothesize that this fact about distribution of ACC has the same status as the distribution of NOM discussed above: checking must happen if it can, but nothing goes wrong if it cannot.

- (21) a. MÉR líkar við hann.
I(D) like PREP him
 ‘I like him.’
- b. María telur mér/*mig líka við hann.
*Mary believes me(D)/*me(A) to-like PREP him* (Thráinsson 1979: 352)

The following pair of ECM sentences provide a striking illustration both of the “do it if you can” nature of ACC from the ECM verb, and also of the Minimality effect on case checking. The

²² If, at least in Icelandic, ECM always involves both NOM and ACC features on the ECMed constituent, one might wonder why elements that generally show case concord with the subject of the clause must be ACC in this situation, and cannot be NOM:

- (i) a. Hún er kennari/*kennara.
*she(N) is teacher(N/*A)*
 ‘She is a teacher.’
- b. Ég taldi hana/*hún vera kennara/*kennari.
*I believed her(A/*N) to-be teacher(A/*N)*
 ‘I believed her to be a teacher.’ (Maling & Sprouse 1995: 177–8)

The answer open to me is that case concord necessarily copies *all* case features of a DP, and the target of copying then undergoes the same case conflict resolution principles in the morphology as the ECMed DP does.

²³ See Yoon (1996) for arguments that several other languages have case-checking both upstairs and downstairs in ECM configurations.

²⁴ Strictly speaking, the empirical evidence for this conclusion is very thin. It is hard to rule out the possibility that structural ACC is assigned under ECM to quirky downstairs subjects, since I am assuming that DPs can in general carry multiple case features. ACC presumably would not surface because quirky DAT or GEN would be more marked.

examples in (22) differ only on which downstairs argument has become the subject under passivization. In (22a), the theme, which lacks quirky case, has done so, and must get ACC from the upstairs verb. In (22b), the quirky DAT goal has done so, and now ACC cannot be assigned across that goal to the theme in downstairs object position.

- (22) a. Ég taldi hestana hafa verið gefna Jóni.
I believed the-horses(A) to-have been given(A-pl-masc) John(D)
- b. Ég taldi Jóni hafa verið {gefnið hestar/*gefna hesta}.
*I believed John(D) to-have been given(N/*A) horses(N/*A)*
 (Maling & Sprouse 1995: 180)
- (23) Við teljum koma {marga íslendinga/*margir íslendingar}.
*we(N) believe(1pl) to-come many Icelanders(A/*N)*
 ‘We believe there to come many Icelanders.’ (Taraldsen 1995a: 322)

(23) shows that the impossibility of ACC on the theme in (22b) is not simply due to nonadjacency between the upstairs verb and that theme: when no other DP intervenes, ACC is again obligatory.

4.1.1.4 Implementing the Accord Maximization Principle

I now make a theoretical proposal intended to capture the following generalizations about the distribution of agreement in Icelandic, argued for above:

- 1) INFL must be in Accord with an argument of its clause if there is one that can enter into Accord, but if there is none, INFL can survive without Accord;
- 2) A NOM argument always has its case checked (under Accord) by the INFL of its own clause;
- 3) Despite 1) and 2), a NOM argument and an INFL in a higher clause that lacks a NOM argument of its own *must* enter into Accord if they can, i.e., if no other DP intervenes,²⁵ but if they cannot, a valid structure still results.

I propose the following principle:

- (24) *Accord Maximization Principle (AMP)*
Informal version: Stick as many case and agreement features into a sentence as you can.
Formal version: Among a set of convergent derivations *S* that result from numerations that are identical except for *uninterpretable* phi- and case-features, such that the members of *S*

²⁵ There are further constraints too, as we will see below.

satisfy other relevant constraints, those members of *S* where the greatest number of Accord relations are established block all other derivations in *S*.

Crucially, I have argued that a derivation can converge with a (finite or nonfinite) verb never having (hence, never checking) phi-features, and with an argument DP never having a case feature. Thus, Accord is never required for convergence; its presence can be forced only by the AMP.

What the AMP says is that any configuration that *could* result in Accord if the necessary features were present *must* contain those features. This being the desired end result, let us consider its implementation. By definition, the AMP involves a competition among convergent derivations. There is no absolute constraint that will capture the facts: Accord/INFL phi-features are not absolutely obligatory, and I argue elsewhere in this thesis that case on DPs is not obligatory either. Furthermore, since the winning candidate can involve more feature movements than losing competitors (as is particularly clear for long-distance agreement), we cannot appeal to a global economy condition to choose the right winner. (In fact, internal to each derivation, all movements are *forced* by the need to check features that have been inserted.) Thus, what is maximized is lexical insertion of agreement features. Under Chomsky's (1995) proposals, the only convergent derivations that can ever block one another are ones that are (at least) built from the same numeration, i.e., the same collection of lexical items. His proposal therefore cannot apply to the case at hand, since one would be comparing sentences with different verbal inflections and different nominal case features. Thus, we need a slightly different definition of the comparison set. The obvious point is that the features that differ among the competing candidates in our situation are all *uninterpretable*: verbal phi-features and nominal and verbal case features. Consequently, the minimal change from Chomsky's system would be to propose that a candidate set for comparison must not differ in the interpretable features of their numerations but may differ in the uninterpretable features.^{26,27} I propose the following implementation. The derivational machinery as described by Chomsky carries out its inter-

²⁶ This goes part-way towards another common notion of comparison set, namely the set of sentences with identical "meanings" or identical LFs. Since uninterpretable features are not visible at LF, my proposal does not introduce any additional LFs into the competition, compared to Chomsky's definition. (It is not equivalent to an identical LF requirement, since the *positions* of elements could still be different.)

²⁷ This proposal is close to a possibility entertained but rejected in Chomsky 1995, namely the possibility that uninterpretable features are added by Select rather than by the operation that creates the numeration. Chomsky's argument against taking the Select approach was that it would increase computational complexity because more possible derivations would be in the same competition set. I am proposing that these added comparisons are necessary at some level to get the right empirical results. My proposed implementation is not identical to simply adding uninterpretable features at Select rather than at Numeration time, however, since that too would give the wrong results. As noted above, adding more uninterpretable features can force more feature movements to take place, so that would make derivations where those features had been added less economical than derivations where they had not been added. That is, this approach would lead to Accord *Minimization* instead of Maximization.

nal competition based on Economy etc. unchanged. However, on top of that computation is a larger competition, involving the *set* of numerations that differ only on presence/absence of uninterpretable features. Once each such numeration has been run through its derivation to yield the optimal outcome, these outcomes are compared on the basis of the AMP to determine the final winner.²⁸

Notice that, as a consequence of the way it is defined, the AMP applies only up to what is allowed by other syntactic constraints.²⁹ We have already seen that a Minimality condition (perhaps Shortest Move) limits the proliferation of long-distance agreement relations, and that quirky DPs can never enter into Accord relations. There appear to be at least two further factors that can "override" the AMP, discussed in the next two subsections. To appreciate these, we need to consider a variant of the ECM construction in Icelandic that I have not discussed so far, though it has appeared already in some of the examples.

4.1.1.5 NOM ECM and a constraint on NOM objects

The characteristic of the construction in (25) and (26) is that the subject of the ECM verb takes a quirky case, with the result that matrix INFL is free to check NOM case on some other DP; I refer to the construction as *NOM ECM*.^{30,31}

(25) Mér þótti María vera gáfuð.
I(D) seemed(3sg) Mary(N) to.be gifted(N-fem-sg)
 'I thought Mary was smart.' (Taraldsen 1995a: 321)

(26) Mér virðast/*virðist þeir vera skemmtilegir.³²
*me(D) seems(3pl/*3sg) they(N) to-be interesting*
 'It seems to me that they are interesting.' (Sigurðsson 1989: 99)

²⁸ This "post-syntactic" competition is similar in spirit to Pesetsky's Optimality Theory treatment of doubly-filled Comp effects and similar "surfacy" phenomena.

²⁹ Taraldsen (1996) makes a proposal in a similar spirit.

³⁰ In the literature it has been referred to as "D/Ncl," for Dative/Nominative with Infinitive (cf. Sigurðsson 1989).

³¹ NOM ECM cannot be analyzed as an Object Control construction because (among other reasons) the choice of case marking on the ECMed DP is determined by the lower predicate.

³² It is not clear to me what the status of the nonagreeing variant of this construction is. Taraldsen (1995a) and Thráinsson (p.c.) say that agreement is strongly preferred by most speakers here, but Sigurðsson (1989) lists both versions as possible, and Sigurðsson (1996, fn. 20) claims that nonstandard dialects disallow the agreeing version.

In this situation, the ECMed lower subject surfaces as NOM, not ACC as in usual ECM configurations. Within my framework of assumptions, there are several possible analyses available *prima facie*: 1) Since the upstairs verb is not an ACC assigner, no case is assigned upstairs; no case is assigned by the infinitive downstairs either, and the subject is NOM by default; 2) The upstairs verb/clause is a NOM assigner, NOM is assigned upstairs, and no case is assigned downstairs; 3) the downstairs infinitive assigns NOM, and the upstairs verb/clause does not; 4) the upstairs clause and the downstairs clause are *both* NOM assigners, and both assign NOM, under the mechanism for multiple case features outlined above. I argue for analysis 4).

Options 1) and 3) are ruled out because they would provide no explanation for the upstairs agreement in (26). Under option 2), one might expect NOM to be assignable to some downstairs nonsubject, counterfactually. Thus, I take 4) to be correct, since it fits the generalizations already noted for Icelandic; if downstairs NOM were *not* checked on the downstairs subject, this would require some special explanation. The checking of NOM both upstairs and downstairs in (26) follows from the AMP, which requires both Accord relations to be established unless some absolute constraint blocks them. We will next see two such constraints that block upstairs Accord in NOM ECM.

The first constraint is that, for most Icelandic speakers, 1st and 2nd person NOM objects are impossible. As a consequence, for most speakers, a simple clause with a NOM-object verb can never occur with 1st or 2nd person objects at all.

- (27) a. Honum ??líkað/*líkuðuð/*líkuðu þið.
*him(D) liked(??3sg/*2pl/*3pl) you(N-pl)*
 ‘He liked you.’ (Thráinsson p. c.)
- b. Henni *leiðumst/*leiddust/?leiddist við.
*she(D) was.bored(*1pl/*3pl/?3sg) we(N)*
 (‘She was bored with us.’) (Taraldsen 1995a: 308–9)
- c. Henni leiddust/*leiddist þeir.
*she(D) was.bored.by(3pl/*3sg) they(N)* (Taraldsen 1995a: 307)

How to account for this restriction is a long-standing puzzle in the Icelandic syntax literature, one to which I have nothing insightful to add (see Taraldsen 1995a for a proposal attempting to cash out the idea that 1st and 2nd person elements move higher than 3rd person elements). For present purposes, it will suffice to convince ourselves that this restriction is specifically related to the fact that the DP in question is getting NOM case from INFL without being in its subject position. The next paragraph is devoted to doing this.

Obviously, there could not be a 3rd person restriction on NOM assignment in general or on object position in general, since both of these freely allow 1st and 2nd person arguments. Furthermore, Faroese, which otherwise looks very much like Icelandic syntactically, including having quirky-subject verbs with similar meanings to those of Icelandic, lacks NOM objects and also lacks any person restrictions on this class of verbs.³³ Their objects are always ACC (and are free to be 1st or 2nd person), never triggering verbal agreement of any kind.³⁴

- (28) Honum nýtist fleiri bókahillar heima hjá sær.
him(D) needs(3sg) more bookshelves(A) at-home with self
 ‘He needs more bookshelves in his home.’ (Barnes 1986: 19)

This suggests that NOM case checking is somehow involved. The argument that position is also important is internal to Icelandic. Recall that one class of ditransitive verbs allows two passives: either internal argument can become the structural subject (by all the standard subjecthood tests for Icelandic (Andrews [1976] 1990b, Thráinsson 1979, Zaenen, Maling & Thráinsson 1985, Sigurðsson 1989, etc.) (29). Further, one of these arguments is always DAT, the other NOM. This means that we can construct minimal pairs of sentences using the same (passive) verb and the same DPs with the same theta-roles, but with subject and object reversed. Strikingly, such pairs show a contrast in the possibility of 1st and 2nd person NOM arguments: these are fine in subject position (29b), but ungrammatical in object position (29c).

- (29) a. Ég gaf honum þig í jólagjöf.
I(N) gave him(D) you(A) as Xmas-gift
 ‘I gave him you as a Christmas present.’
- b. Þú varst gefinn honum.
you(N) were(2sg) given him(D)
- c. *Honum var/varst gefinn þú.
him(D) was(3sg/2sg) given you(N) (Thráinsson p.c.)

Thus, the 3rd person restriction must crucially refer to nonsubject position.

The point of this excursus is that it gives us a diagnostic for NOM checking between INFL and a nonsubject of that INFL, precisely the possibility that we are exploring with respect to NOM ECM structures. If, as we would expect, the 3rd person constraint applies there too, then NOM checking of the ECMed DP by the upstairs INFL should be impossible when that DP is 1st or 2nd

³³ This also argues against a semantic restriction.

³⁴ The fact that presence/absence of NOM objects and presence/absence of object agreement in quirky-subject sentences co-vary between two otherwise very similar languages is further evidence that they manifest a single phenomenon, Accord. How to capture the difference between Icelandic and Faroese will be discussed in §4.3.

person. If that particular checking relationship were required for convergence, then such sentences should be out, just as their monoclausal counterparts (27) are. Strikingly, the fact is that the checking is clearly blocked, as we can see when the DP is plural and upstairs INFL remains singular, but the sentence is good (30).

- (30) Mér þykir/?þykja/*þykjið þið vera gáfaðir.
*me(D) think(3sg/?3pl/*2pl) you(N-pl) to-be gifted(N)* (Taraldsen 1994b)

This means that upstairs checking cannot be strictly obligatory, but rather, it can fail to occur if its occurrence would violate the 3rd person constraint on such a checking configuration. This provides striking support for my claim that Accord is maximized only up to what other constraints allow. I conclude that the ECMed nominal in (30), unlike the one in (26), checks NOM only with downstairs INFL; since it is the subject of that clause, no 3rd person constraint applies.³⁵

4.1.1.6 Interactions with Binding

Let us now turn to the second kind of constraint that can override upstairs Accord in NOM ECM structures, namely Binding conditions. Taraldsen (1995a) observes a fascinating interaction between binding possibilities for the subject of the ECM clause and upstairs agreement marking. In regular ECM, with an upstairs NOM subject, a coreferential embedded ACC subject must be the simple reflexive *sig* (31a); a pronoun in this position cannot be coreferential (31b).

- (31) a. María taldi sig vera gáfaða.
Mary(N) believed self(A) to-be gifted(A) (Taraldsen 1995b)
- b. María taldi hana vera gáfaða.
Mary(N) believed(3sg) she(A) to-be gifted(A-fem-sg)
 ‘Mary_i believed her_{j/*i} to be smart.’ (Taraldsen 1995a: 315)

The same is true for an embedded DAT subject: the DAT reflexive *sér* must be used in this position to express coreference.³⁶

- (32) a. Maríu fannst sér fara aftur i norsku.
Mary(D) thought sig(D) to-go backward in Norwegian
 ‘Mary thought her Norwegian was getting worse.’

³⁵ This might lead us to expect amelioration of local 1sg or 2nd person NOM objects if Accord fails to happen. It turns out that some speakers do marginally allow 1st and 2nd person NOM objects, but these cannot occur with number agreement: that is, even when they are plural, the verb is singular. Indeed, even speakers who reject non-3rd person NOM objects find nonagreeing verbs better than agreeing verbs, as marked in (27). The lack of number agreement shows that there is no Accord involved, and this NOM is really default case. I have nothing to say about why absence of agreement is apparently perfect in NOM ECM sentences but degraded with local NOM objects.

³⁶ I do not believe the case of the *matrix* subject in (32) has any bearing on this.

- b. *Maríu_i fannst henni_j fara aftur i norsku.
Mary_i(D) thought she_j(D) to-go backward in Norwegian
 (‘Mary thought her Norwegian was getting worse.’) (Taraldsen 1994b: 48, 51)

Initially, one might think to explain this in the same way as parallel English facts: an ECM subject is necessarily in the matrix binding domain, hence must be a reflexive and not a pronoun if coreferential with the matrix subject. This cannot be correct, however, because the particular reflexive *sig* that appears in this context *cannot* be used as a simple matrix object reflexive; a complex form must be used instead:

- (33) Hún elskaði ??(sjálfa) sig.
she(N) loved(3sg) self(A-fem-sg) sig(A)
 ‘She loved herself.’ (Taraldsen 1995a: 316)

That is, plain *sig* seems to be obligatorily long-distance. But if the ECM subject is *not* in the matrix binding domain, then why should a pronoun be bad in the same position? Taraldsen proposes that the availability of the reflexive form blocks a pronoun with the same meaning; I assume that this is the correct approach (we will see some supporting evidence shortly).

Crucially, there is apparently no NOM form of *sig* (or, equivalently for our purposes, *sig* cannot be used in NOM contexts). As a result, in *NOM* ECM contexts such as (34), *sig* is out and an embedded subject pronoun *can* be coreferential with the higher subject (35):

- (34) *Maríu fannst sig vera gáfuð.
Mary(D) thought self(N) to-be gifted(N) (Taraldsen 1995b)
- (35) Maríu fannst hún vera gáfuð.
Mary(D) thought(3sg) she(N) to-be gifted(N-fem-sg)
 ‘Mary_i thought she_{j/i} was smart.’ (Taraldsen 1995a: 315)

The goodness of (35) suggests that the badness of coreference in (31b) could not be due to a Condition B violation based purely on the structure of the sentence, since such a condition would also rule out (35). As Taraldsen suggests, I assume the coreferent pronoun option in (35) arises because it inherently violates no binding conditions, and is not blocked by a reflexive alternative.

Now, recall that *NOM* ECM generally requires agreement with the upstairs verb. However, Taraldsen shows that such agreement is completely impossible when the embedded subject is a pronoun coreferential with the matrix subject (36a); importantly, the nonagreeing variant (36b) is fine on this reading.

- (36) a. *Konunum fundust þær vera gáfaðar.
women-the_i(D) seemed(3pl) they_i(N) to-be gifted(N-fem-pl)
 (‘The women_i thought they_i were smart.’)

- b. Konunum fannst þær vera gáfaðar.
women-the(D) seemed(3sg) they(N) to-be gifted(N-fem-pl)
 ‘The women_i thought they_i were smart.’ (Taraldsen 1995a: 317)

The obvious analysis is that the structural configuration that would be involved in upstairs agreement would bring the pronoun too close to the coreferential matrix subject, while the nonagreeing configuration does not involve this upstairs checking relationship and the pronoun can thus stay further away, i.e., outside the matrix clause. Importantly, a purely local NOM object pronoun is indeed bad when coreferential with its subject:

- (37) ??Maríu leiddist hún.
Mary_i(D) was.bored.by(3sg) she_i(N)
 (‘Mary was bored with herself.’) (Taraldsen 1995a: 315)

In (36) we see that otherwise obligatory Accord need not occur if it would cause a violation of a Binding principle, and we again see evidence that NOM can arise in an infinitival without the help of the upstairs clause.

In order to make the analysis work technically, we need to be careful about how and when the binding conditions apply.³⁷ I assume that *sig* is subject to Condition A in that it must have a binder, but that the binder must be non-local. In order for *sig* to be possible as an ECM subject at all (assuming as in Chomsky 1993, 1995 that ECM involves LF movement into the higher clause for the checking of ACC), Condition A must be satisfiable prior to LF. What about Condition B? As noted, I assume that it is *not* responsible for the badness of (31b); rather, this is achieved by a blocking effect.³⁸ Thus, Condition B allows coreferential pronoun subjects of ECM clauses; however, something must be causing (36a) to be out with upstairs agreement. Since the NOM pronoun is not overtly in the checking domain of upstairs INFL in (26a), the Accord relation that causes a crash must be established post-SpellOut. This means that LF violations of Condition B must cause a crash even if Condition B would have been satisfied at an earlier point in the derivation (cf. Belletti & Rizzi 1988). Since the agreeing structure (36a) does not converge, the AMP cannot prefer it over the nonagreeing one (36b) that does converge.

³⁷ See Reinhart and Reuland 1993 for discussion of similar facts in Dutch and English and a different kind of analysis.

³⁸ Unfortunately, matters are not entirely that simple: *sig* and pronouns are not always in complementary distribution, as for instance in object position of an embedded finite clause:

- (i) Hann bauð mér að ég færi með sér/honum.
he_i offered me that I go with sig_i/him_i. (Andrews 1990b: 180)

I have nothing to offer on this point.

This interaction between agreement and binding also supports the view, embodied in the proposals of Chomsky (1993, 1995) and other recent work, that verb-argument agreement requires a strictly local relationship between its participants at some point in the derivation. If this were not the case, it would be mysterious why agreement should interact with binding in the way that it does. For instance, under Marantz’s (1991) proposal that case and agreement relations are read off the syntactic structure and do not involve features visible to the syntax at all, and that morphology does not filter the syntax, it is hard to capture the interaction: at a minimum, we would apparently have to make the morphological agreement algorithm sensitive to coindexation relations.

4.1.1.7 Passive participle Accord versus Concord

Passive participles in Icelandic agree in both case and phi-features with their subjects in the canonical situation, as shown in (38). This appears to be an interesting further confirmation of the requirement that NOM checking and phi-feature checking go together in Icelandic, and could be treated as Accord. However, this evidence by itself is weak, because as noted above, NOM is the default case in Icelandic, so perhaps participles simply take the default case. (39) shows that this is incorrect: an ECMed passive subject is ACC and triggers ACC agreement (as well as phi-feature agreement) on its participle. Thus, real case matching is clearly involved. The full generalization is that passive participles agree with their subject if it has a structural case, but not if it has a quirky case (40). Thus, although the ACC subject in (41b) looks just like the one in (41a), it triggers neither case nor phi-feature agreement, because ‘lack’ takes a quirky ACC subject, in contrast to the structural ACC in (41a), which does trigger agreement.

- (38) Strákarnir voru kitlaðir.
the-boys(N-masc-pl) were tickled(N-masc-pl) (Andrews 1990a: 189)
- (39) Þeir telja drengina hafa verið kyssta.
they(N) believe the-boys(A) to-have been kissed(A-masc-pl) (Andrews 1982: 469)
- (40) a. Þeim var hjálpað/*hjálpaðir/*hjálpaðum.
*them(D-masc-pl) was(3sg) helped(N-neut-sg/*N-masc-pl/*D-masc-pl)*
 ‘They were helped.’

- b. Sjúklinganna var vitjað.
the-patients(G-masc-pl) was(3sg) visited(default) (Andrews 1990b: 170–171)
- (41) a. Þeir segja drengina vera talda/*talið
*they(N) say the-boys(A-masc-pl) to-be believed(A-masc-pl)/*believed(default)*
 elska stúlkurnar.
to-love the-girls
- b. Þeir segja drengina vera talið/*talda
*they say the-boys(A-masc-pl) to-be believed(default)/*believed(A-masc-pl)*³⁹
 vanta peninga.
to-lack money (Andrews 1982: 469)

Even more interestingly, passive participles also must agree with a NOM *object* if their subject is quirky, even in infinitival clauses:

- (42) a. Honum voru gefnir peningarnir.
he(D) were(pl) given(N-masc-pl) the-money (N-masc-pl)
- b. *Honum var gefið peningarnir.
he(D) was(sg) given(default) the-money(N-masc-pl) (Andrews 1990a: 211)
- (43) Konunginum voru gefnar ambáttir.
the-king(D) were(pl) given(fem-pl) maidservants(N-fem-pl)
 ‘The king was given female slaves.’ (Zaenen et al. 1985)
- (44) %Ég taldi henni hafa verið gefnir bílarnir.
I believed her(D) to-have been given(N-pl-masc) the-cars(N-pl-masc)
 (Sigurðsson 1993: 54)

Above, I suggested treating participial agreement as feature checking and subsuming it under the AMP. One might speculate instead that the facts simply reflect obligatory Concord between the participle and its subject. However, a Concord treatment of Icelandic participial agreement raises an empirical problem: Icelandic indeed has case Concord phenomena, but they do not pattern like participial agreement. Specifically, in secondary predication environments we do find case agreement, but it is *not* restricted to structural cases—quirky cases agree just as well. We saw this already in Sigurðsson’s control data in §2.4; (45) shows Concord on a floated quantifier with an overt subject, and (46) shows adjectival concord. (47) shows simultaneous Concord and lack of agreement with the very same element. There is also concord among elements within a DP, again not limited to structurally case-marked ones (48).

- (45) Strákunum leiddist öllum í skóla.
the-boys(D) bored all(D-masc-pl) in school
 ‘The boys were all bored in school.’

³⁹ Andrews (1982) claims an agreeing form is not entirely impossible here.

- (46) a. Njósningarum var kastað einum út úr þyrlluni.
the-spy(D) was thrown alone(D) out from the-helicopter(D)
 ‘The spy was thrown out of the helicopter alone.’
- b. Strákana rak þyrsta og svanga á land.
the-boys(A) drifted thirsty(A) and hungry(A) to shore
 ‘The boys drifted thirsty and hungry to shore.’
- c. Ég mætti Sveini drunnkum.
I met Svein(D) drunk(D)
 ‘I encountered Svein drunk.’
- d. Þú sast hjá mér sjúkum.
you sat by me(D) sick(D)
 ‘You sat by me (when I was) sick.’ (Andrews 1990a: 207)
- (47) Glæpamónnunum var lýst sem stórhættulegum.
the-criminals(D-pl) was(sg) described(sg) as very-dangerous(D-pl)
 ‘The criminals were described as extremely dangerous.’ (Andrews 1990a: 208)
- (48) Ég heilsaði öllum þessum þrem frægu málfræðingum.
I greeted all(D-pl-m) these(D-pl-m) three(D-pl-m) famous(D-pl-m) linguists(D-pl-m)
 (Sigurðsson 1993: 41)

Thus, if passive participle agreement were not Accord, it would have to be yet a third kind of agreement in Icelandic, and the appealing generalization unifying the structural versus quirky case contrasts in both verbal and participial agreement would be lost.

One further fact about participial agreement, displayed but not discussed earlier, provides interesting confirmation of the generality of the AMP. Agreement between a participle in a *non*-finite clause and a NOM argument in a lower clause seems to be forced even when that argument is not on its way to a higher finite INFL position, as shown by the absence of matrix verbal agreement in (49).⁴⁰

- (49) Mér virðist/?*virðast Jóni vera taldir líka
*me(D) seems(sg)/?*seem(pl) John(D) to-be believed(N-masc-pl) to-like*
 hestarnir.
horses(N-masc-pl)
 ‘I perceive John to be believed to like horses.’ (Thráinsson p.c.)

Thus, it would be insufficient for the AMP to maximize *finite* Accord: rather, even Accord with nonfinite INFL is forced when possible.

⁴⁰ Accord of the (lowest) object with the middle clause is possible because no DPs intervene. The DAT subject of the middle clause blocks Accord with the matrix clause.

In sum, then, Icelandic illustrates that agreement (both verbal and participial) and NOM case come and go together, and do so independently of tense. It also provides striking evidence that Accord is forced even when it should not be needed for convergence. Following subsections provide supporting data from other languages; while these obviously cannot be analyzed in the same detail, my hope is to make a plausible case for this as a quite general crosslinguistic pattern.

4.1.2 Hindi

According to Mahajan's (1990) description, Hindi's basic case-agreement interactions are identical to those of Icelandic, so I discuss them only briefly. In particular, nominals with a case particle/postposition (e.g., what he glosses as ERG or DAT) can never trigger verbal agreement—in my terms, they block Accord the way Icelandic quirky cases do.⁴¹ Agreement is with the subject of the clause, unless it takes one of these markers, and then agreement is with the object if it is an unmarked DP, or default otherwise.

Intriguingly, Hindi has a pattern of long-distance agreement that appears highly reminiscent of Icelandic: when a matrix clause cannot agree with its subject because that subject is marked ERG, it can agree with a downstairs object, even though that object already triggers agreement on the downstairs verb as well (roughly parallel to combinations of passive participle agreement and verbal agreement in Icelandic):

- (50) raam-ne roTii khaanii caahi
Ram(masc)-erg bread(fem) eat(Inf-fem) want(perf.past-fem)
 'Ram wanted to eat bread.' (Mahajan 1990: 90)

Here we see overt evidence that long-distance Accord is happening *in addition* to local Accord.

This construction has two potentially problematic features that warrant further investigation, though I cannot delve into them here. First, if (50) is a standard Control structure, there should be a PRO subject downstairs that might block attraction of the features of the downstairs object by the upstairs verb. (However, we do not know how parallel examples in Icelandic work, because there are apparently no quirky-subject Control verbs in Icelandic (Thráinsson, p.c.); perhaps PRO is universally special with regard to attraction across it.) Second, according to Mahajan, agreement in (50) is optional, but if it occurs downstairs it must also occur upstairs ((51) versus (52)).

⁴¹ One challenge for analogizing Hindi to Icelandic is that ERG case cannot possibly be a quirky case along the lines of Icelandic DAT, since ERG is completely general. I assume that it involves some sort of head, e.g., a postposition, that blocks the possibility of Accord.

- (51) raam ne roTii khaanaa caaha
Ram erg bread(fem) eat(Inf-masc) want(perf.pst-masc)
 'Ram wanted to eat bread.'
- (52) a. *raam ne roTii khaana caahii
Ram erg bread(fem) eat(Inf-masc) want(perf.pst-fem)
 b. *raam ne roTii khaanii caahaa
Ram erg bread(fem) eat(Inf-fem) want(perf.pst-masc) (Mahajan 1990: 91)

Optionality of agreement is a problem for the AMP *prima facie*, since it appears that agreement need not be maximal. However, in Hindi, presence/absence of object agreement usually has semantic consequences for the specificity of the object. Mahajan does not indicate whether the interpretation of (50) differs from its nonagreeing counterpart (51), but the fact that agreement is not *independently* optional both downstairs and upstairs suggests that we are not dealing with true optionality, but rather, presence versus absence of some feature on the object DP that either allows or prohibits its participation in Accord.

4.1.3 Portuguese

European Portuguese (EP) provides the most celebrated example of support for the claim that infinitives can be inflected for agreement (cf. Rouveret 1980).^{42,43} EP has verb forms in embedded clauses that show person and number contrasts as a function of their subject, but do not show tense contrasts. Since these forms have the morphological shape of an infinitive plus a person/number suffix, and occur in some of the same environments as infinitives in languages like Icelandic and English, they have been called inflected infinitives, though it has also been suggested that they would be more accurately treated as subjunctives (Picallo 1984; see Quicoli 1996 for counterarguments; for our purposes, this distinction is irrelevant—what will concern us is the syntactic patterning of these forms, rather than the tense/mood features that they encode.) Beyond merely supporting the claim that agreement is present in certain embedded nonfinite environments crosslinguistically, the EP data will provide more direct confirmation for the link between NOM case and INFL agreement in nonfinite environments. However, some of these data also constitute *prima facie* counterexamples to some of my claims, and therefore require scrutiny; additionally, they will further the understanding of the extent to which various properties of INFL (in particular, case and licensing) do or do not depend on one another. The discussion in this subsection owes much to Quicoli 1996.

⁴² See Raposo (1987, fn. 9) for other languages that are claimed to show this phenomenon.

⁴³ Thanks to Luciana Storto for helpful discussions of the data.

Perhaps the most telling evidence about the consequences of agreement on an infinitive comes from environments where both inflected and uninflected infinitives are possible.⁴⁴ One such environment is the complement to perception verbs:

- (53) a. Eu vi eles correrem.
I saw **they** to.run-3pl
'I saw them run.'
- b. Eu vi-os correr.
I saw-**them** to.run
'I saw them run.'
- c. *Eu vi eles correr.
I saw **they** to.run
- d. *Eu vi-os correrem.
I saw-**them** to.run-3pl (Pilar Barbosa, p.c.)

When this complement takes an overt subject, both inflected and uninflected infinitive complements are possible (53a versus b). Crucially, the case of the embedded subject co-varies with the presence versus absence of agreement: with agreement it can only be NOM, without agreement it can only be ACC. This strongly suggests that there is a single source for both the presence of agreement and the assignment of NOM case; I claim that Accord is that source. Given the alternation in (53a) versus (53b), I assume that (53b) does not contain syntactic agreement features that fail to be spelled out, since it is unclear what could condition the difference in their spellout between (53a) and (53b). Instead, I claim there is no Accord in the downstairs clause of (53b), so that NOM cannot be checked there. However, (53b) clearly shows that ACC is checkable in the upstairs clause, which makes it mysterious, given what I said about Icelandic, why ACC is not also checked in (53a). (Since I assumed for Icelandic that ACC and NOM could be checked on the same DP under ECM, with a choice of forms being made in the morphology, the appearance of NOM in (1a) is unexpected.) I propose the following solution. (53a) and (53b) have different embedded clause types, such that A-movement out of the subject position is blocked altogether in (53a), but possible in (53b); then in (53a), there is only one case the DP could possibly check. I now lay out the evidence for this claim, and show how it helps make sense of other problematic EP facts as well.

The first point to note is that inflected and uninflected infinitives are not in free variation in general, contrary to what (53) might suggest. In particular, matrix predicates can select for one or the other. In environments corresponding to some cases of obligatory Control in English, only an *uninflected* infinitive is possible:

⁴⁴ An important question that is not addressed in the EP literature as far as I am aware is what the semantic or stylistic difference is, if any, between inflected versus uninflected infinitives in such environments.

- (54) a. Eles tentaram sair/*sairerem.
they tried to-leave/*to-leave-3pl
'They tried PRO to leave.'
- b. *José tentou os homens sairem.
Jose tried the men to-leave-3pl
'Jose tried [for [the men to leave]].' (Quicoli 1996: 73, 76)

Conversely, in environments corresponding to some cases of ECM in English, only an *inflected* infinitive is possible:⁴⁵

- (55) Creio estarem/*estar preparados.
I-believe to-be-3pl/*to-be prepared-pl
'I believe them to be prepared.' (Quicoli 1996: 73)

The possibilities in apparent raising environments are particularly telling:

- (56) a. Parecem ter razão.
seem-3pl to-have reason
'They seem to be right.'
- b. Parece terem razão.
seems-3sg to-have-3pl reason
'They seem to be right.' (Quicoli 1996: 59)
- c. *Os meninos parecem terem comido o bolo.
the children seem-3pl to-have-3pl eaten the cake (Raposo 1989: 297)
- d. Parece terem/*ter os embaixadores chegado a um acordo.
seems-3sg to-have-3pl/*to-have the ambassadors reached to an agreement
'It seems that the ambassadors have reached an agreement.' (Quicoli 1996: 58)

Superficially, it appears that agreement is possible either upstairs (56a) or downstairs (56b), but not in both places (56c), which on the face of it would violate the AMP. However, the facts make sense if we assume that *parecer* actually takes two different kinds of complement clauses in (56a) versus (56b). In (56b), with an inflected infinitive complement, the upstairs clause has a (null) expletive subject, and therefore no plural agreement, while the downstairs subject is (3pl) *pro*.⁴⁶ The possibility of *pro* downstairs is supported by (56d), where the downstairs subject is overt. If, as suggested above, A-movement out of inflected infinitive subject position is impossible, then upstairs agreement with the structure of (56b) would be bad because the subject cannot raise. That this A-movement restriction holds is also confirmed by the fact that passivization out of the com-

⁴⁵ I assume the embedded subject in (54) is PRO but in (55) is *pro*.

⁴⁶ David Pesetsky points out that this analysis predicts that nonagreement upstairs should be bad if we force a thematic upstairs subject by inserting a DAT experiencer reflexive in the upper clause. I have not yet tested that prediction.

plement of a perception predicate is impossible when that complement is inflected, but possible when it is uninflected.

- (57) Os soldados foram vistos cair/*cairem.
*the soldiers were seen to-fall/*to-fall-3pl* (Quicoli 1996: 69)

Now consider the uninflected infinitive construction (56a). I assume there is no Accord in the embedded clause of (56a), i.e., it is a different clause type from (56b), namely a type that simply cannot bear phi-features. The claim that (56a), with no downstairs agreement, contains an embedded clause type with different properties from (56b) is supported by the badness of an overt subject downstairs, shown in (56d). The upstairs subject is (3pl) *pro*, the downstairs subject is trace of the matrix subject (or, conceivably, PRO⁴⁷). Raising should be possible since this is not an inflected infinitive. Assuming *parecer* cannot assign a subject theta-role, (56c) is correctly blocked by the A-movement restriction.

Returning to the paradigm (53) with which we began, let us recap how the facts are captured. (53a) involves Accord downstairs only. The AMP is satisfied because A-raising out of the inflected embedded clause is impossible, so upstairs Accord could not have applied. (53b) is like an Icelandic ECM sentence in that the pronoun checks both NOM and ACC features, ACC winning for spell-out. No agreement is visible downstairs because this kind of infinitive, like those in familiar languages, cannot mark agreement contrasts. (53c) is out because it violates the AMP: upstairs Accord and ACC would have been checkable but were not inserted. (53d) is out because A-raising from the subject position of an inflected infinitive is impossible, so the configuration for ACC checking upstairs could not be established.

4.1.4 Modern Greek

Modern Greek (MG), like EP, has embedded verbal forms that show agreement contrasts but no tense contrasts. However, Iatridou ([1988] 1993)⁴⁸ has argued on the basis of MG data for a claim exactly opposite to my own, namely that [+Tense] and not [+Agr] is responsible for NOM case assignment (at least in MG—she allows that this might be crosslinguistically parameterized⁴⁹). Nevertheless, a careful re-examination of Iatridou’s data will show that this conclusion is not

⁴⁷ For arguments that verbs like *seem* can occur in both Control and Raising configurations, see Lasnik and Saito 1992 and sources cited there.

⁴⁸ This paper was written in 1988 but distributed only in 1993. Page references are to the published version.

⁴⁹ In fact, she argues briefly that in Classical Greek, [+Agr] was the NOM assigner.

necessary, and that tying NOM to [+Agr] even in MG is very viable. (Some of the MG facts differ in interesting respects from corresponding EP constructions.)⁵⁰

Iatridou begins her argument by noting that superficially identical embedded verbal forms that agree in person and number with their subject contrast in the case that surfaces on that subject: under one class of matrix predicates, the embedded subject is NOM (58), while in the other it is ACC (59):

- (58) a. Elpizo o Kostas na tiganizi psaria.
hope the Kostas(N) fries fish
 ‘I hope Kostas fries fish.’
 b. Ine dhinaton o Kostas na tiganizi psaria?
is possible the Kostas(N) fries fish
 ‘Is it possible that Kostas fries fish?’
 c. Provlepo o Kostas na tiganizi psaria.
predict the Kostas(N) fries fish
 ‘I predict that Kostas is frying fish.’
 (59) a. Vlepo ton Kosta na tiganizi psaria.
see the Kosta(A) fries(3sg) fish
 ‘I see Kostas fry fish.’
 b. Vazo ton Kosta na tiganizi psaria.
put the Kosta(A) fries(3sg) fish
 ‘I am making Kostas fry fish.’
 c. Fandazome ton Kosta na tiganizi psaria.
imagine the Kosta(A) fries(3sg) fish
 ‘I imagine Kostas frying fish.’ (Iatridou 1993: 176)

(60) versus (59a) shows the embedded verbal agreement varying with the features of its subject.

- (60) Vlepo ta pedhia na tiganizun psaria.
see the children fry(3pl) fish
 ‘I see the children fry fish.’ (Iatridou 1993: 176)

The first argument Iatridou gives is that since the embedded subject can be ACC when the embedded verb shows agreement, agreement must not (obligatorily) assign NOM. But under my assumption that multiple case-checking on a single DP is possible (as in Icelandic ECM), the conclusion does not follow: what follows is that in (58) the lower subject cannot check ACC in the upstairs clause, while in (59) it can. The downstairs INFL could be checking NOM in both clause

⁵⁰ For additional facts that are not addressed here, and discussion of Iatridou’s proposal, see Varlokosta and Hornstein 1993.

types; if agreement entails Accord, that must be happening.⁵¹ In fact, further data provide support for the claim that NOM is available downstairs: certain verbs that pattern like (59) allow the embedded subject to be NOM if it is postposed in the downstairs clause (the participle continues to agree with the postposed subject):

- (61) a. Evala na tiganizi psaria o Kostas.
made fries fish the Kostas(N)
 ‘I made Kostas fry fish.’
- b. *Evala o Kostas na tiganizi psaria.
made the Kostas(N) fries fish (Iatridou 1993: 182)

While I do not have sufficient data to propose a specific analysis of (61a), it could fit my general approach quite simply, if we suppose that the position of the subject at the right of its clause in (61a) has the effect that the upstairs ACC case feature cannot attract it. Thus, the only case feature it has is the NOM that is checked by the downstairs INFL. In summary, (58) versus (59) are not problematic for an Accord account.

The second argument that Iatridou gives for Tense as the source of NOM is that the embedded clauses whose subject is NOM can show tense contrasts, while those with ACC subjects cannot.

- (62) Elpizo o Kostas na tiganise psaria.
hope the Kostas(N) fried fish
 ‘I hope Kostas fried fish.’
- (63) *Idha/*Vlepo ton Kosta na tighanize psaria.
saw/see the Kosta(A) fried fish (Iatridou 1993: 177)

Thus, tense contrasts appear to correlate with availability of NOM downstairs. While this contrast certainly indicates that the superficially identical forms in (58) versus (59) must be featurally distinct, my analysis explains the correlation in terms of properties of the matrix verbs: either 1) those that take tense-contrasting complements are not ACC-assigners at all, or 2) the Tense specification of the embedded clauses in (58) acts as a barrier preventing attraction of the embedded subject by a matrix case feature. The second account is obviously more explanatory, if it can be maintained. Either way, we can keep to the claim that agreement reflects Accord in both embedded clause types,

⁵¹ One might wonder whether the ACC complement of verbs like ‘see’ and ‘imagine’ is ever in the lower clause at all. Unfortunately, the standard tests for distinguishing *persuade* from *expect* structures are inapplicable for independent reasons in Greek. However, the predicates in (59) do pattern with *expect* and against *persuade* in one regard, namely that their finite clause paraphrases do not involve an upstairs object: the argument corresponding to the ACC in (59a, c) is the downstairs subject. ((59b) does not have a finite complement paraphrase.) Thanks to Sabine Iatridou for discussion of these constructions.

(58) and (59); as in Icelandic and Portuguese, agreement (and Accord) must be compatible with both [+Tense] and [-Tense]. This is confirmed in obligatory Control environments: agreement continues to appear (unlike in EP), and tense contrasts are impossible.

- (64) a. tha prospathisi na erthi
will tries(3sg) comes(3sg)
 ‘He will try to come.’
- b. irthate na parete ta pragmata sas?
come(3pl) take(pl) the things your(pl)
 ‘Did you(pl) come to get your things?’ (Iatridou 1993: 178)

This reinforces my claim for Icelandic that Control infinitives can have phi-feature contrasts.

MG differs from EP when it comes to “Raising” environments. While upstairs agreement is optional, as in EP (65), downstairs and upstairs agreement can co-occur (66), while downstairs tense contrasts are still impossible (67) (cf. Ingria 1981):⁵²

- (65) Ta pedhia fenete oti agapun tin Maria.⁵³
the children seem(3sg) COMP love(3pl) the Mary
- (66) Ta pedhia fenonde na agapun tin Maria.
the children seem(3pl) love(3pl) the Mary(A)
 ‘The children seem to love Mary.’
- (67) *Ta pedhia fenonde na agapusan tin Maria
the children seem(3pl) loved the Mary(A) (Iatridou 1993: 185)

Regarding the proper analysis of (66), Iatridou shows that the downstairs subject could not be *pro*, since it cannot differ in reference from the matrix subject and does not alternate with an overt pronoun. If we adopt a raising analysis,⁵⁴ we need to explain why MG allows raising from an inflected infinitive subject but EP does not. I have no proposal to make here.

4.1.5 Belfast English

The Belfast dialect of English is informative with regard to case-agreement correlations because it, unlike Standard English, allows tensed clauses that lack agreement. I will first show how this phenomenon supports my claim that NOM case and subject agreement co-vary independently

⁵² Note that (65) and (66) differ on the choice of complementizer. According to Sabine Iatridou, double agreement as in (66) is not possible with *oti* complements.

⁵³ Although the embedded subject is to the left of the matrix verb, it apparently did not get there by A-movement, as Iatridou shows. Rather, the upstairs subject position is filled with an expletive *pro*.

⁵⁴ Sabine Iatridou informs me that standard tests for Control fail on (66).

of Tense. Next, I show how the Belfast facts support the separation of case and licensing argued for in chapter 2. Finally, I return to the problem of how the theory can allow for the apparent optionality of agreement in Belfast English, and what the structure of nonagreeing clauses might be. My discussion draws very heavily on the lucid presentation in Henry 1995, chapter 2.⁵⁵

Belfast English allows plural subjects to occur with singular verbs under certain conditions—a construction Henry calls “singular concord”:

- (68) a. These cars goes/go very fast.
 b. The eggs is/are cracked.
 c. The children shouts/shout all the time.
 d. *This car go very fast.
 e. *The egg are cracked.

(68d) shows this is really default singular marking, not free choice of number marking. (69) shows that person agreement is also absent in this construction: what we see is the default 3sg form of the verb, even though the anaphor in (69d) shows that the subject is syntactically 1st person.

- (69) a. Usuns is happy.⁵⁶
 b. *Usuns am happy.
 c. John and me is/*am going.
 d. John and me kicks ourselves.

As (70) shows, this phenomenon is not limited to present tense, at least for most speakers; past and historical present are possible too. (71) illustrates that it is not limited to root contexts.

- (70) a. The students was late.
 b. The teachers was busy.
 c. The teachers goes and tells the Principal about it. [historical present]

- (71) I wonder where my glasses is.

Thus, we seem to be dealing with a clause type that, like Icelandic finite clauses, shows tense contrasts without requiring agreement. Notice that the presence of 3sg *-s* on the verb forms in this construction *cannot* be taken to show that agreement is “really present” syntactically; on the contrary, since there is no 3sg DP with which the verb could be agreeing, Accord must *not* be what is triggering the appearance of *-s*. Rather, *-s* must be arising by default feature-filling in the morphology. That is, a Tense node that has no phi-features on it will be supplied with 3sg features by a language-particular rule, exactly as in Icelandic.

⁵⁵ Thanks to Andrew Radford for bringing this work to my attention.

⁵⁶ Henry argues that *usuns*, *themuns*, etc. must be pronouns, not complex DPs.

What is most important about this construction for our purposes is that it is limited to non-NOM subjects: with unambiguously NOM forms it becomes impossible (75). That is, NOM case requires agreement. (Non-case-distinguished forms are of course possible.⁵⁷)

- (75) a. *They is going.
 b. *They goes very fast.
 c. *We takes the bus.
 d. *I reads the newspaper every Sunday.
 e. Us and them is always arguing.
 f. *We and they is always arguing.
 g. Me and him goes.
 h. These is cracked.
 i. Us students is going.
 j. We students are/*is going.⁵⁸

(Alison Henry, p.c.)

The converse is also true: if agreement is marked, the ACC subject form is impossible.

- (76) a. Them’s no good, are they?
 b. *Them’s no good, are them?

I follow Henry in claiming that the ACC case here is default ACC. The facts as described so far clearly support the claim *NOM iff agreement*.

The Belfast facts also provide a new argument for the separation of case and licensing, one that does not rely on the presence of quirky cases. Specifically, they show that an overt subject DP that is capable of getting structural case (and triggering agreement) can still surface as a subject even when it fails to get that case. Thus, structural NOM is not required for subject licensing even when a DP is assigned no other kind of case.

Recall, however, that alternations between agreeing and nonagreeing sentences are worrisome because the nonagreeing sentences appear to violate the AMP: since Accord seems to be possible in this type of sentence, it should *have to* happen, contrary to fact. One possible account of Belfast would say that subject position is occupied by a null expletive in nonagreeing sentences,

⁵⁷ For some reason, bare nonconjoined pronouns that could not be demonstratives (unlike *them*) are not possible as subjects of singular concord clauses even if they are ACC:

- (i) *Us goes.

I have nothing to say about this restriction.

⁵⁸ The contrast in (75i vs. j) also supports my claim in §2.6 that the difference between *Us students* and *We students* in Standard English is whether the pronoun is the head of the DP or not.

but this seems completely ad hoc, since there is no independent evidence for Belfast English having such an element (e.g., superficially subjectless sentences are out, just as in Standard English). Thus, something else must be preventing Accord in the nonagreeing sentences. In the rest of this subsection, I make a proposal to handle this problem.

Henry proposes an analysis in the framework of Chomsky 1993, appealing to separate AgrS and T projections. In essence, her claim is that singular concord clauses involve a missing or inert AgrS, lacking phi-features on its head and prohibiting movement to its Spec. There are two pieces of evidence that singular concord subjects are lower than agreeing subjects. First, the former do not allow certain adverbs to intervene between the subject and a verb that undergoes raising (77a), although they allow such intervention with main verbs, which do not raise (77b). Note also that even in the former case, the subject and verb precede negation (77c).

- (77) a. The children really are/*is late.
 b. The children really likes pizza.
 c. The eggs is not cracked.

This makes sense if the subject in a nonagreeing clause is dominated by the projection to which adverbs like *really* are adjoined. Second, nonagreeing subjects can contain negative polarity items (NPIs), while agreeing subjects cannot:

- (78) a. Any animals isn't/*aren't coming.
 b. Anybody wouldn't be able to do that.
 c. Any country couldn't stand it.

(Note that for purposes of this test, modals can evidently count as nonagreeing (78b, c). This is consistent with children's use of nonNOM subjects with modals—see §5.3.1.) Assuming a theory on which the standard subject/nonsubject asymmetry with regard to the possibility of NPIs has to do with the relative height of the NPI and the NEG element that licenses it, (78a) suggests that the nonagreeing subject can be below NEG,⁵⁹ while the agreeing subject is necessarily above. If we adopt the standard assumption that modals are generated in T⁰, the nonagreeing subject position apparently must be higher than that. The facts in (77) and (78) would be captured if the relevant adverbs for (77) can be TP-adjoined, the NEG element is above Spec-TP and below Spec-AgrSP,⁶⁰ and even nonagreeing auxiliaries in Belfast raise at least to T⁰. This is what Henry pro-

⁵⁹ For this to be coherent we clearly have to suppose that the relevant NEG element is not in a structural position corresponding to the linear position of *n't*, or else that the subject is in Spec-NegP and the domain of NPI licensing is the *m*-command domain of NEG.

⁶⁰ Henry cites Duffield (1993) for the proposal that NEG adjoins to TP at LF.

poses. For her, the possibility of subjects overtly in Spec-TP arises because AgrS is inactive in singular concord clauses.⁶¹

Within Chomsky's (1993) framework, it is conceivable to derive these results by allowing that the AgrS head might simply be omitted from some derivations. To make this go through, one would simply have to assume that some feature of T is strong, to drive overt subject raising, and (contra Chomsky 1993, but in line with Chomsky 1995) that phi-features of a (subject) DP do not require checking. It is less obvious how to derive the apparent lower position of nonagreeing subjects under Chomsky's (1995) proposal that AgrS is not a separate head, and subject agreement is checked in Spec-TP; there then seems to be no alternative position for the subject to be in, since it clearly cannot be VP-internal under standard assumptions. Even if there are additional structural A-Spec positions above VP that subjects can pass through, it is not clear why agreement (the Accord relation, in my terms) should have to be set up in the highest one and not in any other position. Nonetheless, in order to make any use of Henry's generalizations, it seems necessary to assume that there are restrictions on where Accord can take place. For purposes of discussion, I abstract away from particular proposals and assume a single projection, SubjectP, to stand in for any A-projections higher than TP, and assume that Accord can be established in SubjectP but not in TP.

At this point it is instructive to consider one further syntactic restriction on singular concord, namely that it is incompatible with subject-aux inversion:

- (79) a. *Is the eggs cracked?
 b. *Has the children arrived yet?
 c. *Do the girls likes coffee?
 d. *Do the students is happy?
 e. *What has their friends decided?
 f. *What is the students doing?

Henry suggests that this is essentially due to a Head Movement Constraint (HMC) violation: if AgrS is structurally present but featurally empty, then the HMC prevents movement from T⁰ to C⁰ skipping AgrS⁰, but on the other hand there are no features in AgrS⁰ that could attract material from T⁰, so the requirement for C⁰ to be filled cannot be met. She analogizes this situation to the impossibility of main-verb-raising in nonsubject *wh*-questions in English, where long-distance attraction of V to C also seems to be impossible. ((79c, d) show that *do*-support cannot save the derivation either; Henry assumes this is because *do* would have to be inserted under T and then undergo raising, rather than being inserted directly into C.) However, in the framework of Chomsky

⁶¹ Henry argues indirectly that Spec-TP should be available as an overt landing site in Belfast, following the logic of Bobaljik and Jonas (1996), because overt object shift is possible in imperatives: *Give you me immediately that book.*

1995, such an account is unstatable, since featureless head positions should have no effect on attempted feature attraction across them. An alternative suggested by Alec Marantz (p.c.) is that the problem with (79) is not the verb raising but the position of the subject. It is standardly noted that there is an adjacency requirement in English between inverted auxiliaries and subjects:

- (80) a. Apparently John entered the house.
 b. *Did apparently John enter the house?
 c. *Which house did apparently John enter?

If we assume that this is a locality requirement, rather than a mere string-adjacency requirement, then the pattern in (79) might be explained. Specifically, if the subject of an inverted sentence must be in the Spec immediately below C, Spec-SubjectP, and if Henry is right that nonagreeing subjects cannot occupy that position, then (79) would violate this requirement.

We are now left with the problem of explaining why nonagreement does not violate the AMP. I take the idea that Spec-SubjectP is not a licensed position in nonagreeing clauses, while it is in agreeing clauses, to show that the two INFL complexes differ on more than simply presence/absence of agreement, and they are therefore not in the same competitor set. (To get this result, we need to define the competitor set over which the AMP makes its decisions so that it does not include elements that differ on the presence/absence of licensing features.) Then the AMP cannot apply to the choice between them. Thus, the conclusion is that there are two (relevant) flavors of INFL in Belfast that underlie the agreement alternations: one licenses only Spec-TP and disallows Accord, the other licenses only Spec-SubjectP and allows Accord. Standard English lacks the first flavor; the AMP forces agreement when the latter is used.

4.1.6 Standard English

There are two environments even in Standard English that support the claim that Accord underlies both NOM case and verbal agreement. The first involves a situation where overt agreement is clearly possible, but comes and goes as the case of the relevant DP changes. The construction is *there*-insertion, where the “standard” facts are that agreement with the postverbal NP is obligatory:

- (81) a. There is a man in the room.
 b. There are/*is two men in the room.
 c. There are/*is likely to be three men in the garden.

It is well-known (Burzio 1986, Green 1984, etc.) that in spoken English one often hears a singular verb (typically contracted) with a plural associate, as in (82).⁶²

- (82) There’s two men in the room.

It has been suggested (e.g., Chomsky 1995) that *there’s* in (82) is a frozen form and that nonagreement in this construction is not a genuine syntactic option. In support of this claim, one might note that many speakers who accept (82) would reject (83):

- (83) a. There was three men in the room.
 b. There has been two men at the door for the past ten minutes.

I do not deny that there are speakers who have this pattern of judgments (myself included). However, there are also speakers for whom both (82) and (83) are acceptable (Alison Henry, p.c.; Diane Massam, p.c.). It is important to note that the relevant speakers reject nonagreement in non-*there* contexts, i.e., they disallow *Three men is in the room*, so we are not dealing with speakers who use *is* as a plural form. What appears to be going on is that agreement with the postverbal element is optional. If that is true, my account predicts that when agreement is absent, Accord is not happening, and case should correlate. Even in my own dialect, this indeed holds:⁶³

- (84) a. There’s me.
 b. *There’s I.
 c. ?There am I.
 d. **There am me.

(84a) is possible with a list reading (e.g., in answer to *Who could go to the store tomorrow?*), and probably also with a deictic use of *there* (e.g., looking at an old class photo, finding oneself and pointing). (84c) is a little harder to get; it seems best in a photo-gazing context like *There are my*

⁶² This is not a recent phenomenon. Visser (1963) cites such examples as far back as c. 1400: “...the use of the singular verb in utterances opening with *there*—of which there are numerous instances, even in Pres. D. English”:

- (i) a. There is some things I can’t resist. (1849)
 b. There’s stories, too, about Capes. (1909)
 c. There’s stairs and elevators. (1945) (cited in Visser 1963)

Jespersen (1909–49) writes, “After *there* and *here* . . . the vb is often in the sg, even before a plural subject.” Quirk et al. (1985: 756) write, “. . . the tendency in informal speech for *is/was* to follow the pseudo-subject *there* in existential sentences such as *There’s hundreds of people on the waiting list*”; “[*There*] often determines concord, governing a singular form of the verb . . . even when the following ‘notional subject’ is plural: *There’s some people in the waiting room* <informal> occurs alongside *There are some people in the waiting room*”; “often informally, *There happens to be only two apples left*.”

⁶³ Cf. Jespersen: “The obl. case may even be found in the subject, thus in the first place in sentences introduced by the preparatory *there*”, e.g., “there is only me”, “that there was just us”.

parents, there is my brother, and there am I. Nonetheless, there is a very clear contrast between (84c) and (84d), as well as between (84a) and (84b).^{64,65} This makes sense if there is Accord between INFL and the postverbal pronoun in (84c) but not in (84a). But how we can allow for both of these possibilities?

Superficially, nonagreement with *there*-insertion seems to be a violation of the AMP: Accord could happen, but it did not. Thus, my assumptions lead to the conclusion that Accord between INFL and the postverbal DP in (84a) is somehow blocked. The only conceivable way this could happen is for *there* itself to be in an Accord relationship with INFL in (84a). But if that is so, what is going on in (84c)? Here we can entertain two possibilities: either 1) (84c) has the standard structure in which *there* and the associate form a chain or are in some similar relationship (e.g., by LF “expletive adjunction”), while (84a) lacks any such relationship, or 2) *there* in (84c) is effectively quirky while *there* in (84a) is not.⁶⁶

A few more facts from dialects of English other than my own underscore what is going on with *there*-insertion. Alison Henry (p.c.) informs me that in Hiberno-English, both (82) and (83) are possible among speakers who otherwise disallow “singular concord,” i.e., who require agree-

⁶⁴ I believe the same pattern holds for other person-number combinations:

- (i) a. ?There’s us.
- b. *There’s we.
- c. ??There are we.
- d. *There are us.

- (ii) a. ?There’s them.
- b. *There’s they.
- c. ??There are they.
- d. *There are them.

⁶⁵ Sobin (to appear) cites Chomsky (p.c.) for an argument that nonagreement with *there* is not a real option of the grammar of English, based on the badness of examples like (ib), in contrast to (ia):

- (i) a. (?)There’s some strange people here.
- b. *There is, I think, some strange people here.

Interestingly, however, examples like (84a) do not degrade in the same way:

- (ii) There is, I’m afraid, only me.

This supports the idea I appeal to below in the text, that the list reading of *there* involves a different structure from existential (as well as presentational) uses.

⁶⁶ Cf. Reuland 1983b for assignment of NOM to the associate without going through the expletive; see Moro 1991, T. Hoekstra and Mulder 1990, and Zwart 1991 for predicate-raising treatments of English *there* and Locative Inversion. See Bresnan 1994 for the suggestion that English effectively has quirky subject elements.

ment with preverbal subjects.⁶⁷ Diane Massam (p.c.) informs me that she also finds both (82) and (83) acceptable, and furthermore, she allows nonagreement in Locative Inversion sentences (85):⁶⁸

- (85) a. In the garden was/were three men.
- b. We’re eating lunch when all of a sudden, into the room walks/walk three men.
- c. In the corner stands two lamps that I inherited from my grandfather.
- d. Through this valley runs two streams that meet at the far end.

(Diane Massam, p.c.)

The obvious hypothesis is that the relevant feature of both *there*-insertion and locative inversion is the presence of an element in the canonical subject position that cannot itself be involved in an Accord relationship (on the assumption that the “inverted” locative phrase at least passes through subject position, even if it is higher than that on the surface (cf. Bresnan 1994, Branigan 1992)). This makes the contrasts in (84) look quite parallel to quirky-subject sentences in Faroese versus Icelandic (cf. §4.1.1): when the subject cannot participate in Accord, either agreement with the object takes place and it is NOM, or no agreement at all is visible and the object is ACC.

Strikingly, speakers who accept (83) do not accept nonagreement in a presentational *there*-insertion context (Alison Henry, p.c., reporting judgments of several speakers; Diane Massam, p.c.):

- (86) a. There appears to be three men in the room.
- b. *There appears two newspapers on my doorstep every morning.

This further confirms that the option of nonagreement with the postverbal DP for these speakers is not some quirk of the string *there is/there’s*, but is structure dependent. Indeed, the standard claim is that presentational versus existential *there* constructions in English have different structures, with the associate in object position in existentials but A-bar adjoined in presentationals. Descriptively, the presentational structure acts as if its subject position always contains the features of the associate, whereas the existential structure could be treated as if this were never the case. One might try to work this out by positing that there is a chain between *there* and its associate in presentational sentences, but there is no such chain in existential sentences, *there* having some quasi-locative meaning of its own.

The other sort of evidence for case-agreement correlations in Standard English comes from one of the default case environments in §2.6, gapping:

⁶⁷ She informs me that these are the majority of Hiberno-English speakers; “singular concord” as discussed in the previous sub-section is a minority pattern.

⁶⁸ Alison Henry (p.c.), however, does not accept nonagreement with Locative Inversion.

(87) We can't eat caviar and him/*?he eat beans.

Here we see a 3sg subject of a verb that lacks the *-s* suffix, and that subject must be ACC, not NOM. I analyze the second clause of (87) as lacking Accord, and that is why NOM and *-s* are impossible. What (87) suggests in addition is that INFL is *required* for establishing the Accord relation: a Spec-head configuration of a bare verb and a DP seems not to induce Accord. I needed this assumption also for Belfast English, to say that Spec-TP was not a possible Accord position.

4.1.7 Object Accord

So far, my arguments for Accord as the relation underlying structural case and agreement have focused on subject case. It is harder to show the corresponding dependence between object case and object agreement because it is harder to find languages that have both of these features. For this reason, the empirical backing for this claim is not as extensive. Nonetheless, there are a few examples that help to argue for it.

4.1.7.1 Romance

Perhaps the best known involves participial agreement in Romance. Under certain syntactic conditions, perfect participles can agree in number and gender with a direct object, in particular, an ACC clitic. However, agreement is not possible with corresponding DAT clitics.

- (88) a. Li ho visti/*visto. [Italian]
*them(ACC) have-1sg seen(masc-pl/*masc-sg)*
 'I have seen them.'
- b. Gli ho telefonato/*telefonati.
*them(DAT) have-1sg called(masc-sg/*masc-pl)*
 'I have called them.' (Taraldsen 1995a: 310–311)

This suggests an obvious parallel with the Icelandic passive participle facts, where I argued that only structurally case-marked DPs could enter into Accord relationships, and that Accord (as opposed to Concord) underlies this kind of agreement. If the assumptions required for making the parallel hold, then we would conclude that ACC forms in Romance can enter into Accord relationships while DAT forms cannot. This of course does not argue directly that the ACC case feature itself arises via Accord.

4.1.7.2 Inuit

An argument more parallel to those made regarding NOM in Icelandic and other languages above comes from Inuit.⁶⁹ In this language, verbs can agree with two of their arguments; Ergative and Absolutive arguments must trigger agreement. In a canonical transitive clause, the object receives ABS case, but if the object is a DAT goal or is marked for some case other than ABS for other reasons, agreement with that object becomes impossible. Furthermore, the same agreement marking can track an ABS argument whether it is subject or object. Observe the 1sg agreement in the following examples:

- (89) a. (Uanga) qungujup-p-u-nga.
(me) smile-IND-INTRANS -1s
 'I smiled.'
- b. Anguti-p (uanga) urnip-p-a-a-nga.
man-ERG (me) approach-IND-TRANS-3s-1s
 'The man approached me.' (Bittner & Hale to appear)

The 1sg argument is an ABS (unmarked) subject in (89a) and an ABS object in (89b), with agreement preserved. This agreement also appears in (90a) when the 1sg goal is an ABS object, but disappears in (90b) when it is a DAT object.

- (90) a. Anguti-p (uanga) qimmi-nik tuni-v-a-a-nga.
man-ERG (me) dog-pl.INS give-IND-TRANS-3s-1s
 'The man gave me some dogs.'
- b. Anguti-p qimmi-t uan-nut tunni-up-p-a-i.
man-ERG dog-PL me-DAT give-UT-IND-TRANS-3s.3p
 'The man gave the dogs to me.' (Bittner & Hale to appear)

4.1.7.3 Choctaw

Data from Choctaw also suggest (albeit more indirectly) that object case/agreement patterns like subject case/agreement, in two respects, supporting a unified Accord treatment. For these facts to be relevant, we must assume that the verbal person-number morphology of Choctaw reflects

⁶⁹ Thanks to Jonathan Bobaljik (p.c.) for help with the data.

case features associated with corresponding arguments (see Schütze 1994, 1995b, 1995c for this treatment).⁷⁰

The first argument for treating object marking as Accord takes advantage of facts already noted for Icelandic, in particular, structural NOM and ACC patterning together in being able to enter into Accord relationships, and quirky cases being unable to do so. (We saw this with regard to passive participle agreement, and the fact that structural ACC reverts to NOM under passivization while quirky cases are preserved.) I argued in Schütze 1995b that Choctaw has a structural versus quirky case contrast. I now show that structural ACC case on objects patterns with NOM and against quirky cases in Choctaw, and that it also patterns with agreement.

NOM subjects (91–92) and ACC objects (93–94) pattern together by allowing their corresponding verbal morpheme to be dropped in the presence of an overt first- or second-person pronoun:⁷¹

(91) a. Pishn-akoosh **ii-** habli-tok.
we -EMPH.SUB **Ip**NOM-kick -PST
'We kicked.'

b. Pishn-akoosh habli-tok.⁷²
'We kicked.'

(Broadwell & Martin 1994: 3)

(92) a. Chishn-akoosh **ish-** habli-tok.
you -EMPH.SUB **2s**NOM-kick -PST
'You kicked.'

b. Chishn-akoosh habli-tok.
'You kicked.'

(Broadwell & Martin 1994: 3)

(93) a. **Chi-** pisa-li -h.
2sACC-see-1sNOM-PRED
'I see you.'

⁷⁰ If instead one were to assume that the *nominal* marking of Choctaw represents case, while the verbal system simply represents agreement of various different flavors, then Choctaw would appear to show abundant case-agreement mismatches, since all subject nominals in Choctaw take the same morphology (glossed as *SUB*, *-(a)t* in the canonical situation), despite triggering verbal agreement from three different paradigms (traditionally labeled simply I versus II versus III in the literature, though I have argued that they correspond to NOM versus ACC versus DAT).

⁷¹ There is one peculiar exception: the 1sg NOM suffix *-li* can never be omitted. I assume this is related to its unique status as a suffix, while all other person-number morphemes in Choctaw are prefixes, but I have nothing further to say about this. See Broadwell and Martin (1994) for a proposal.

⁷² These data contradict what others have said in the literature, e.g., Ulrich (1986: 288) and Davies (1986), who claim that NOM is never omissible.

b. Chishn-akq pisa-li -h.
you -CONTR.OBL see -1sNOM-PRED
'I see you.'

(Broadwell 1992: 395–396)

(94) a. **Sa-** chim- ahchiba-h -q?
1sACC-2sDAT-tired.of-PRED-Q
'Are you tired of me?'

b. Ano chim- ahchiba-h -q?
1s 2sDAT-tired.of-PRED-Q
'Are you tired of me?'

(Davies 1986: 97)

Notice that such dropping is not obligatory (95), i.e., we are apparently not dealing with a simple choice of incorporating versus not incorporating the pronoun.

(95) a. Ano is- sa- hottopali-tok.
1s 2sNOM-1sACC-hurt -PST
'You hurt me.'

(Davies 1986: 2)

b. An-at -o iskali chim- a: -li -tok.
1s -SUB-CONTR money 2sDAT-give-1sNOM-PST
'I gave the money to you.'

(Davies 1986: 3)

Similar patterns have been noted in Romance, and I assume that a similar explanation is involved: roughly speaking, a set of phi-features in Accord must be morphologically realized, but this only needs to happen once. If a full pronoun realizes person and number features, the corresponding verbal morphology is not necessary (cf. Sportiche's (1992) Doubly-filled Voice Filter).

Crucially, however, an overt pronoun does not license the omission of a *quirky* ACC subject marker—(96), (97) and (98).

(96) a. An-akoosh **sa-** niya-h.
1s -EMPH.SUB **1s**ACC-fat -PRED
'I am fat.'

b. *An-akoosh niya-h.

(Broadwell & Martin 1994: 4)

(97) a. Shokha anopa **pi-** anokfohka -h.
story **1p**ACC-understand-PRED
'We understand the story.'

b. *Pishn-akosh shokha anopa anokfohka -h.
1p- EMPH.SUB story understand-PRED

(Davies 1986: 72)

(98) a. An-at -o chi- **sa-** nokkilli-h.
1s -SUB-CONTR 2sDAT-1sACC-hate -PRED
'I hate you.'

b. *An-at-o chi-nokkilli-h.

(Davies 1986: 124)

This makes sense if quirky case cannot enter an Accord relation, as I already argued for Icelandic.

A second place where structural NOM and ACC pattern together is a complex construction involving a completive auxiliary that allows clitic climbing similar to what is found in “Restructuring” constructions in Romance.⁷³ In this construction, NOM subject marking can appear either on the main verb or on the auxiliary, and so can ACC object marking, if each is the only overt agreement morpheme.⁷⁴

- (99) a. *Bashli-t ish- tahli -tok.*
cut -PART 2sNOM-complete-PST
 ‘You finished cutting it.’
- b. *Ish- bashli-t tahli -tok.*
2sNOM-cut -PART complete-PST (Broadwell p.c.)
- (100) a. *Fammi-t sa- tahli -tok.*
whip -PART IsACC-complete-PST
 ‘He/she finished whipping me.’
- b. *Sa- fammi-t tahli -tok.*
IsACC-whip -PART complete-PST (Broadwell p.c.)

ACC *subject* marking contrasts with object marking in that, at least for many speakers, it must stay on the main verb and cannot climb to the auxiliary:

- (101) a. *Sa- niya-t taha -h.*
IsACC-fat -PART complete-PRED
 ‘I’m completely fat.’
- b. %**Niya-t sa- taha -h.*
fat -PART IsACC-complete-PRED (Broadwell & Martin 1994: 7)

This is explained if the inherent case of the main verb, which cannot enter into Accord, must be realized on that verb. The facts in (99) and (100), on the other hand, are reminiscent of raising constructions in EP, where either downstairs or upstairs agreement was possible. Here we are seeing object agreement pattern the same way as subject agreement: an Accord relationship can be established in either clause.

⁷³ This auxiliary appears in two variants, depending on properties of the embedded verb (cf. (99) versus (101)).

⁷⁴ Again, 1sg NOM is exceptional: it must appear on the auxiliary and cannot be left on the main verb.

4.2 Structural versus inherent case as presence versus absence of Accord

In the previous section I focused on arguing for the claim that structural cases arise from Accord relations, which are also responsible for agreement. In doing so, I relied on a contrast with quirky cases, which I claim do not enter into Accord relations, on the basis of the observation that in numerous languages, these do not trigger agreement. In this subsection I show how my claim about Accord versus non-Accord case checking can be used to account for several other ways in which structurally- versus quirkily-case-marked DPs pattern differently.

The first contrast between structural and quirky DPs is a contrast in omissibility: under different circumstances in different languages, the marking of structural cases can be dropped, whereas in those same circumstances lexical case marking is obligatory. We already saw one example of this, in the Choctaw data in §4.2: in the presence of an overt pronoun, verbal affixes corresponding to a NOM subject or an ACC object could be omitted, while the affix corresponding to a (quirky) ACC subject could not. Omissibility of a different sort has been used to argue for the status of various case markings in Korean. There the contrast is between presence versus absence of a case affix/postposition on overt DPs, with omission occurring in less formal speech and proscribed in formal writing. The standard claim in the Korean literature is that structural case markers are omissible, but lexical case markers are obligatory. (In principle, we should ask whether there is any corroborating evidence for the split that this diagnostic makes, but Korean conspires not to provide many opportunities for finding such corroboration.)

A second kind of contrast that the Accord-based account captures is that structurally case-marked DPs can vary their case-marking as a function of their position in a clause, while quirky DPs do not. This follows if structural case-marking results from Accord relationships while quirky case-marking does not: a DP with a given D-structure position could enter into Accord relationships with various different heads, depending on which other DPs are in the sentence, the presence of passive or causative morphology, etc. Since Accord relationships with different heads can result in different case features being checked, the variation in case marking follows. On the other hand, if a quirky DP can never enter an Accord relation, and if the only other case-checking mechanism available is theta-dependent, then its case should be constant regardless of where it moves and which derivational morphemes are present. We have already seen examples of this contrast in Icelandic: NOM subjects become ACC under ECM, and ACC objects become NOM under passivization (whether or not they become subjects), whereas quirky DPs retain their case marking under both of these processes. Such alternations are of course common in familiar languages. An alternation parallel to Icelandic ECM can also be seen with causative marking in Choctaw.

A verb with the causative suffix *-chi* takes all the same arguments as the unsuffixed verb, plus a causer that always takes NOM agreement. If the subject of the original verb took NOM agreement, it takes ACC marking in the causative (102b). If the original subject took ACC or DAT marking, it always retains such marking, as in (103b) and (104b).⁷⁵

- (102) a. **Is-** sa- bashli-tok.
2sNOM-IsACC-cut -PST
 ‘You cut me.’ (Davies 1981: 41)
- b. **Chi-** sa- bashli-chi -li -tok.
2sACC-IsACC-cut -CAUS-IsNOM-PST
 ‘I made you cut me.’ (Davies 1981: 416)
- (103) a. Chi- **sa-** banna-h.
2sACC-IsACC-want -PRED
 ‘I want you.’ (Davies 1986: 65)
- b. Chi- **sa-** banna-chi -tok.
2sACC-IsACC-want -CAUS-PST
 ‘S/he made me want you.’ (Davies 1981: 424)
- (104) a. Chi- **am-** ihaksi-tok.
2sACC-IsDAT-forget -PST
 ‘I forgot you.’ (Davies 1986: 5)
- b. Hattak-at chi- **am-** ihaksi-chi -tok.
man -SUB 2sACC-IsDAT-forget-CAUS-PST
 ‘The man made me forget you.’ (Davies 1986: 137)

A third and final contrast between structural and quirky DPs concerns their interaction with switch reference (SR) systems in several languages of the Americas. As I will show in detail below, in a SR configuration with coreferential NOM subjects upstairs and downstairs, an embedded clause must be marked same-subject (SS). However, when one of the coreferential subjects is quirky, either same-subject or different-subject (DS) marking is allowed. That is, quirky subjects are not obligatorily subject-like in their behavior under SR, even though in these languages they are subject-like with regard to structural diagnostics such as binding. This split in subjecthood properties receives a natural account if we assume that quirky subjects are structurally in the same position as NOM subjects, but do not enter an Accord relation with INFL.⁷⁶ The additional claim I need to

⁷⁵ Additional irrelevant readings of (102–104) are omitted from the translations.

⁷⁶ Notice with regard to optional SS marking with quirky subjects that we cannot say that *optional* Accord is involved; i.e., SS marking cannot always reflect Accord with the quirky argument. This conclusion has both empirical and theory-internal motivation. Empirically, such a claim would predict that quirky subjects should only optionally trigger NOM agreement (and that this option would correlate with SS marking), which is completely false. Theoretically, the AMP would dictate that if Accord were possible, it must always happen, in which case quirky and structural case subjects ought always to behave identically, again counter to fact.

make is that Accord is relevant to SR determination. In particular, INFL-Accord makes a subject DP necessarily relevant for SR, whereas lack of INFL-Accord allows it not to be. One way to implement this would say that the feature sharing involved in Accord includes not only case- and phi-features but also referential features more generally. Before giving the technical details of the account, I will now step through the relevant examples from Choctaw more systematically. (For related facts and background and an alternative account in an older framework, see Schütze 1994, 1995b.)

In Choctaw, an embedded clause marked with the SS marker has a subject coreferential with the subject of the next higher clause, as in (105).⁷⁷ An embedded clause marked with DS has a subject that is not coreferential with the subject of the next higher clause, as in (106).⁷⁸

- (105) Tobi apa-li **-cha/*na** oka ishko-li -tok.
*bean eat-IsNOM-SS/*DS water drink-IsNOM-PST*
 ‘I ate beans and drank water.’ (Davies 1986: 9)
- (106) Waak nipi ish- awashli-**na/*cha** oka ishko-li -tok.
*cow flesh 2sNOM-fry -DS/*SS water drink-IsNOM-PST*
 ‘You fried the beef, so I drank the water.’ (Davies 1986: 9)

This is the unsurprising pattern with NOM subjects. Choctaw also has nonNOM subjects, which do appear to be in subject position, as diagnosed by their ability to antecede the subject-oriented verbal reflexive *ili* (see Schütze 1995b and references there for details). However, when the embedded subject is nonNOM, even if the higher and lower subjects are in fact coreferential, DS marking is possible, for at least one group of speakers, as illustrated in (107)–(111) with embedded DAT subjects. This configuration also allows SS marking.⁷⁹

- (107) Alla -t chim- iskali i- kania-**cha/na** chokka ia -tok.
child-SUB 2sDAT-money DAT-lose -SS/DS house go-PST
 ‘The child lost your money and went home.’ (Davies 1986: 9)

⁷⁷ Note that while most of the examples are translated with coordination, Linker (1987) has shown that the clause marked with *cha* or *na* is in fact subordinate to the following clause.

⁷⁸ I am not proposing an account of which clauses take SR marking and which do not, only an account of which of SS or DS will show up in those that do. To a first approximation, higher predicates select for the presence or absence of a SR “slot” on their complements. (See Broadwell 1990 for more details.)

⁷⁹ The speakers who allow DS in these environments seem to be in the minority of Choctaw speakers whose grammar has been studied (Davies 1986). Nonetheless, I propose an account to handle their judgments because they are more of a theoretical challenge than the majority judgments. Speakers who disallow DS in sentences like (107) presumably do not avail themselves of all the grammatically available possibilities.

- (108) Alla -t ofi -ya -t i- kania-**cha/na** hoyo-tok.
child-SUB dog-DET-SUB DAT-lose -SS/DS seek -PST
 ‘The child lost the dog and looked for it.’ (Davies 1981: 338)
- (109) Chokfi a- lhakoffi-**cha/na** chokka ia -li -tok.
rabbit 1sDAT-miss -SS/DS house go-1sNOM-PST
 ‘I missed the rabbit and went home.’ (Davies 1986: 89)
- (110) Apo achiifa-t am- alhtaha-k -at/a am- achokma-h.
dish wash -SS 1sDAT-finish -COMP-SS/DS 1sDAT-like -PRED
 ‘I am glad that I finished washing the dishes.’ (Davies 1981: 347)
- (111) Chi- am- ahchiba-**cha/na** chokka ia -li -tok.
2sACC-1sDAT-tired.of-SS/DS house go-1sNOM-PST
 ‘I was tired of you and went home.’ (Davies 1981: 69)

The surprising possibility of DS marking in these examples is crucially dependent on the nonNOM status of the embedded subject, and not simply on some semantic quirk of the verbs involved, as illustrated by the behavior of verbs that allow two options for the case frame of their arguments, one with a NOM subject, the other with a nonNOM subject. Such verbs allow DS with coreference when the lower subject is nonNOM, but strictly disallow DS with coreference when the lower subject is marked NOM.

- (112) a. Nita-ma i- sa- nokshoopa-**cha/na** i- baliili-li -tok.
bear-DET DAT-fear -SS/DS DAT-run -1sNOM-PST
 ‘I was afraid of the bear and ran from it.’
- b. Nita-ma i- nokshoopa-**li** -**cha/*na** i- baliili-li -tok.
*bear-DET DAT-fear -1sNOM-SS /*DS DAT-run -1sNOM-PST*
 ‘I was afraid of the bear and ran from it.’ (Davies 1984: 364)
- (113) a. Nita-ma i- sa- nokshoopa-**ka** ikhana-li -h.
bear-DDT DAT-1sACC-fear -COMP.DS know -1sNOM-PRED
 ‘I know I am afraid of the bear.’ (Davies 1986: 123)
- b. Nita-ma i- nokshoopa-li -**kat/** ***ka**
*bear-DET DAT-fear -1sNOM-COMP.SS /*COMP.DS*
ikhaana-li -h.
know -1sNOM-PRED
 ‘I know I am afraid of the bear.’ (Davies 1986: 124)

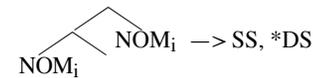
There is one more fact about the interaction between nominal and clausal reference marking that is surprising. One class of quirky-subject verbs allows SR marking to reflect (non)coreference between the higher subject and the lower *object*. That is, when the higher subject is coreferential

with an embedded object of this type of verb,⁸⁰ SS marking is possible, as shown in (114). Furthermore, if coreference with the lower object is intended, SS marking is obligatory, as (115) shows.

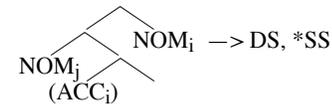
- (114) Chokfi-yat a- lhakoffi-**cha** baliili-tok.
rabbit -SUB 1sDAT-miss -SS run -PST
 ‘I missed the rabbit, and it ran.’ (Davies 1981: 222–223)
- (115) a. Ofi-t a- kania-**cha** sa- hoyo-tok.
dog-SUB 1sDAT-lose -SS 1sACC-look -PST
 ‘I lost the dog, and it looked for me.’ (Davies 1981: 222–223)
- b. Ofi-ya -t a- kania-**na** sa- hoyo-tok.
dog-DET-SUB 1sDAT-lose -DS 1sACC-look -PST
 ‘I lost the dog and someone looked for me.’
 (*‘I lost the dog and it looked for me.’) (Davies 1981: 350)

The facts we need to account for are summarized in (116).

- (116) a. *lower subject NOM, subjects coreferential*



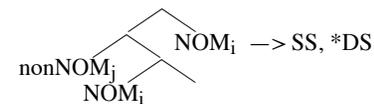
- b. *lower subject NOM, subjects non-coreferential, possible coreferential object*



- c. *lower subject nonNOM, subjects coreferential*

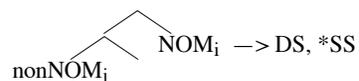


- d. *lower subject nonNOM, lower object NOM, lower object and higher subject coreferential*



⁸⁰ An additional requirement is that the lower object have a SUB suffix, which is possible with a small class of verbs, mainly psych-verbs, that allow SUB-marking on both argument DPs—see Schütze 1994 for an attempt to relate this to the account of SR.

e. *lower subject nonNOM, subjects non-coreferential*



The generalizations to be captured are the following. If the downstairs clause has a NOM argument (subject or object), it behaves obligatorily like a subject for purposes of SR marking. If the downstairs clause has no NOM argument, then a nonNOM downstairs subject behaves optionally like a subject for purposes of SR marking. Coreferential “subjects” as just defined must trigger SS marking. In the absence of a coreferential subject, DS marking must appear.

Norvin Richards (p.c.) points out that this pattern of facts is quite reminiscent of how long-distance anaphors behave in some languages.⁸¹ The analogous situation would be as follows. An embedded subject coreferential with the higher subject must be an anaphor. An embedded object coreferential with the higher subject can be an anaphor or a pronoun, but long-distance object anaphors are possible only across expletive subjects, not across referential subjects. One possible account of such a language would appeal to anaphor raising at LF, with the following properties. An anaphor is licensed only if it can raise at LF to adjoin to an element with the same referential features (“index” in older terminology). A pronoun is licensed if there is a *potential* antecedent for it that does not actually possess the same referential features. Anaphor raising is relativized to see only INFLs. An anaphor can raise successively through an “empty” INFL (one that lacks referential features) but must stop at the first “full” (referential) INFL it encounters.⁸² However, every INFL, whether empty or full, counts as a *potential* antecedent for a pronoun.⁸³

⁸¹ I am indebted to Norvin Richards for extensive discussion of the ideas in this section.

⁸² Broadwell (1988) shows that Choctaw actually provides rather transparent evidence for the hypothesized successive cyclic anaphor raising. An overt reflexive, which like SR is a morpheme on the verb word in Choctaw, in a sentence like *John knows that self is good-looking* can appear on the upstairs verb, the downstairs verb, or both verbs.

⁸³ There is independent evidence for this contrast between pronouns and anaphors in sensitivity to expletives intervening. (Thanks to Norvin Richards for bringing this to my attention.) Freidin and Harbert (1983) demonstrate that Condition B is happy to count an expletive subject as defining its domain:

- (i) a. John_i expected [it to annoy him_i] that Mary was arriving late.
- b. *John_i expected [him_i to be annoyed] that Mary was arriving late.

However, expletive subjects do not have to count in determining the domain for Condition A:

- (ii) a. ?They expected [it to seem to each other] that John is crazy.
- b. *They expected [John to seem to each other] to be crazy.

This will derive the facts as follows. An embedded subject anaphor will be licensed because the closest INFL to which it can raise is the matrix (assume the anaphor is already “above” INFL of its own clause in the relevant sense). If upper and lower subjects are coreferential, and subjects crucially copy their referential features to their local INFL as part of the Spec-Head checking process, then the upper INFL (to which the anaphor raises) will match the referential features of the anaphor, which will be licensed. On the other hand, a coreferential subject *pronoun* would be disallowed because its closest potential antecedent, matrix INFL, shares its referential features, so it is not free with respect to that position. Now consider an element in embedded object position when the embedded subject is an expletive, hence the embedded INFL lacks any referential features. An anaphor will be licensed because at LF it can raise through the “empty” INFL to the next higher INFL, which shares its referential features. Here, however, a pronoun will also be possible, because the *embedded* INFL is above it, hence is the closest potential antecedent, and does not share its referential features, so the pronoun is free in its domain.

Now let us translate this account to the Choctaw SR facts. The key claim is that referential features can be copied from an argument to INFL, and this happens if and only if the argument and INFL are in the Accord relationship. That is, we extend the definition of Accord to require that not only case and phi-features but also referential features must match and check between the head and the specifier. Since referential features on INFL will be uninterpretable, like phi-features on INFL, assume that they are optional—they will be present if they can be checked, but otherwise INFL is content to lack such features entirely. Now the parallel to the situation with long-distance anaphors should be clear: a referential versus expletive lower subject corresponds to an INFL with versus without referential features, that is, an INFL that has versus has not undergone Accord. Since, following my claim throughout this chapter, NOM case depends on INFL Accord, this will capture the contrast between NOM and nonNOM arguments in Choctaw. Let us step through the cases in (116) to see how this works.

In every configuration in (116), the higher subject is NOM, implying that the higher INFL contains a copy of that subject’s referential features. In (116a and b) the lower subject is also NOM, meaning it undergoes Accord with the lower INFL, making that INFL “referential.” If the lower subject is coreferential with the higher subject (116a), an “anaphor” associated with that lower subject would be licensed, because the closest INFL that it can raise to (matrix INFL) bears matching referential features. Suppose, then, that the SS morpheme is effectively a long-distance anaphor that shares the referential features of the embedded subject. Continuing the analogy, suppose the DS morpheme is effectively a pronominal. Then DS will not be possible in (116a) because its closest potential antecedent is an actual antecedent, sharing its referential features.

Turning now to (116b), where the lower subject is not coreferential with the higher one, SS is blocked because an anaphor cannot be licensed, since the next highest INFL (the matrix) does not bear the same referential features. DS is possible because the closest potential antecedent does not share its referential features. There would be no way to get SS marking by virtue of a coreferential lower *object*, because from that position the closest potential antecedent is downstairs INFL, which does not share its referential features.

Turn now to the interesting case, the noncomplementarity in (116c). Here, since the lower subject is nonNOM, it is not in an Accord relation with lower INFL, so lower INFL does not contain its referential features; in fact, it contains no referential features at all. SS is possible because the closest INFL above the downstairs subject is the matrix INFL, and it *does* share its referential features. Crucially, however, DS is also possible if the lower INFL counts as the closest potential antecedent for the lower nonNOM subject. There are a number of ways we could arrange for that to be true. Perhaps the simplest is to assume that the tail of the subject's A-chain can count as a position at which (the equivalent of) Principle B is verified, if we assume VP-internal subjects. Notice that we can say the same for NOM subjects without doing any harm. That is, returning to (116a), it will do no harm to assume that Principle B could be verified with respect to the tail of the subject chain in (say) Spec-VP. That is because, since the subject is NOM, its *local* INFL must share its referential features, so its closest potential antecedent will still be an actual antecedent, so DS would not be free in its domain and is hence ruled out.

Turning now to (116d), we see the same effect at work again. We have a NOM object that shares referential features with lower INFL. DS is impossible because that INFL is a potential antecedent for the object and is actually coindexed with it, so it cannot be free. To see how SS is possible, consider that the object must end up in a checking configuration with INFL before LF in order to check its NOM case. From that position, the SS anaphor can raise to the closest higher INFL, the matrix, with which it shares referential features and is hence valid.

Finally, in (116e) the lower subject is nonNOM, so lower INFL has no referential features. DS is possible because, with respect to either the head or the tail of the lower subject chain, the closest potential antecedent does not share referential features—it is either featureless or has distinct features. SS is blocked because there is no INFL that shares referential features with the lower subject, hence nowhere the SS anaphor could raise to be licensed.

Let us recap the assumptions that made this account work. The most important one, and the reason for discussing these facts at all, was the claim that Accord includes the checking of referential as well as phi- and case features. This creates an asymmetry between INFLs that check a NOM

DP versus those that do not, which SR is sensitive to, if we treat it as a kind of binding that is relativized to INFL antecedents. Additionally, I assumed that SS is an anaphor, and that DS is a pronominal (roughly following previous GB analyses of SR, e.g., Finer 1984, Broadwell 1990). One crucial added assumption was that the SS and DS morphemes originate as part of the argument with which they share reference. This is a nonobvious assumption because the SR morphology surfaces on the verb word of the embedded clause, not on the DP arguments (which can of course be null). I will not make a proposal for how technically to put the morphology in its surface place.

Since the reliability of the crucial Choctaw SR facts may be in question,⁸⁴ it is worth demonstrating that the same basic phenomenon has been attested for (a dialect of) Imbabura Quechua (Cole & Jake 1978). As in Choctaw, quirky subjects arise with experiencer verbs.⁸⁵ First, note that as in Choctaw, these contrast with NOM subjects by not triggering verbal agreement; unlike in Choctaw, however, case contrasts are marked on DPs in Quechua. (117a) shows that the subject of 'see' must be NOM and trigger person-number agreement on the verb; (117b) shows that a structural ACC object is not an alternative trigger for agreement; (117c) shows that 'hurt' takes an ACC subject that differs from NOM subjects in not being able to trigger verbal agreement.

- (117) a. can-Ø/*ta ñuca-ta ricu-ngui
 you-NOM/*ACC me-ACC see-2sg
 'You see me.'
- b. *can-Ø ñuca-ta ricu-ni
 you-NOM me-ACC see-1sg
- c. ñuca-ta nana-n/*-ni⁸⁶
 me-ACC hurt-3/*1sg
 'I hurt.'

(Cole & Jake 1978: 74–75)

Importantly, as in Choctaw, the ACC subject of (117c) shows structural subjecthood properties: it undergoes Control (which NOM subjects do but ACC objects do not), as illustrated in (118).

⁸⁴ Pamela Munro, Charles Ulrich and Dale Nicklas (p.c.) inform me that they have never encountered such examples in their field work with Choctaw speakers. They also note that Davies's data seem to contain inaccuracies of a morphophonological nature, which do not bear on the issues I am discussing, as far as I am aware.

⁸⁵ ACC subjects also appear in a desiderative construction whose properties are more complex; I do not consider those data here.

⁸⁶ I assume the 3 marker on the verb represents default agreement supplied by morphological feature-filling, as in Icelandic.

- (118) warmi-Ø mana gushta-n-llu nana-ju-na-ta
woman-NOM not like-3-NEG hurt-PROG-INFIN-ACC
 ‘A woman doesn’t like to hurt.’ (Cole & Jake 1978: 77)

Cole and Jake argue that it also undergoes raising to object, and the option of subsequent passivization to become matrix subject. (Since the analysis of the latter two constructions is far from obvious, especially in that passive appears to show non-preservation of the quirky case, I do not commit as to the status of these arguments—the reader should consult Cole and Jake for details.)

Assuming that (117c) involves a quirky subject, we can proceed to consider the SR data. (119) shows that SR works as expected in canonical NOM-subject clauses: SS is required with coreferential subjects (119a), and impossible with coreference between subject and object, regardless of which is upstairs (119b, c).

- (119) a. (ñuca-Ø) wasi-man chaya-shpa/*jpi ñuca-Ø can-da ricu-ni
*(I-NOM) house-DAT arrive-SS/*DS I-NOM you-ACC see-1sg*
 ‘When I arrive home, I see you.’
- b. ñuca-Ø wasi-man chaya-jpi/*shpa can-Ø ñuca-ta ricu-ngui
*I-NOM house-DAT arrive-DS/*SS you-NOM me-ACC see-2sg*
 ‘When I arrive home, you see me.’
- c. pai-Ø ñuca-ta ricu-jpi/*shpa ñuca-Ø pai-ta maca-sha
*he-NOM me-ACC see-DS/*SS I-NOM him-ACC hit-1sg fut*
 ‘When he sees me, I will hit him.’ (Cole & Jake 1978: 83–84)

Strikingly, exactly as in Choctaw, when one of the coreferential subjects is a quirky (ACC) experiencer, both SS and DS are possible:⁸⁷

- (120) urcu-pi trabaja-shpa/jpi jari-ta-ca yacu-ta muna-rca
mountain-in work-SS/DS man-ACC-topic water-ACC want-3-PAST
 ‘While working on the mountain, the man wanted water.’ (Cole & Jake 1978: 86)

⁸⁷ Cole and Jake (1978) note that there was some disagreement among their consultants as to whether DS was possible in all such circumstances, just as Davies reported for Choctaw; they are unclear on whether consultants disagreed on the particular examples I have cited from them. Hermon (1985) suggests an alternative analysis for the alleged SR markers under which the relevance of (120) to Accord might be dubious. For the benefit of those who might wish to pursue this phenomenon, I note that the reverse of (120), with the ACC subject downstairs and DS marking, was claimed by Cole and Jake (1978) to be possible:

- (i) ñuca-Ø jambi-dur-man ri-rca-ni nan-shpa/jpi
I-NOM medicine-agt-DAT go-past-1sg hurt-SS/DS
 ‘I went to the doctor hurting.’

However, according to Gabriella Hermon (1985 and p.c.), this later turned out to be incorrect: sentences like (i) are impossible for independent reasons.

Note that this alternation is crucially sensitive to coreference: using the same verbs with distinct subjects, only DS marking is possible:

- (121) jari-Ø urcu-pi trabaja-jpi/*shpa wawa-ta-ca yacu-ta muna-rca
*man-NOM mountain-in work-DS/*SS child-ACC-top water-ACC want-past*
 ‘While the man was working on the mountain, the child wanted water.’
 (Cole & Jake 1978: 86–87)

One would obviously like to confirm the Choctaw facts and delve further into the Quechua facts, as well as checking whether any other SR languages with quirky subjects allow the kind of alternation we have seen. However, I believe it is plausible on the basis of these two sets of data to suggest that SR patterns do support my claim that a single relationship, Accord, underlies the case, agreement, and SR behavior of structural-case DPs, and that this relationship is systematically absent with quirky DPs.⁸⁸

4.3 Choices between structural cases

So far I have argued that structurally case-marked subjects and objects in a wide variety of languages (including ergative languages) check their case features by a single mechanism,⁸⁹ Ac-

⁸⁸ There is one more language that I am aware of that might suggest that the facts themselves are correct, but that the analysis might need to be refined. Bittner and Hale (1996) note SR data from Eastern Pomo from McLendon (1978) that show that DS is possible with coreferential subjects when one of them is NOM and the other is ACC, while only SS is possible with coreferential NOM subjects. McLendon notes that speakers sometimes also use SS in the NOM-ACC configuration, though she attributes this to interference in translating from English, noting that the DS pattern is the one that occurs in spontaneous speech; no such alternation occurs in NOM-NOM configurations. Alternations between SS and DS would be consistent with what Davies and Jake and Cole report. Unfortunately for my analysis, she also notes that speakers accept *only* SS when *both* higher and lower subjects are ACC. That is, DS is possible with coreference only when there is a case mismatch between higher and lower subjects, not whenever one of the subjects is nonNOM. Unfortunately, I am not aware of the facts for ACC-ACC conditions in Choctaw or Imbabura—one would obviously want to investigate this. (We saw one example above from Davies, the only one he cites, where DS was possible with coreferential upstairs and downstairs DAT subjects.) Nothing in my analysis would force SS marking when both subjects are quirky. However, the fact that SR is sensitive to case marking at all already suggests that appealing to Accord might still be the right way to go. See Bittner and Hale for a different kind of analysis.

⁸⁹ In contrast, Marantz (1991) assumes a complete separation between case and agreement, although each is separately subject to the same set of principles of realization. Thus, any correlations between case and agreement must be analyzed in his theory as resulting from parameters in the case-realization part of morphology happening to be set the same way as parameters in the agreement-realization part. There is no sense in which a system of the Icelandic type, where case and agreement track each other very tightly, is any less marked than one like Georgian, where they apparently dissociate fairly strongly (see appendix 4.B), though one could of course define an extrinsic markedness metric as the degree of overlap in parameter settings for the two systems. In contrast, I am pursuing the claim that these phenomena not only are not independent, but that there is a single phenomenon underlying both agreement and structural case. My approach, like much work in case and agreement, makes Icelandic look extremely natural, but requires extreme contortions to handle Georgian, if it can do so at all. (Again, see appendix 4.B.)

cord,⁹⁰ and that Accord relations are maximized (the AMP). To account for case marking in multi-clause sentences in Icelandic, I proposed that DPs can check more than one case feature. The combination of these two claims makes blatantly wrong predictions with regard to case checking in intransitive clauses. Given the AMP, clauses with only one DP that can undergo Accord ought to force that DP into Accord with *both* structural case-checking heads, unless some other syntactic principle prevents this from happening. We have already seen several pieces of data indicating that this is the wrong conclusion. For instance, in Icelandic, the DP in question always surfaces as NOM, although my analysis of ECM crucially assumed that a DP bearing both ACC and NOM features should be spelled out as ACC. I conclude that such DPs check only NOM in Icelandic, i.e., something prevents their entering a second Accord relation. This section is devoted to exploring what the restrictions could be in situations where only one structural case is checked in a clause.

This problem is often framed in the context of accusative versus ergative languages (cf. proposals cited below), but data that we have already encountered show that we require a more subtle distinction. For instance, consider Icelandic versus Faroese: both have true quirky subjects, both are accusative languages in the sense that the lone argument of an intransitive bears the transitive subject case (NOM), but they differ on the case marking of the lone *structural-case* argument of a transitive clause: in subject position it is NOM in both languages, but in object position in Faroese it is ACC while in Icelandic it is still NOM. (122) shows some DAT-ACC verbs in Faroese, and (123) shows the direct contrast with Icelandic.

- (122) a. Mær líkar henda filmin.
me(D) likes this film(A) (Barnes 1986: 18)
- b. Okkum trýtur mat.
us(D) lacks food(A) (Barnes 1986: 38)
- (123) a. Siggu líkar bókin. [Icelandic]
Sigga(D) likes the-book(N)
- b. Siggu dámar bókina. [Faroese]
Sigga(D) likes the-book(A) (Holmberg 1994: 47)

Before we draw conclusions from this pattern, we need to establish whether the Faroese objects in (122) have *structural ACC* case; if the ACC objects were quirky, Faroese would not need to differ syntactically from Icelandic, since quirky ACC would block Accord. (Indeed, Icelandic itself has occasional ACC objects with quirky subjects, as in (4a) above, and there it is generally agreed that this represents quirky, not structural, ACC.) However, there is good evidence that the

⁹⁰ Throughout this thesis I ignore the issue of whether there can be more than two structural cases per clause.

relevant ACC objects in Faroese are not quirky. One argument involves passivization of ditransitives. As in Icelandic, when the ACC Theme becomes the subject it changes to NOM, as in (124), but unlike Icelandic, when the Theme remains in object position, it gets ACC (125).

- (124) Kúgvín varð seld bóndanum.
the-cow(N) was sold(N) the-farmer(D) (Barnes 1986: 28)
- (125) a. Honum varð ynskt eina góða ferð.
him(D) was wished a good journey(A)
- b. ??Honum varð ynskt ein góð ferð.
him(D) was wished a good journey(N) (Barnes 1986: 35)

More interestingly, there is a class of active verbs that allow either argument to become the subject: (126a/b, 127a/b). These show the same position-dependent alternation. (In (126) and (127) the initial adverb ensures that the first postverbal NP is the subject, as (128) shows.)

- (126) a. Tá kom omma mær knappliga í hug.
then came grandma(N) me(D) suddenly in mind
- b. Tá kom mær knappliga ?ommu/*omma í hug.
*then came me(D) suddenly grandma(?A/*N) in mind*
 ‘Then I suddenly remembered grandma.’ (Barnes 1986: 36)
- (127) a. Sjálvandi klæðir hasin kjólin tær.
naturally suits that dress(N) you(D)
- b. Sjálvandi klæðir tær handa kjólan.
naturally suits you(D) that dress(A) (Barnes 1986: 37)
- (128) *Í gjár hitti hann eg.
yesterday met him(A) I(N) (Barnes 1986: 22)

The fact that case alternation is possible shows that ACC here is structural.⁹¹

Another piece of evidence that ACC objects of DAT-subject verbs get structural ACC is that in ECM constructions with DAT upstairs subjects, the ECM subject is ACC (129), not NOM as in Icelandic (cf. (25)), and it cannot trigger upstairs agreement. (ECM cannot involve quirky case, by definition, since there is no theta-relation between the upstairs verb and the downstairs subject.)

⁹¹ Holmberg and Platzack (1995) claim that quirky case in Faroese, unlike Icelandic, is not preserved under operations such as passive. However, examples like (125a) clearly show that this is not true. Apparently, numerous quirky-object verbs show lexical alternations with non-quirky-object structures; when these passivize, their subject of course becomes NOM, creating the misleading appearance of nonpreservation. (See also Sigurðsson 1989, p. 350, fn. 58.)

- (129) Mær tókti/*tóktu teir vera klókar.
*me(D) thought(3sg/*3pl) they(A) to.be wise(A)*
 ‘I thought they were wise.’ (Taraldsen 1995b)

Thus, in Faroese, NOM case is not available to a nonsubject even when the subject is quirky; instead, regular structural ACC case is assigned, just as in a transitive with a NOM subject. So, it is not universally true, as many theories have claimed (e.g., Yip et al. 1987, Schütze 1993b), that NOM is always assigned to the highest nonquirky argument in an accusative-type language; there appears to be a parameter involved.⁹²

The clear conclusion is the following. When the lone structural-case argument of a clause is the object, it need not take the same case marking as a lone structural-case argument in subject position. Recall also that transitive “singular concord” clauses in Belfast pose a trickier version of the Faroese problem: there the object receives ACC in the presence of a subject that neither checks NOM nor comes with a quirky case. In the context of this sobering reality, we can now consider two broad classes of ways in which the accusative/ergative parameter has been analyzed, and ask ourselves how the choice of structural case in transitive clauses crosslinguistically could fit into either of them.

⁹² In fact, the situation is slightly more complicated, though I ignore the complications in the text. Some Icelandic speakers allow ACC instead of NOM as the complement case in certain passives (cf. also Maling & Sigurðsdóttir 1996):

- (i) a. %Okkur var sagt þessa sögu.
us(D) was told(dflt) this(A) story(A)
 b. %Það var kosið hana í gær.
it was elected(dflt) her(A) yesterday
 c. %Það var barið mig.
it was beaten me(A)
 ‘I was beaten.’ (Sigurðsson 1989: 349, 355)

Sigurðsson notes that verbal or participial agreement with these ACC complements is totally out for all speakers; i.e., agreement continues to track case. Adding another wrinkle, Faroese sometimes marginally displays the Icelandic pattern: Barnes (1986) reports that a slight majority of his consultants accepted (iia), and (iib) occurred in a text; apparently this usage has an archaic ring to it.

- (ii) a. Henni tykja bátarnir ov vánaligir.
her(D) think(pl) the-boats(N) too bad
 b. Teimum treyt matur.
them(D) lacked food(N) (Barnes 1986: 18)

Case continues to correlate with agreement here too: Barnes reports that a variant of (iia) without number agreement on the verb was found to be worse.

One type of analysis assumes that the choice of case spell-out is determined by the choice of syntactic head that enters an Accord relationship with the DP (effectively, Accord brands a DP as “checked by I” or “checked by V”), and the parameter in turn is a global statement about the relationship between those syntactic heads. For example, Chomsky (1993) proposes that if only one of AgrS or AgrO is to be “active” in a given clause, the Accusative parameter setting requires it to be AgrS, while the ergative setting requires it to be AgrO⁹³ (cf. Bobaljik’s (1993) Obligatory Case Parameter and Harley’s (1995) Mechanical Case Parameter). Without separate AGR heads and projections, this statement would have to be made in terms of Accord relationships in the present framework, namely that an Accord relation cannot be established between V/v and a DP unless the same clause will also contain an Accord relation between INFL/T and a distinct DP. This will implement the basic Accusativity setting of the parameter correctly, but it will fail for a language like Faroese where AgrO can be active without AgrS being active. (Furthermore, in my framework we still need a separate statement telling us under what circumstances we require that only one Agr be active, to prevent double case checking in every intransitive clause.)

A contrasting kind of analysis is exemplified by the proposal of Marantz (1991), elaborated by Harley (1995). For these authors, the idea is that the choice of structural cases can be “read off” the structure at the point in the derivation where choices of spell-out are made, i.e., in the morphological component. Here the (very) rough opposite to Chomsky’s “lone active” Agr is the notion of dependent case, the structural case that can be assigned to one DP (chain) only in opposition to some other DP (chain). Although Marantz (1991) refines this definition to capture the Icelandic facts, the basic idea more naturally captures Faroese, where ACC is assigned only in opposition to a subject, but the case of that subject does not matter.

Recall that since there are clauses in which all arguments are quirky in Icelandic and Faroese, and singular concord clauses in Belfast, we cannot simply make the NOM feature of T obligatory.⁹⁴ But we do want NOM to be used whenever it can be, which means whenever there is

⁹³ I assume for purposes of discussion here that pure ergative systems would be characterized in this way, rather than by having “upside down” case positions in transitive clauses.

⁹⁴ There might actually be another parameter lurking here. It has been noted (Cole et al. 1980, Zaenen et al. 1985) that languages like German do not have true quirky subjects in the way that Icelandic does: although the sentences in (i) are possible, the preverbal ACC and DAT DPs seem to be topics, not subjects, on the basis of ability to be Controlled or to undergo Conjunction Reduction.

- (i) a. Mich friert.
me(A) freezes(3sg)
 ‘I am freezing.’

a nonquirky *argument* in Icelandic, only when there is a non-quirky *subject* in Faroese, and only when there is a subject in Spec-SubjectP in Belfast. Thus, one locus for the difference between the languages concerns the ability of NOM to be assigned to more than one position. If we had some mechanism to ensure that NOM is restricted to subject position in Faroese and the “higher subject position” Spec-SubjectP in Belfast, but does not have this limitation in Icelandic,⁹⁵ we could say the following about all three languages:⁹⁶

(130) *Accusativity*: ACC (the V-case) is checked only on an argument on which NOM (the INFL-case) could not be checked.

In Icelandic, a DP in any position can in principle receive NOM case, so the only time ACC can become active is when NOM is checked on one argument and there is a second nonquirky argument around—since INFL is limited to checking NOM only once, NOM will not be assignable to the second argument and so ACC will become available. In Faroese, on the other hand, if there is quirky subject in a clause, and NOM is assignable only to subject position, NOM will not be available to a nonsubject, so ACC will be able to be assigned to an object. In Belfast, either Spec-SubjectP is filled and NOM is checked there, or it cannot be filled and NOM cannot be checked any-

b. Mir ist kalt.
me(D) is(3sg) cold
 ‘I am cold.’

The assumption that has been made about such sentences is that they contain a null expletive subject. If so, one way to state the difference between German and Icelandic is to require that in German, every clause must contain a NOM argument, i.e., the NOM feature of INFL must always be checked (cf. Sigurdsson 1989, who also makes a related suggestion to explain the non-passivizability of quirky-object verbs in Russian). This still does not explain why German does not have true DAT-NOM sentences unless we add the further stipulation that NOM is checkable only by a subject in German.

⁹⁵ It is not obvious what within Chomsky’s 1995 framework would allow us to implement a restriction on NOM to subject position. There are a couple of things one could try, by appealing to a dependency between Accord relations and satisfaction of the EPP (assuming that the latter defines what it means for something to be in subject position.) One way to do this indirectly might be to take advantage of feature strength and stipulate that, although NOM features for Tense are optional in both Icelandic and Faroese, if NOM is inserted it must be strong in Faroese, whereas it can be weak in Icelandic. This will mean that NOM must be checked before SpellOut in Faroese, which means that a NOM DP must pied-pipe to Spec-TP, making it the subject of the clause by definition. In Icelandic, on the other hand, although the strong EPP feature requires subject position to be filled before SpellOut, NOM is weak, so it can be checked at LF by attracting just the formal features of a nonsubject to check against T, even though another argument could have occupied Spec-TP overtly. This solution will work provided that NOM subjects in Faroese are always in Spec-TP overtly, which is far from clear in expletive constructions. There are other possible implementations as well, which I do not pursue here.

⁹⁶ If the basic spirit of Chomsky’s (1993) approach to ergative case marking is correct, the opposite of (130) ought to work as the defining property of ergative languages—ERG is checked only on an argument on which ABS could not be checked. I do not pursue that matter any further.

where else. In an intransitive clause with a nonquirky argument, nothing prevents that argument from moving to subject position (when that position is licensed), so NOM will always win over ACC in all three languages.

Notice that the statement in (130) solves the problem created by the AMP in that it prevents ACC and NOM from being checked on the same argument;⁹⁷ (130) must of course take higher priority than enforcement of the AMP. In fact, it would be natural to treat (130) as a constraint in the same family as the AMP. (130), like the AMP, requires favoring one convergent derivation over another. In particular, if two convergent derivations differ only in that one contained subject Accord with a given argument while the other contained object Accord, then the first must win. As with AMP, these two derivations could not have come from the same numeration, since they differ on the case- and phi-features chosen. However, they would be part of the same competing set of numerations as that defined for AMP, since they differ only on uninterpretable features. This makes a unified treatment appealing.

4.4 Implementing case in the morphology

I conclude the discussion of case in adult grammars by spelling out in more detail how I assume case features must be treated by the morphology in order for my claims about syntax to be tenable. The important issues here are how default case is implemented, how DPs with more than one case specification are spelled out, and how concord phenomena are treated. For more extensive treatments of case morphology under Distributed Morphology (DM), see Babyonyshev (1996) for Russian, Sauerland (1996) for German, and Calabrese (1996) for Latin and Romance. I assume without further discussion that DPs that undergo case checking in the syntax, be it structural case checked under Accord or lexical case checked in whatever way it is checked, enter the morphology with their case features fully specified. That is, contra Marantz 1991, I do not assume that the NOM/ACC distinction is established for the first time in the morphology.

As noted already, I propose that default case is implemented by a feature filling or “redundancy” rule early in the morphological component. This rule states that a nominal that lacks any case features when it comes from the syntax should be supplied with the set of features corresponding to the default case setting for the language.

A crucial aspect of my analysis of ECM was the claim that DPs can be specified for more than one case feature in the syntax. (This will also be vital to my treatment of split ergativity in ap-

⁹⁷ See appendix 4.B for the speculation that split ergative languages with a case/agreement split might not have this restriction.

pendix 4.B.) In most languages, however, DPs surface with only one case marking.⁹⁸ Thus, there must be a mechanism in the morphology to resolve case conflicts, as assumed also in the literature on “case attraction” and related phenomena (McCreight 1988, Harbert 1989, and references cited there). In DM, a case conflict resolution rule could be stated explicitly as an Impoverishment rule, or it could be an emergent property of the way vocabulary entries are set up. Under Impoverishment, the intuition would be that one set of case features must be deleted because a structure with multiple sets of case features would be too featurally complex (cf. Babyonyshev 1996, Harley 1995, etc.). However, Alec Marantz (p.c.) points out that well-understood examples of Impoverishment seem to lead to the emergence of a *less* marked member of the paradigm, while in case conflict situations the *more* marked member seems to show up. (See Noyer 1992, Calabrese 1996, Harris 1997 for more on impoverishment in DM.) For this reason, I pursue the second option, using vocabulary insertion. In this approach, where no explicit rule is involved, we allow insertion of case morphemes into multiply-case-specified DP nodes. By general principle, the most highly specified vocabulary item consistent with any one of the cases on the DP would be the one inserted. (Subsequent insertion of additional morphemes would be blocked because of the disjunctive property of vocabulary entries for a given node. As a marked option, languages that allow multiple overt case marking have a Fission rule that creates additional nodes for additional case features.) This allows for capturing the intuition that case conflict resolution involves a hierarchy of markedness, with more marked cases winning and less marked cases disappearing. This could fall out of vocabulary insertion if more marked cases involve a greater number of feature specifications than less marked cases.

Notice that there is no necessary connection between which cases are “low priority” in the hierarchy and the default case of the language, since the two phenomena are implemented by separate processes. One might ask whether this is an empirically desirable conclusion, or whether instead we want a more restrictive theory in which there is a “least marked” case that is both the language default and the lowest priority in situations of conflict. Such a correlation could be captured if the default feature-filling rule inserts the minimum possible feature specification.

The final case phenomenon whose implementation requires discussion here is Concord. We saw in Icelandic that there were two sets of phenomena in which related elements could surface with the same case marking: 1) passive participles agree in case with the NOM argument of their

clause if there is one, or the ACC subject in an ECM clause, but they surface in a default form if the only nominals in their clause are quirky; 2) “floated” secondary predicates and adjectives associated with a DP take the same case marking as that DP, whether it is structural or quirky. On the basis of this dichotomy I suggested that participial agreement reflects Accord, that quirky DPs are opaque to Accord, and that Concord is insensitive to the structural/quirky case distinction and is responsible for the case of secondary predicates (and perhaps also case spreading within DP, though I shall have nothing further to say about that process). In fact, we have seen other examples where Concord is needed, for instance, case matching between left dislocated elements and their associated clause-internal positions in German (§3.2.2.3). (Recall that although DAT arguments in German can never trigger agreement, DAT matching in left dislocations is possible.)

How does Concord work? One could imagine implementing Concord as a feature-copying rule in the syntax, but it is unclear what could force this operation to take place, since there seems to be nothing that would cause a derivation to crash if it had not happened. In fact, just the opposite seems to be true. Suppose that secondary predicates like ‘all’ in Icelandic are adverbial, rather than truly “floated” pieces of a DP; then, if they had case features in the syntax, there would be no way for those features to be checked, unless one were to introduce heretofore unmotivated operations to do so. (In particular, it is unclear whether all instances of Concord could involve a local feature relationship.) Therefore, I suggest instead that Concord operates within the morphological component. Following Marantz (1996), I assume that the morphology interprets full syntactic structures, and therefore has access to the information necessary to compute relations between DPs and associated predicates. Concord will be an operation that copies the case features from a DP to associated nonargumental elements. It is then not surprising that Concord, unlike Accord, is insensitive to the structural-quirky distinction: in my framework, morphology never needs to know about this difference. (See Marantz 1991 for a system where the opposite is true.)

⁹⁸ See appendix 4.A for why Korean “case stacking” is not an instance of overt realization of multiple cases assigned to a single DP. For related discussion of multiple case marking and case conflict resolution in a number of languages, see Yoon 1996, who treats several potential examples of the NOM/ACC ECM-type of double case marking similar to my proposal for Icelandic. However, many of Yoon’s examples strike me as amenable to alternative analyses, so I have not included detailed discussion of them here.

Appendix 4.A: Korean “Case Stacking” Isn’t¹

4.A.1 Introduction

Korean appears to allow more than one case morpheme on a single noun phrase in a simple sentence (Gerdts & Youn 1988 and references cited there). (1a) shows a canonical subject marked with the NOM particle *ka*; (1b) shows that the same predicate can also take a subject marked with the DAT particle *eykey*. (1c) shows these two apparent case particles co-occurring on the subject: NOM “stacked on top of” DAT.

- (1) a. Swunhi-ka Yenghi-ka cohta.
S-NOM Y-NOM likes
 ‘Swunhi likes Yenghi.’
- b. Swunhi-eykey Yenghi-ka cohta.
S-DAT Y-NOM likes
 ‘Swunhi likes Yenghi.’
- c. Swunhi-eykey-ka Yenghi-ka cohta.
S-DAT-NOM Y-NOM likes
 ‘Swunhi likes Yenghi.’

Under almost every existing analysis of this “case stacking” construction that I am aware of, the *ka* in (1c) is in fact a case morpheme (Gerdts & Youn 1988, Gerdts 1991, Yoon & Yoon 1991, Yoon 1996, Harbert & Toribio 1993, Hong 1992, Park 1991, O’Grady 1991). Under this view, a DAT subject bears an inherent case that is not sufficient to license its appearance in subject position; it must additionally receive “structural” Case, which for subjects in Korean is NOM. The claim that has been made in various frameworks is that *ka* in (1c) represents the overt realization of the structural NOM case feature and is thus identical to the *ka* on the subject in (1a), but to my knowledge no direct arguments for this claim have been made. In this appendix, I argue that this is not the correct analysis of case stacking in Korean. I present data that point towards a treatment of stacked *ka* as a focus particle rather than a case morpheme. This supports my claims in the text that the assumption behind the cited types of analyses should be rejected; that is, licensing an NP as the subject does *not* imply bestowing it with morphological NOM case features. Showing that stacked *ka* is not case also implies that Korean is not a counterexample to my claim in the main text that quirky and structural case features cannot be checked on the same DP.

¹ This appendix is a revised and expanded version of Schütze 1996c. I would like to thank my primary consultant, Judy Yoo-Kyung Baek, for her endless patience during our elicitation sessions, and for her analytical insights. Thanks also to James Hye-Suk Yoon, Yoonjung Kang, Hyang-Sook Sohn and Young-Sik Choi for additional judgments.

Before proceeding, we require some descriptive background. First, I note that not all Korean speakers accept case-stacking sentences like (1c).² This appendix describes the dialect of my principal consultant, though I have been able to confirm many of the crucial judgments with one other speaker of a stacking dialect. Second, many interesting questions that we might want to ask about possible combinations of case particles in Korean are unanswerable because these particles are subject to morphological co-occurrence restrictions. Descriptively, there are four post-nominal particle slots relevant here, as shown in (2): a given particle can occur in only one of them, and each slot can contain at most one particle. Third, while I always refer to the NOM particle as *ka*, it sometimes surfaces as the phonologically-conditioned allomorph *i*.

(2)

N _{root}	Postposition	Conjunctive	‘X-lim’	‘Z-lim’
	eykey DAT	pwuthe ‘from’ <i>etc.</i>	man ‘only’ <i>etc.</i>	ka NOM (after vowel)
	kkey HON.DAT			i NOM (elsewhere)
	ey DAT/LOC			(l)ul ACC
	eyse LOC			(n)un TOP/CONTR
	(u)lo DIR			uy GEN
	kkeyse HON.NOM (subj)			

4.A.2 Against case stacking

I enumerate five aspects of the behavior of stacked *ka* that are unexpected if it is merely the (optional) realization of a structural NOM case feature. First, sentences like (1c) require marked prosody to sound felicitous: typically, there should be a pause after the subject, and a pitch accent on *ka*. Neither of these requirements holds in (1a) or (1b). This suggests that there is something special about the discourse status of the subject in (1c). If stacked *ka* were simply a NOM case marker, one would need some additional theory to explain why case stacking triggers this prosodic effect.

Second, *ka*-stacking is completely optional, whereas NOM case on a transitive subject is obligatory, as in (3), except in very informal registers (cf. Y-j Kim 1990, p. 204, fn. 44). This may be explained if stacked *ka* is conditioned by discourse factors; it requires a stipulation if stacked *ka* is NOM case.

- (3) Minca-??(ka) Yongho-lul mannasse.
M-??(NOM) Y-ACC met
 ‘Minca met Yongho.’

² Yoon (1996) describes the situation as follows: “Not all speakers accept stacking, and Psych verbs are optimal with first person subjects. Stacking data improve in acceptability if a quantitative particle . . . such as *-man* ‘only’ intervenes between the first and the second Case-marker, as this serves to highlight the focussed nature of the Case-stacked NP. Case-stacked NPs in these examples are obligatorily interpreted as exhaustively focussed.”

The third argument concerns the distribution of subject honorification. NOM subjects must trigger honorific agreement on the predicate in Korean when they refer to an honored person (4a), but for some speakers, including my consultant, DAT subjects cannot trigger such agreement (4b), as noted also by Y-j Kim (1990, p. 248, fn. 3). (This would follow if honorific agreement and NOM case both reflect Accord; however, agreement-based treatments of honorification are controversial—such analyses are adopted by Y.-B. Kim (1987), J.-Y. Yoon (1990), and Choe (1988), but rejected by S.-K. Yun (1991), Y-j Kim (1990), and Sells (1995, fn. 21)). Regardless of the analysis, if stacked *ka* were NOM case, it too should require honorific agreement, but in fact it disallows it (4c) for my consultant.

- (4) a. Kyosunim-**i** Yenghi-ka mwusewu-**si-ta**/*mwusep-ta.
*teacher-NOM Y-NOM fear-SH-DECL/*fear-DECL* [SH = subject honorific agrmt]
 ‘The teacher fears Yenghi.’
- b. Kyosunim-**eykey** Yenghi-ka mwusep-ta/*mwusewu-**si-ta**.
*teacher-DAT Y-NOM fear-DECL/*fear-SH-DECL*
 ‘The teacher fears Yenghi.’
- c. Kyosunim-**eykey-ka** Yenghi-ka mwusep-ta/*mwusewu-**si-ta**.
*teacher-DAT-NOM Y-NOM fear-DECL/*fear-SH-DECL*
 ‘The teacher fears Yenghi.’

Fourth, *ka*-stacking is not limited to subjects, but occurs also on *by*-phrases (5) (for some speakers), locatives (6), temporal adjuncts (7), etc., where structural NOM case should not be assignable—these elements fail subjecthood tests. A structural case account of *ka* in (1c) would thus require a separate treatment of examples like (5–7).

- (5) %Holangi-eykey(-**ka**) koyangi-ka mekhiessta.
tiger-DAT(-NOM) cat-NOM eat.PASS
 ‘The cat was eaten by the tiger.’
- (6) %Ku kulus-eyse-**ka** mul-i saynta.
the bowl-from-NOM water-NOM leaks
 ‘Water leaks from the bowl.’ (Hong 1992: 153)
- (7) Ecey-pwuthe(-**ka**) nalssi-ka cohaciessta.
yesterday-from(-NOM) weather-NOM good.became
 ‘From yesterday the weather became good.’ (cf. Yoon 1986: 233)

The fifth argument comes from Q-float. Floated numeral quantifiers generally agree with their head noun in case in Korean, as shown for NOM in (8). (9a) shows agreement with a DAT subject, which is allowed for some speakers (Hong 1992, p. 53, fn. 32; others disallow floating from datives altogether). If stacked *ka* reflected morphological NOM case features, then speakers who accept (9a) should allow a NOM quantifier to agree with a stacked *ka* subject, at least as one option. However, this is not the case: as (9b) shows, such a quantifier must be DAT. It is possible

to have stacked *ka* on the quantifier in addition to DAT, as in (9c), but I suggest that this, like other stacked uses of *ka*, does not represent NOM case. This claim is supported by the possibility illustrated in (9d), where *ka* is stacked on the quantifier but does not appear on the subject at all: thus, *ka* here cannot be agreeing with the head noun in (9d), and thus need not be doing so in (9c) either.³

- (8) **Haksayng-i** ecey **seys-i** ttenassta.
student-NOM yesterday 3-NOM left
 ‘Three students left yesterday.’
- (9) a. Haksayngtul-**eykey** ton-i **seys-eykey** philyohata.
students-DAT money-NOM 3-DAT need
 ‘Three students need money.’
- b. Haksayngtul-**eykey-ka** ton-i **seys-eykey/*i** philyohata.
*students-DAT-NOM money-NOM 3-DAT/*NOM need*
 ‘Three students need money.’
- c. Haksayngtul-eykey-ka ton-i **seys-eykey-ka** philyohata.
students-DAT-NOM money-NOM 3-DAT-NOM need
- d. Haksayngtul-eykey ton-i **seys-eykey-ka** philyohata.
students-DAT money-NOM 3-DAT-NOM need

4.A.3 In favor of a focus treatment

If case stacking *isn't* case, what is it? I now present evidence pointing towards a treatment of stacked *ka* as an indicator of focus, a suggestion that has been made by J.-Y. Yoon (1989), Suh (1992), and Hong (1992, p. 147, fn. 15). The semantic effect of stacking *ka* seems to be to mark information focus, that is, new information that is not necessarily contrastive or exhaustive. As an

³ One might think that NOM marking on the quantifier is blocked in (9b) because a NOM object intervenes between it and its head noun, so that NOM would be ambiguous. However, even if we scramble the NOM object out from between them (as in (i)), or replace it with a *pro* object (as in (ii)), NOM continues to be impossible.

- (i) *Ton-i haksayngtul-eykey(-**ka**) **seys-i** philyohata.
money-NOM students -DAT (-NOM) 3-NOM need
 (‘Money, three students need.’)
- (ii) a. Q: Haksayng-tul-eykey myechmyeng-eykey ton-i philyoha-ni?
student-PL-DAT how.many-DAT money-NOM need-Q
 ‘How many students need money?’
- b. A: Haksayng-tul-**eykey-ka** **seys-eykey/*i** philyoha-ta.
*student-PL-DAT-NOM three-DAT/*NOM need-DECL*
 ‘Three students need (it).’

example, (10b) shows that stacking is fine on the answer to a subject *wh*-question, at least for my consultant (some others find this odd).

- (10) a. Q: Nwukwu-eykey ton-i manh-ni?
who-DAT money-NOM has.much-Q
 ‘Who has a lot of money?’
- b. A: Chelswu-eykey-**ka** ton-i manha.
C-DAT-NOM money-NOM has.much
 ‘Chelswu has a lot of money.’

In a non-question context such as (11), a stacked subject does not necessarily imply that Swunhi is the only one who fears the professor, though it may imply or presuppose that there are some people who do not fear the professor.

- (11) Swunhi-**eykey-ka** kyosunim-i mwusepta.
S-DAT-NOM prof-NOM fears
 ‘Swunhi fears the professor.’

Stacking can also occur in correction contexts, typically assumed to involve focus:

- (12) a. A: Swunhi-eykey Chelswu-ka cohta.
S-DAT C-NOM likes
 ‘Swunhi likes Chelswu.’
- b. B: Ani, Yenghi-**eykey-ka** Chelswu-ka cohta.
no Y-DAT-NOM C-NOM likes
 ‘No, Yenghi likes Chelswu.’

Finally, stacking is compatible with overt focus markers such as ‘only’:

- (13) Sensayngnim-tul-**kkeyse**-man(-i) kulen il-ul hasipnita.
teacher-PL-HON.NOM-only(-NOM) that.kind work-ACC do
 ‘Only teachers do such work.’ (Sells 1995: 294)

There are some additional semantic and distributional properties of stacking constructions that fall into place under a focus treatment. First, as we would expect if stacking marks focus, it can occur on *wh*-words, as in (14). This usage again does not imply contrast.

- (14) Nwukwu-eykey-**ka** Mary-ka mwusep-ni?
who-DAT-NOM M-NOM fear-Q
 ‘Who is afraid of Mary?’

Interestingly, *ka*-stacking is obligatory on the complement to the negated copula *anila*: in the second clause of (15), omitting stacked *ka* is ungrammatical, even for some speakers who do not otherwise allow *ka*-stacking at all. In fact, all complements of *anila* obligatorily take *ka*, as shown in (16). The obligatoriness of plain *ka* in (16) is standardly described as obligatory NOM case as-

signment, but if I am right that stacked *ka* in (15) is not case, then that cannot be the right analysis. I suggest that what is actually going on is obligatory *focus* marking, perhaps triggered by the presence of negation. (Cf. Horvath (1995), who argues that NEG is a focus assigner in Hungarian.)

- (15) Haksayngtul-eykey(-ka) ton-i philyohata kyosunim-eykey-*(**ka**) anila.
students-DAT(-NOM) money-NOM need professor-DAT -(NOM) not.be*
 ‘Students need money, (it’s) not profs.’
- (16) Yenghi-ka Chelswu-lul poatta, Swunhi-*(**ka**) anila.
Y-NOM C-ACC saw, S-(NOM) not.be*
 ‘Yenghi saw Chelswu, (it was) not Swunhi.’ [ambiguous]
 (= Yenghi didn’t see Swunhi OR Swunhi didn’t see Chelswu)

Next, since Korean has been argued to be a multiple focus language by Choe (1995), as in (17), we expect that multiple *ka*-stacking should be possible, and that is correct: (18) receives a double information focus reading.

- (17) Na-nun ECEY KU CHAYK-UL sassta.
I-TOP yesterday the book-ACC bought
 ‘I bought THE BOOK YESTERDAY.’ (Choe 1995: 280)
- (18) Cip-aneyse-**ka** kyewul-ey-**ka** Swunhi-eykey nampyen-i mwusepta.
house-in-NOM winter-in-NOM S-DAT husband-NOM fears
 ‘In the house in winter Swunhi fears her husband.’

Finally, let us consider indefinite subjects. (19a), with an indefinite DAT subject, is ambiguous between existential and specific readings. However, when *ka* is stacked on the subject, as in (19b), it becomes unambiguous: it can only be specific. Similarly, *ka*-stacking disambiguates against an existential and towards a generic reading of a bare plural subject, as in the stacked (20c) versus the ambiguous (20a and b). (Note how hard it would be for a case treatment of the *ka* in (20c) to get this result: adding NOM to the ambiguous (20a) actually *removes* a reading that the NOM-subject version (20b) had by itself.) Thus, what we seem to need is an account under which stacked *ka* requires its host to be outside the nuclear scope.

- (19) a. Etten-salam-eykey Yenghi-ka cohta.
some-person-DAT Y-NOM likes
 ‘Someone likes Yenghi.’ [existential or specific]
- b. Etten-salam-eykey-**ka** Yenghi-ka cohta.
some-person-DAT-NOM Y-NOM likes
 ‘Someone likes Yenghi.’ [specific only]
- (20) a. Sopangswu-**eykey** kyewul palam-i mwusepta.
fireman-DAT winter wind-NOM fear
 ‘Firemen fear the winter wind.’ [existential or generic]

- b. Sopangswu-**ka** kyewul palam-i mwusepta.
fireman-NOM winter wind-NOM fear
 ‘Firemen fear the winter wind.’ [existential or generic]
- c. Sopangswu-**eykey-ka** kyewul palam-i mwusepta.
fireman-DAT-NOM winter wind-NOM fear
 ‘Firemen fear the winter wind.’ [generic only]

The necessity of specific or generic interpretation of indefinites is a property usually associated with *topics*. Thus, if stacking were really topic marking, the facts in (19–20) would follow under most theories. But there are several reasons to doubt that this is the right account. First, we have already seen that stacking does not *have* to imply topichood: if it did, then stacking should be bad on *wh*-words. Also, Choe (1995) claims that Korean does not have multiple topics (21).

- (21) Chelswu-**nun** ku chayk-UN/***un** ecey sassta.
*C-TOP the book-CONTR/*TOP yesterday bought*
 ‘Chelswu bought THE BOOK yesterday.’ (Choe 1995: 285)

If this is correct then the existence of multiple stacking as in (18) also shows that stacking cannot uniformly mark topics. Additionally, stacking is often *incompatible* with topichood. For instance, in my consultant’s judgment, (20c) is a possible answer to the question *Who fears the winter wind?*, where *firemen* in the response will be new information, but it is *not* a possible answer to a generic question like *Tell me about firemen*, whereas (20a) (and less felicitously (20b)) *can* answer that question. This reinforces the claim that the stacked element must introduce new information and cannot be a topic. This means that we need a different explanation of the facts about indefinites in (19–20). One way to get this would be to follow Choe in proposing that Korean has an A-bar focus position above IP where foci (at least subjects) must move by LF, and to require in addition that reconstruction from that position is impossible, at least for quantifier interpretation. Then it would follow that foci must be outside the nuclear scope at LF and therefore cannot get an existential reading. I leave it for future research to establish whether there is any independent support for such an approach.

4.A.4 Distribution of *ka* and *lul* stacking

4.A.4.1 Stacked *lul* also isn’t case

Before we can undertake a specific account of *ka* as a focus marker, we need to consider a set of facts about the distribution of *lul*, the ACC particle. As it turns out, *lul* also has a secret life as a marker of focus, stacked on other case markers. In (22) it appears stacked on a DAT marker of a goal phrase, where it too receives prosodic prominence.

- (22) Swunhi-ka Yenghi-eykey(-**lul**) chayk-ul cwuessta.
S-NOM Y-DAT(-ACC) book-ACC gave
 ‘Swunhi gave Yenghi the book.’

(22) is a felicitous answer to a simple goal *wh*-question like *Who did Swunhi give the book to?*, which does not set up a contrastive reading. I argue that stacked *lul* also should not be analyzed as a case marker. (Interestingly, among the speakers I have consulted, *lul*-stacking is acceptable if and only if *ka*-stacking is acceptable.) First, stacked *lul* is optional (22). Second, it clearly appears on non-direct objects, as in (22), even when the ACC direct object is presumably consuming the structural object case. Third, stacked *lul* blocks the existential reading of an indefinite (23b).

- (23) a. John-i **etten-salam-eykey** chayk-ul cwuessta.
J-NOM some-person-DAT book-ACC gave
 ‘John gave someone a book.’ [existential or specific]
- b. John-i **etten-salam-eykey-lul** chayk-ul cwuessta.
J-NOM some-person-DAT-ACC book-ACC gave
 ‘John gave someone a book.’ [specific only]

Fourth, multiple stacked *luls* are possible for multiple pieces of new information, as in (24a and b):

- (24) a. Ecey-pwuthe-**lul** John-i han sikan tongan-ssik-**ul** swuhak kongpwu-lul haki
yesterday-from-ACC J-NOM one hour for-each-ACC math study-ACC do
start did
 ‘Yesterday John started studying math for one hour.’
- b. John-i Swunhi-eykey-**lul** Yenghi-ey tayhayse-**lul** iyaki hayssta.
J-NOM S-DAT-ACC Y-LOC about-ACC talk did
 ‘John talked to Swunhi about Yenghi.’

Fifth, a floated quantifier cannot take ACC marking in agreement with stacked *lul* (25a).

- (25) a. *Swunhi-ka haksayng-tul-**eykey-lul** seys-**ul** iyaki hayssta.
S-NOM student-PL-DAT-ACC 3-ACC talk did
 (‘Swunhi talked to three students.’)
- b. Swunhi-ka haksayng-tul-**eykey-lul** seys-**eykey** iyaki hayssta.
S-NOM student-PL-DAT-ACC 3-DAT talk did
 ‘Swunhi talked to three students.’

What I claim, then, is that *ka* and *lul* are each ambiguous between a case marker and a focus marker (cf. J.-Y. Yoon 1989, 1990, who treats the noncase particles as secondary theta-role markers and/or emphatic focus markers; Sohn 1994). This raises the obvious question of what the relation between stacked *ka* and stacked *lul* is: Are they in free variation? The answer is no. In all the stacking examples we have seen so far (except (24a)), if one were to replace *ka* with *lul* or vice versa, the result would be ungrammatical. Is the choice determined by the identity of the case onto

which one is stacking? Again, no, because we have seen both *ka* and *lul* stacked on top of DAT *eykey*. So what is going on?

4.A.4.2 Choice of *ka* versus *lul* stacking

The contrast in (26) shows that some property of the main predicate is relevant to the choice of *ka* versus *lul*, since the same PP in the same position takes *ka* with ‘become good’ but *lul* with ‘ban’. Examination of the earlier examples plus additional ones listed in (27) for *lul* and (28) for *ka* leads to the provisional generalization in (29).

(26) a. Ecey-pwuthe-**ka** nalssi-ka coha-ciessta.
yesterday-from-NOM weather-NOM good-became
 ‘From yesterday, the weather became good.’

b. Ecey-pwuthe-**lul** cengpwu-ka swuip-ul kumcihayssta.
yesterday-from-ACC government-NOM imports-ACC banned
 ‘From yesterday, the government banned imports.’

(27) a. Minca-ka Yongho-eykey-**lul** ikiessta.
M-NOM Y-DAT-ACC won.over
 ‘Minca won over Yongho.’

b. Minswu-ka Swunhi-eykeyse-**lul** ton-ul ppayasassta.
M-NOM S-from-ACC money-ACC took.away
 ‘Minswu took away money from Swunhi.’

(28) a. Kyenga-eykey-**ka** ku salam-i chincelhayssta.
K-DAT-NOM that person-NOM kind
 ‘That person is kind to Kyenga.’

b. Swunhi-ka cikum-pwuthe-**ka** mwuncey ita.
S-NOM now-from-NOM problem is
 ‘From now on Swunhi has the problem.’

c. Cwuku-ka cantipath-eyse-**ka** elyeypta.
soccer-NOM lawn-on-NOM difficult
 ‘It is on the lawn that (to play) soccer is difficult.’

d. Cantipath-eyse-**ka** cwuku-ka elyeypta.
lawn-on-NOM soccer-NOM difficult
 ‘It is on the lawn that (to play) soccer is difficult.’

e. Swunhi-eykey cip-aneyse-**ka** nampyen-i mwusepta.
S-DAT house-in-NOM husband-NOM fears
 ‘In the house, Swunhi fears her husband.’

f. Cip-aneyse-**ka** Swunhi-eykey nampyen-i mwusepta.
house-in-NOM S-DAT husband-NOM fears
 ‘In the house, Swunhi fears her husband.’

- (29) If a constituent X can take case stacking, the stacked particle will be
 a. *lul* if the predicate is an ACC assigner and X is in the domain of the predicate;
 b. *ka* otherwise.

Note crucially that *ka* is not always an option for stacking. In particular, it is bad on a DAT goal of a ditransitive (30). It is also important that (29) is not equivalent to saying that the particle that is stacked on X represents a case that can be assigned to X (either by INFL or V), because in many of the examples above, such plain case assignment would be ungrammatical, e.g., (31), as compared to (28d).

(30) a. *Swunhi-ka Chelswu-eykey-**ka** chayk-ul cwuessta.
S-NOM C-DAT-NOM book-ACC gave
 (*‘Swunhi gave Chelswu a book.’)

b. *Chelswu-eykey-**ka** Swunhi-ka chayk-ul cwuessta.
C-DAT-NOM S-NOM book-ACC gave

(31) *Cip-**i** Swunhi-eykey nampyen-i mwusepta.
house-NOM S-DAT husband-NOM fears
 (*‘In the house, Swunhi fears her husband.’)

One kind of example seems to contradict the generalization in (29), instantiated the paradigm for the passive of a ditransitive: as (32) shows, both *ka*- and *lul*-stacking are possible on the goal phrase. One suggestion for how to analyze such problem cases is to say that (32a) and (32b) differ as to whether the goal is the subject or not: in (b) it is, so it must take *ka*, but in (a) the theme is the subject, so the stacked particle must be *lul*, because the verb ‘give’ is an ACC assigner (33). I do not yet have any independent support for this analysis.

(32) a. Swunhi-eykey-**lul** chayk-i cwuecyessta.
S-DAT-ACC book-NOM was.given
 ‘A book was given to Swunhi.’

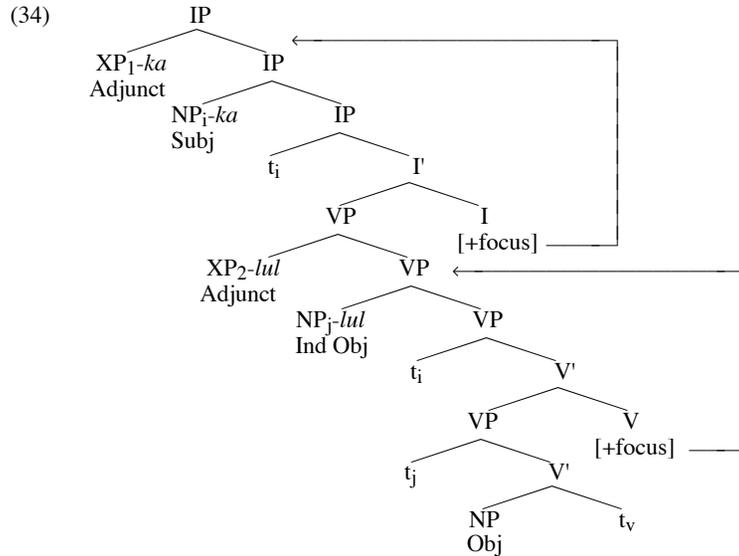
b. Swunhi-eykey-**ka** chayk-i cwuecyessta.
S-DAT-NOM book-NOM was.given
 ‘Swunhi was given a book.’ (?)

(33) Swunhi-ka Yenghi-**lul** chayk-ul cwuessta.
S-NOM Y-ACC book-ACC gave
 ‘Swunhi gave Yenghi a book.’

4.A.4.3 Analysis

The available data and existing theories of focus underdetermine the precise analysis of focus stacking, so I describe what the analysis needs to achieve and suggest one approach that has the desired effect. The account needs to treat subjects differently from nonsubjects and ACC-assigning predicates differently from non-ACC-assigning predicates. One way to do that is to posit

two focus positions, one just above IP, the other just above VP; for concreteness, say the positions are IP- and VP-adjoined. The analysis is schematized in (34).



(This is the same structure arrived at by J.-Y. Yoon (1989, 1990) based mostly on a different set of facts; Yoon does not discuss stacking on subjects.) See Horvath 1995 for the claim that multiple focus positions in a single language are a parametric option. Choe (1995) has already argued for a designated focus position above the subject in Korean. I provisionally follow Choe in assuming that focus movement may be overt or covert in Korean. Evidently, only subjects can *move* to the higher focus position, perhaps because only they can move out of VP by A-movement. We want IP-focus to be marked by *ka*, and VP-focus to be marked by *lul* if the verb assigns ACC, *ka* otherwise. I do not argue for specific machinery to make the connection between case properties of V and I and the choice of stacked focus marker, but such a connection seems fairly natural, for instance, under a view where a head must license a focus feature by checking. (Indeed, Horvath proposes such a theory, and V and I are two of the possible assigners of this feature in her system.) Then VP-internal elements are blocked from IP-adjunction because a focus must be licensed by the closest focus-licenser for minimality reasons, and VP-adjunction is always a possible focus-licensing position; this correctly rules out cases like (30). This account predicts that if there are adjuncts that can adjoin to either IP or VP, then they should show both focus-marking options, and this seems to be correct (35).

- (35) Ecey-pwuthe-**lul/ka** cengpwu-ka swuip-ul kumcihayssta.
yesterday-from-ACC/NOM government-NOM imports-ACC banned
 'From yesterday, the government banned imports.'

4.A.5 Extension to related constructions

An analysis of this kind extends straightforwardly to two other constructions where the case particles behave in un-caselike ways *without* being stacked on other case markers. (Such a unification is also suggested by Hong (1992) and J.-Y. Yoon (1989).)

4.A.5.1 The "ECM" construction

Several authors have already proposed that so-called "ECM" constructions in Korean, which involve *lul* appearing on an embedded subject, as in (36), demand a treatment of this *lul* wherein it is not an ACC case marker (contra Yoon & Yoon 1991, Yoon 1996). Arguments against a case analysis include the following:

1) As shown in (36), *lul*-marking on the embedded subject occurs in finite embedded clauses that can contain overt tense marking, where we have every reason to believe that NOM is always assigned, and these clauses must contain an overt complementizer *ko*, so they cannot be IPs. Unlike in English ECM, *lul* and the NOM case marker are in free variation.

- (36) John-i Jane-**ul/i** chencay-yess-ta-**ko** mitnunta.
J-NOM J-ACC/NOM genius-be.PST-DECL-COMP believe
 'John believes that Jane was a genius.'

2) The *lul*-marked element need not be the subject of the embedded clause, it can be virtually any constituent, provided it is at the beginning of that clause; in (37) it is an adverb.

- (37) John-i ecey-**lul** nalssi-ka chuwessta-ko sayngkakhayssta.
J-NOM yesterday-ACC weather-NOM cold-COMP thought
 'John thought that yesterday the weather was cold.'

(See Yoon 1986 for additional discussion and arguments.)

3) A floated quantifier associated with the "ECM"-ed subject must be NOM even when that subject is ACC (for many speakers), i.e., this *lul* does not trigger ACC case agreement (contra Gerdt 1987).

- (38) John-i haksayng-**ul** seys-i/***ul** chencay-la-ko mitetta.
*J-NOM student -ACC 3-NOM I*ACC genius-be-COMP believed*
 'John believed three students to be geniuses.'

4) When certain “multiple subject constructions” (see §4.A.5.2) occur in an “ECM” environment, only the first NP can be ACC, even when this is not the (head NP of the) subject of the clause (O’Grady 1991).

- (39) Na-nun Swunhi-**lul** sonkalak-**i/*ul** kilta-ko sayngkakhanta.
*I-TOP S -ACC finger-NOM/*ACC long-COMP think*
 ‘I consider Swunhi’s fingers to be long.’
- (40) Na-nun Jane-**ul** apeci-**ka/*lul** pwuca-la-ko sayngkakhanta.
*I-TOP J-ACC father-NOM/*ACC rich-be-COMP think*
 ‘I think that Jane’s father is rich.’

5) An idiom chunk cannot be “ECM”ed, unlike in English (J.-S. Lee 1991), suggesting that something other than a simple change of case marking is going on.

- (41) a. Hankwuksalam-tul-un cakun kochwu-**ka** mayp-ta-ko mitnunta.
Korean-PL-TOP small pepper-NOM hot-DECL-COMP believe
 ‘Koreans believe that small men are stronger.’ [idiomatic meaning]
 ‘Koreans believe that small pepper is hotter.’ [literal meaning]
- b. Hankwuksalam-tul-un cakun kochwu-**lul** mayp-ta-ko mitnunta.
Korean-PL-TOP small pepper-ACC hot-DECL-COMP believe
 ‘Koreans believe that small pepper is hotter.’ [literal meaning only] (J-S Lee 1991: 318)

6) “ECM” can apparently operate long-distance (Hong 1992: 40):

- (42) Na-nun ku cel-**ul_i** [motun haksayng-tul-i [t_i Sinla sitay-ey cieciesta-ko]
I-TOP the temple-ACC every student-PL-NOM S dynasty-in was.built-COMP
malhalila-ko] sayngkakhanta.
answer-COMP think
 ‘I think that every student will answer that the temple was built in Sinla dynasty.’

These observations have already led some linguists to suggest that “ECM” *lul* is actually a focus particle (cf. J.-S. Lee 1991, J. Yoon 1986). J.-M. Yoon (1989: 372) claims explicitly that “ECM” *lul* induces a focus (exhaustive listing) interpretation, citing additionally the fact that indefinites get only a specific reading in this environment (but see C. Lee 1989 for exceptions).

- (43) Chelswu-nun etten-salam-**ul** pwuca-la-ko sayngkakhanta.
C-TOP some-person-ACC rich-COMP thinks
 ‘Chelswu thinks that somebody is rich.’ [specific only] (J-M Yoon 1989: 372)

I claim that this is simply another instance of *lul* being used to mark focus. As such, it fits easily into my analysis: since the verbs taking “ECM” complements are ACC assigners, as shown in (44), a focused constituent adjoined to the matrix VP (as in J.-Y. Yoon 1990) will be marked with *lul*, if we simply extend (29) beyond stacking to focus-adjunction in general. There is inde-

pendent evidence from word order and other tests (see Hong 1990) that the “ECM”ed constituent is in the matrix clause at S-structure, e.g., the adverb placement facts in (45).

- (44) a. Na-nun Chelswu-ka ttokttokhata-nun kes-**ul** mitnunta.
I-TOP C-NOM be.smart-REL fact-ACC believe
 ‘I believe the fact that Chelswu is smart.’
- b. Na-nun Chelswu-**lul** sayngkakhanta.
I-TOP C-ACC think.of
 ‘I think of Chelswu.’
- (45) Mary-ka **John-ul** **enceyna** papo-la-ko sayngkakhanta.
M-NOM J-ACC always fool-be-COMP thinks
 ‘Mary always thinks John to be a fool.’ (Hong 1990: 217)

The optionality of “ECM” in (36) simply reflects the optionality of focus marking. In a sentence like (38), both NOM case and VP-focus-marking are trying to be realized on *John*, but since they occupy the same morphological slot, only one can be pronounced, and it is *lul*.⁴ If the lower subject happens to be DAT, as in (46), then there is no morphological competition and both case and focus-marking surface.

- (46) John-un Chelswu-eykey-**lul** ton-i manhta-ko mitnunta.
J-TOP C-DAT-ACC money-NOM much-COMP believes
 ‘John believes Chelswu to have lots of money.’

Given that we seem to need multiple focus-adjunctions to VP (24), we might then expect that multiple “ECM”ed constituents should be possible, and this seems to be true (47).

- (47) John-i hakkyo-eyse-**lul** Mary-**lul** ce-yil-ila-ko malhayessta.
J-NOM school-LOC-ACC M-ACC no.I-be-COMP said
 ‘John said that it is at school that Mary is Number One.’ (J.-Y. Yoon 1990: 133)

4.A.5.2 “Multiple Case” constructions

A second class of constructions whose distribution of case particles can be accommodated under my analysis are the so-called multiple subject and multiple object constructions, exemplified in (48) and (49), respectively. There are several varieties with different syntactic and semantic properties, but what they have in common is the use of *ka* or *lul* on multiple NPs, all but one of which are demonstrably not the subject or the object, respectively (J. Yoon 1986, Hong 1992).

- (48) a. Ku nongcang-**i** sakwa-**ka** mas-**i** cohta.
the farm-NOM apple-NOM taste-NOM good
 ‘As for the farm, the taste of the apples is good.’

⁴ This would not be an instance of case conflict resolution in the sense described in the text, since one of the competitors is not realizing case features at all. I make no claims as to why focus *lul* wins over case *ka*.

b. Swunhi-**ka** apeci-**ka** pwucaisita.
S-NOM father-NOM rich.be
 ‘Swunhi’s father is rich.’

c. Minswu-**ka** son-**i** khuta.
M-NOM hand-NOM big
 ‘Minswu’s hands are big.’

(49) a. Mary-ka Inho-**lul** tung-**ul** ttayliessta.
M-NOM I-ACC back-ACC hit
 ‘Mary hit Inho in the back.’

b. Chelswu-ka chayksang-**ul** tali-**lul** kochiessta.
C-NOM table-ACC leg-ACC fixed
 ‘Chelswu fixed the table’s legs.’

The first thing to note is that case-assigning properties of the predicate are relevant to how the nonarguments are marked; with predicates that assign a complement case other than ACC, all the NPs in a multiple object construction take that case: NOM in (50a), DAT in (50b):

(50) a. Na-nun koyangi-**ka** nwun-**i** mwusepta.
I-TOP cat-NOM eye-NOM fear
 ‘I fear the cat’s eyes.’ (Sohn 1994: 237)

b. Nay-ka Yumi-**eykey** ima-**ey** olunccek-**ey** kissuhayssta.
I-NOM Y-DAT forehead-DAT right.side-DAT kissed
 ‘I kissed Yumi on the forehead, on the right side.’ (Y-j Kim 1990: 271)

Also, the very same phrase obligatorily changes case depending on whether the verb is active (i.e., ACC-assigning) or passive:

(51) a. Cengwensa-ka namwu-**lul** kaci-**lul** ccallassta.
gardener-NOM tree-ACC branch-ACC cut
 ‘The gardener cut the tree’s branches.’

b. Namwu-**ka** kaci-**ka**/***lul** ccalleciko issessta.
*tree-NOM branch-NOM/*ACC be.cut be*
 ‘The tree’s branches were being cut.’ (Maling 1991: 303)

Thus, it seems initially promising to treat the *kas* and *luls* on the nonarguments in this construction as focused and adjoined to IP or VP, taking the same particle as a stacked focus would get in that position (for related observations and proposals, see J. Yoon 1986, Choe 1987, J.-Y. Yoon 1990, I.-J. Cho 1993, Y.-B. Kim 1987, J.-M. Yoon 1989, Y-j Kim 1990, D.-I. Cho 1992, O’Grady 1991, Wechsler & Lee 1996). If that is on the right track then this construction provides us with more direct evidence that there can be two focus licensors in the same clause at the same time (cf. (34)), since in (52) both focus *ka* and focus *lul* surface:

(52) John-**i** tongsayng-**i** Mary-**lul** ppyam-**ul** ttayliessta.
J-NOM brother-NOM M-ACC cheek-ACC hit
 ‘John’s brother hit Mary’s cheek.’ (J.-Y. Yoon 1990: 93)

Of course, an alternative suggestion would be to appeal to case concord between the subject or object and the adjoined NPs associated with it (e.g., Y-j Kim 1989). However, Maling and Kim (1992) have argued convincingly against such an analysis, on the basis of facts such as those in (53), where the associated NPs do not agree in case. Maling and Kim show that this possibility arises precisely when the main predicate can assign two different cases: evidently, each NP can choose from among those cases independently, here ACC and DAT.

(53) a. Nay-ka Yumi-**eykey** phal-**ey** cwusa-lul nohassta.
I-NOM Y-DAT arm-DAT shot-ACC gave
 ‘I gave Yumi’s arm a shot.’

b. Nay-ka Yumi-**lul** phal-**ey** cwusa-lul nohassta.
I-NOM Y-ACC arm-DAT shot-ACC gave

c. Nay-ka Yumi-**lul** phal-**ul** cwusa-lul nohassta.
I-NOM Y-ACC arm-ACC shot-ACC gave

d. ?Nay-ka Yumi-**eykey** phal-**ul** cwusa-lul nohassta.
I-NOM Y-DAT arm-ACC shot-ACC gave

These facts can be accommodated by a slight extension of my proposal. Specifically, rather than stipulate that the particle used to mark VP-adjoined foci is simply *lul* when the predicate assigns ACC, we allow it to be the particle corresponding to whichever case(s) the predicate assigns. Thus the new generalization is (54), which can be reduced to the single statement (55). Note that this will not adversely affect case *stacking*, where only *ka* and *lul* are possible, because morphological constraints block any other case from getting tacked onto a postposition or the dative *eykey*.

(54) a. VP-adjoined foci take any particle X, where X is the realization of a case assigned by the predicate;

b. If the predicate does not assign case, or if the focus is IP-adjoined, the focus takes *ka*.

(55) A focus takes any particle X, where X is the realization of a case assigned by its focus-licensing head (*ka* is the default).

4.A.6 DP subjects versus PP subjects

I have been assuming so far that DAT subjects are DPs with a DAT case feature, rather than PPs whose head is *eykey*. At this point I would like to briefly justify this assumption, because it is important for the conclusion I draw about case systems cross-linguistically. I give two arguments, one from Q-float, the other from a contrast between DAT subjects and true PP subjects.

4.A.6.1 DAT can be a case morpheme

Contrary to most claims in the Korean literature (e.g., O’Grady 1991, Urushibara 1991, Gerdts 1987), I argue that at least certain instances of DAT are case markers. (Y-j Kim 1990, p. 170) makes a similar claim; Sells (1995) argues against a syntactic interpretation of most standard arguments about DAT; Cho and Sells (1995) claim there is no independently identifiable category Postposition.) While I do not attempt to refute all the counterarguments, I believe that they do not force the conclusion that all uses of *eykey* are postpositional.

One fairly standard assumption (cf. Miyagawa 1989) about the difference between DPs and PPs is that Q-float should be disallowed out of PPs. This seems to be true in Korean, at least for “long-distance” Qfloat where another constituent intervenes between the head noun and the numeral quantifier. Importantly, while DAT allows Qfloat for some speakers, as noted above, be it from a subject (9) or a goal (56), postpositions do not. This is shown for *ulo* ‘into’ in (58) and *ulopwuthe* ‘from’ in (59), contrasting minimally with the bare DP in (57). Thus I claim that these, unlike DAT, in fact head PPs.

- (56) Nay-ka **ai-tul-eykey** chayk-ul **seys-eykey** cwuessta.
I-NOM child-PL-DAT book-ACC 3-DAT gave
 ‘I gave a book to three children.’
- (57) **Cip-ul** kyengchal-i **twu-chay(-lul)** twulekatta.
house-ACC police-NOM 2-CL(-ACC) entered
 ‘The police entered two houses.’
- (58) ***Cip-ulo** kyengchal-i **twu-chay(-lo)** twulekatta.
house-into police-NOM 2-CL(-into) entered
 ‘The police entered (into) two houses.’
- (59) ***Cip-ulopwuthe** kyengchal-i **twu-chay-lopwuthe** nawassta.
house-from police-NOM 2-CL-from came.out
 ‘The police came out of two houses.’

4.A.6.2 True PP subjects get (obligatory) NOM case

Under my account, it would not be surprising if a true PP in subject position did get true NOM case, on the assumption that PPs do not inherently bear case features and hence do not block structural case assignment (see Sadakane & Koizumi 1995 for this claim in Japanese). This seems to be true in the following three examples; note that (60) uses a subject PP headed by the postposition *ulo* that was shown to disallow Q-float in (58) above:

- (60) Pang-an-ulo-*(**ka**) macnun panghyang ita.
room-in-to-NOM right direction is
 ‘Into the room is the right direction.’

- (61) Cengwen-eyse-*(**ka**) Swunhi-ka cemsim-ul mek-un kos ita.
garden-LOC-(NOM) S-NOM lunch-ACC eat-REL place is*
 ‘In the garden is the place where Swunhi ate lunch.’
- (62) Cikum-pwuthe-*(**ka**) mwuncey-lul yaki hanta.
now-from-(NOM) problem-ACC cause does*
 ‘From now on causes a problem.’

We can show that it is the PP in (60) that is the subject, not *panghyang*, because a NOM marker on *panghyang* is ungrammatical, a property of *complements* to the copula.

- (63) *Pang-an-ulo-ka macnun panghyang-**i** ita.
room-in-to-NOM right direction-NOM is
 ‘(Into the room is the right direction.)’

The examples in (60–62) differ from focus stacking in two crucial respects: 1) *ka* is obligatory, just like regular NOM case on transitive subjects, as noted above; and 2) there is no special prosody associated with the initial constituent in these sentences. (62) contrasts crucially with (64), which contains the same PP but as an adjunct, not as the subject.

- (64) Cikum-pwuthe-*(**ka**) Swunhi-ka mwuncey ita.
now-from(-NOM) S-NOM problem cause is
 ‘From now on Swunhi has the problem.’

Here, *ka* is optional. This shows that there is nothing about the identity of the PP that would condition obligatory versus optional *ka*. Thus, there are true instances of *ka* as a NOM case morpheme stacking on another particle, but they too are not “case stacking” in the literal sense, because the preceding particle is not a case morpheme but a postposition.

4.A.7 Conclusions

I have suggested what a focus analysis for stacked *ka* and *lul* might look like in order to explain numerous facts about their distribution. This analysis extends straightforwardly to cover two other constructions that I have argued do not involve case. To the extent that this approach is convincing, it means that sentences like (1c) in Korean are not literally instances of morphological case stacking. If *ka*-stacking on DAT subjects were really structural case, it would imply that licensing in subject position necessarily means receiving the morphological case features canonically associated with that position, which cannot be true in general, since we have seen that Icelandic, for example, makes NOM available to nonsubjects. It would also imply that a DP can bear both a quirky and a structural case feature (assuming, with the rest of the literature, that subject DAT is quirky), which is also clearly false in Icelandic and other languages, as argued in §4.1. My analysis of Korean “case stacking,” unlike case-based accounts, is compatible with my earlier conclusions, removing the need to posit parametric variation on these points. Structural licensing, how-

ever it actually works, does not seem to be the same as, or to depend on, morphological case assignment. In particular, licensing a subject does not imply assigning NOM case to it.

Appendix 4.B: Some split ergative systems

In this appendix I discuss some challenges to my proposed Accord treatment of case and agreement, from split ergative languages. While I do not provide detailed solutions, I suggest that they do not constitute clear counterevidence to my proposal. (See also footnote 1 of this chapter for a fallback position.)

4.B.1 Basic case/agreement splits

There are numerous kinds of “splits” attested in ergative case systems (cf. Comrie 1978, Dixon 1994, etc.); in this subsection I concern myself only with case/agreement splits. Consider some examples from Warlpiri, which displays such a split.

- (1) a. Ngajulu-rlu ka-rna-Ø marlu nya-nyi
1s-ERG PRES-1sg.SUBJ-3sg.OBJ 'roo(ABS) see-N.PST
 ‘I see the kangaroo.’
- b. Marlu-ngku ka-Ø-ju ngaju nya-nyi.
'roo-ERG PRES-3sg.SUBJ-1sg.OBJ 1s(ABS) see-N.PST
 ‘The kangaroo sees me.’
- c. Ngaju ka-rna wangka-mi.
1s(ABS) PRES-1sg.SUBJ speak-N.PST
 ‘I am speaking.’
- (2) a. Nyuntulu-rlu ka-npa-ju ngaju nya-nyi.
you-ERG PRS-2sg.SUBJ-1sg.OBJ me(ABS) see-NPST
 ‘You see me.’
- b. Nyuntu ka-npa parnka-mi.
you(ABS) PRS-2sg.SUBJ run-NPST
 ‘You are running.’
- c. Ngaju ka-rna parnka-mi.
me(ABS) PRS-1sg.SUBJ run-NPST
 ‘I am running.’
- (Bittner & Hale 1996: 23)

Note that ABS is lining up with object agreement in (1a, b) and (2a), but with subject agreement in (1c) and (2b, c). The problem is that if one Accord relation yields ERG and subject agreement in (1a), and a different Accord relation yields ABS and object agreement in (1a), what could be going on in (1b, c)? Assuming we have reason to believe ABS in (1) and (2) is structural, I propose the following.

There are two Accord relationships underlying the intransitive sentences (1c, 2b, c), with morphological simplification/conflict resolution deciding to spell out only agreement from one of

them and only case from the other. This means that the argument bears two syntactic case features, an option that I have already appealed to on independent grounds. Case conflict resolution would have to prefer ABS over ERG, and, counter to languages like those discussed in §4.3, we would have to allow both structural case heads in a clause to be “active” in the presence of a single argument. This could be a marked parametric option. The trickiest aspect of this analysis would involve explaining why two different agreements do not surface in (1c) etc., since (1a) provides independent evidence that this is morphologically possible. One would have to hope that there could be a constraint against realizing the same set of person-number features twice on the same verb, e.g., that *V-2pl.subj-2pl.obj* is avoided in general. Suppose that this were true, because one normally gets a reflexive marker instead of the second agreement marker when subject and object are co-reflexive. I put aside the problem of 3rd person agreement where reflexivity would not necessarily occur (e.g., suppose 3rd person agreement is zero). The idea, on the model of “spurious *se*” in Spanish, is that multiple sets of highly specified phi-features get impoverished by deleting (parts of) one set (cf. Bonet 1991, Harris 1996). It remains to posit a theory of agreement-conflict-resolution to derive the fact that it is *subject* agreement that survives in (1c) (and to deal with 3rd-3rd situations).

Under this proposal, accusative, ergative, and split-ergative systems represent three values of a single parameter: in terms of Chomsky’s (1993) formulation, in intransitive clauses, either 1) only AgrS is active (accusative); or 2) only AgrO is active (ergative); or 3) both are active (case/agreement split-ergative).

4.B.2 Georgian

As generally described, Georgian appears to pose two kinds of problems for my hypothesis (see Aronson 1982, Nash 1995, Marantz 1989, 1991 for systematic presentation of the facts). DAT subjects seem to trigger verbal agreement, and nominal cases versus agreement paradigms seem to allow drastic mismatches across the three “series” of tenses.¹ A full analysis of Georgian case and agreement could fill a whole thesis in itself, and I shall not even attempt to sketch a proposal here. Instead, following suggestions by Alec Marantz (p.c.) and Hash-Haran 1992, I hope that the two problems might be avoided if an alternative treatment of apparent verbal agreement in Georgian can be worked out. Marantz suggests that one set of what are often referred to as agreement morphemes, those that mostly precede the verb stem, might plausibly be treated as clitic pronouns. These clitics show a contrast between subject and object forms. They appear only with first and second person arguments, which show no case distinctions when they surface as independent

¹ Thanks to Martha McGinnis for helping me come to (minimal) grips with the daunting Georgian data.

pronouns. Thus, there can never be a “mismatch” between the case of the pronoun and the case of the clitic. The other set of agreement morphology, which shows up mostly as allomorphy in the tense screeves, differs substantially from one series to the next, but could be argued to track NOM case independent of position, as in Icelandic. This morphology codes the subject in the Present and Aorist Series and the object in the Perfect Series. These two assumptions have the consequence that there is no genuine subject agreement with DAT subjects, nor is there a separate system of object agreement.

As for nominal marking on 3rd person DPs, transparently, subjects in the Present and objects in the Perfect take the same marking, NOM; however, in the Aorist, transitive subjects are marked ERG and objects are marked NOM. Thus, what I would have to claim is that ERG is a different flavor of subject case, still assigned under Accord with INFL, like NOM in the other two series, but realized differently in the presence of the tense features of Aorist Series clauses.² Additionally, the NOM nominal marking on the object in the Aorist must have a different status from the NOM on the subject of the Present and the object of the Perfect, since it does not co-occur with screeve agreement. My tentative suggestion is that this is default NOM: the usual DAT/ACC object case of Georgian is not assigned in the Aorist under this view, perhaps because the head responsible for it is missing. Nash (1995) argues that the fact that verb stems are “barer” in the Aorist than in the other series in Georgian reflects little *v* being missing from the Aorist; if this *v* is required for ACC assignment, then the absence of ACC on object DPs in the Aorist would follow.³ We can also make sense of the fact that, although under this analysis NOM objects of transitives in the Aorist trigger no agreement, NOM *subjects* of “unaccusative” intransitives do trigger (subject) screeve agreement. If ERG is the dependent case in the Aorist (Marantz 1991), then it will not be assignable in an (unaccusative) intransitive clause since there is no “competing” DP chain.⁴ However, NOM is assignable as an independent case under Accord, as in the Present series. (Martha McGinnis (p.c.) observes the potentially corroborating fact that the screeve agreement triggered by NOM subjects in the Aorist bears a closer morphophonological resemblance to that triggered by NOM subjects in the Present than does the agreement triggered by ERG subjects in the Aorist.) Thus, in the Aorist, there are two kinds of Accord: one yields ERG case and agreement (on transi-

tive and unergative subjects), the other yields NOM case and agreement (on unaccusative subjects). No Accord is available for transitive objects in the Aorist.

² We already saw in appendix 2.B that the form of INFL case can vary with features of Tense, e.g., in Russian.

³ Marantz (p.c.) suggests that absence of subject NOM in the Aorist might also relate to the absence of little *v*. His account (Marantz 1991) relates the absence of ACC on the object to the absence of NOM on the subject via the notion of dependent case, while my suggestion in the text treats these as unrelated facts.

⁴ I assume, with much of the literature (e.g., Nash 1995), that unergatives are transitive at some abstract level, and hence can pattern with transitives in allowing dependent case to be checked.

5

The acquisition of INFL: Case, agreement and tense

Be atomic!

(Alec Marantz, class lecture, spring 1996)

5.1 Introduction

The twin goals of this chapter are to use the syntactic theory developed in chapter 4 to analyze children’s production of case and inflection, and to use generalizations from the children’s data to support those syntactic claims about UG. As a starting point, I pursue the hypothesis that children at an early stage of acquisition have available to them the full range of possible INFL types argued for in §4.1: [+Accord, +Tns], [+Accord, –Tns], [–Accord, +Tns], and [–Accord, –Tns].¹ (I return later in the chapter to a discussion of how the licensing of subject position interacts with these feature combinations.) Suppose children know that Accord has two consequences: agreement features on the verb and case features on the DP. They also know that a DP need not have a case feature in the syntax, and if it lacks one, it is spelled out in the default case form. Under this hypothesis, children know all aspects of the grammar relevant to generating convergent derivations, but they are not obeying Accord Maximization. (See chapter 6 for detailed discussion of discrepancies between child and adult linguistic systems.) In §§5.1–5.2 I work out what kinds of sentences a child who has correctly acquired the relevant case and INFL morphology should be able to produce, given the proposed range of INFL types. In the rest of the chapter I assess these predictions in detail with respect to several sets of acquisition data in various languages, primarily English, German, Dutch and French.

The primary phenomenon of child production that I will examine is case errors, though others will be brought in later in the chapter. Child case errors should be particularly revealing about the child’s grammar because, unlike many other types of errors that young children produce, they cannot be the result of a child simply “leaving out bits” of utterances of the sort that they hear in their input, nor can they result from phonetically truncating words of a grammatical sentence. This is evident in examples from Nina (Suppes 1974):

¹ Recall that [–Accord] simply means that no Accord relationship is established between INFL and any DP. This is intended to clarify the meaning of [–Agr], which I used in earlier work (Schütze & Wexler 1996a, 1996b, etc.). No commitment is intended as to whether AGR (or any other functional head) is present or absent as a result of the lack of Accord. Furthermore, [–Accord] should not be read as “a negative specification for the value of the feature Accord,” since that would not be a meaningful notion. Rather, it is a shorthand for “the relevant INFL enters no Accord relation.”

- (1) a. He fall down. (2;1.29, File 12)
b. I sliding down. (2;1.15, File 10)
- (2) a. My have it. (2;0.10, File 5)
b. Her nipped me. (2;5.25, File 28)
- (3) a. **Him fall** down. (2;3.14, File 17)
b. **Her have** a big mouth. (2;2.6, File 13)

(1) shows OI utterances with NOM subjects; these look like adult utterances with *-s* and *am* omitted, respectively. The examples with non-NOM subjects in (2), however, are not mere truncations of any adult sentences (though (2a) could be a truncated form of the NP *My having it*).² The sentences in (3) show the two phenomena co-occurring, which they often do, as we will see in §5.3. Again, these are not possible reductions of adult sentences, though they are possible adult embedded clauses ((3a) could follow *I saw...* and (3b) could follow *The witch made...*). Thus, to the extent that the distribution of verb forms in relation to the distribution of pronoun forms is not random (and I will show that it is not), the fact that children produce sentences like (2) and (3) is a strong argument that they are generating them by rule, rather than imperfectly parroting what they hear. The point is perhaps even clearer when we consider what case errors look like in other child languages. (4) gives an example of what might be a relatively common error type in child Dutch, a preposition followed by a NOM pronoun:

- (4) Waar zijn de grote boeken van ik?
where are the big books of I
‘Where are my big books?’ (E, 3;5.6) (Kaper 1976)

There is no environment in which such sequences can occur in adult Dutch. Thus, if Dutch children are not simply sprinkling pronoun forms around their sentences at random (which we will see that they are not), but rather are obeying many syntactic form/position constraints, utterances like (4) must represent something generated by their grammar.

Demonstrating these claims has important consequences for theories of (adult) grammar. First, if children produce default case and not a random mix of cases in environments where they never hear default case, such as (3) and (4), this constitutes strong evidence for the claim that default case must have a unified grammatical explanation. It could not simply be memorized construction by construction. Second, to the extent that I can argue that children indeed exercise the four options for INFL enumerated above, I take this as support for the claim that UG makes these options available, and in particular, that it does not establish any universal implication between

² However, Ken Wexler points out that Brown (1973) found that English children do not use *-ing* on state verbs, so this seems like an unlikely analysis.

presence of Tense contrasts and presence of Accord (or vice versa). Third, the fact that children allow overt subjects of clauses lacking (subject) Accord and/or Tense supports the claim that neither of these features is required for subject licensing, at least for children, and I claim also for adults. (I hypothesize that children know that while all kinds of INFL can license overt subjects, [+Tense] INFLs disallow PRO subjects while [-Tense] INFLs (can) allow them, as proposed based on adult data in §2.1.)

5.2 INFL forms and features: An English case study

The goal of this section is to lay the groundwork for making predictions about which subject forms (and later, other clausal properties) should occur with which forms of inflection in child production. To do this we need to establish how a child can realize the possible combinations of INFL features that I hypothesized above as possible in root clauses. Based on the observation from many studies of the OI phenomenon that misuses of morphemes are rare to nonexistent (e.g., that English 3sg *-s* is not used with non-3sg subjects), I take as a starting point the assumption that children by the age at which we are able to study these correlations have correctly learned the (adult) vocabulary entries for verbal inflection. If this is true, then all we need to make the desired predictions is a worked-out analysis of the INFL feature system of the adult language within a theory of morphology; as before, the theory I adopt here is Distributed Morphology. I will make a first attempt at such an analysis for English here, building on the partial analysis in Halle and Marantz 1993. Readers not concerned with the details may wish to skip to §5.2.6 for the most relevant consequences.

5.2.1 Null *be*

My analysis of English verbal inflection seeks to extend Halle and Marantz's analysis by incorporating types of INFL that they did not cover, and by making some suggestions about the treatment of compound tenses and modals.³ A point of central importance will be the treatment of various forms of the verb *be* in English, in order to be able to make a proposal about how children are able to omit *be* in many environments at the OI stage; this account will also make predictions about where *be* will surface even in the speech of such children. A guiding assumption will be that *be* in many of its uses does not carry any meaning of its own, but rather is present to "support" other elements of a sentence (as suggested, for example, by Jaeggli and Hyams (1987)). To capture this intuition, I will argue that most instances of *be* are realizations of a syntactically empty V

³ My proposal is not intended as a comprehensive analysis of the English Aux/V system; I focus on points relevant to my acquisition analysis. For more detailed treatments of certain aspects, see Akmajian, Steele & Wasow 1979, Pullum & Wilson 1977, Gazdar, Pullum & Sag 1982, Lapointe 1980, and references cited there.

node, i.e., a node with no features other than its category.⁴ In order to help establish what the conditions on its realization should be, we need to consider some special syntactic environments in English where *be* does not get spelled out by any overt material at all.

The first example of such a construction is the so-called Mad Magazine (MM) construction (Akmajian 1984) exemplified in (5):⁵

- (5) a. What?? Him worry/*worries? Never!
 b. *What?? He worry? Never!
 c. What?? Him (*do/*does) not pick up the kids on time??? Never!
 d. What?? Her thinking about quitting??? Never! [≠ ??Her be thinking about quitting]
 e. What?? Him continually prosecuted??? Never! [≠ ??Him be continually prosecuted]
 f. What?? Him the murderer??? Impossible! [cf. ??Him be the murderer]
 g. What?? Me tired/a doctor??? Never! [≠ Me be tired/a doctor]
 h. ??What?? Him (have) broken a promise?? Never!
 i. What?? Him (* will/should/could/would/can/must/might) leave the firm??? Never!
 j. What?? Him able/obliged to leave the firm??? Never!
 k. *What?? Him broke a promise??? Never!

I will catalog the properties of this construction here, though some of them will become relevant only later: 1) The subject, if overt, is in the ACC case—it cannot be NOM (5a versus b). 2) Contentful verbs appear in their bare form regardless of the person/number features of the subject; in particular, 3sg is not marked with *-s* (5a). 3) Past tense verb forms are impossible (5k). 4) Clausal negation does not allow, let alone require, *do*-support; the verb remains below negation (5c). 5) Progressive, passive, equative and predicative/copular *be* are phonologically null (5d, e, f, g). 6) Perfectives are marginal, with or without overt *have* (5h). 7) Modals are impossible (5i), but apparently not for semantic reasons, since their adjectival paraphrases are fine (5j).⁶ 8) MMs have

⁴ This idea is entertained but not adopted in Rapoport 1987 (fn. 21, p. 157); see also references cited there and Scholten 1988 for other *be*-support proposals. Thanks to Paul Hagstrom for bringing Rapoport's discussion to my attention.

⁵ The suggestion that this construction is relevantly similar to children's OIs has appeared in the acquisition literature before, e.g., Weverink (1989), Radford (1995), Roeper & de Villiers (1992).

⁶ Further evidence that the problem with modals in MM is not purely semantic is the fact that in languages like French where modals have the syntax of ordinary verbs, they do occur in the equivalent of MMs, which are expressed by infinitives, e.g.,

- (i) Moi devoir partir?!
me to-be-obliged to-leave

some sort of modal meaning, roughly paraphraseable as *Could it be true that...*, *Is it conceivable that...*, etc.

With regard to property 5), null *be*, Akmajian points out that the bare stem form *be* can occur in MMs, easily with a copular sense and marginally as a progressive or passive. I have added the observation in (5f), namely that inserting *be* is quite bad in the equative use. As Akmajian notes for the first three cases, however, the versions with *be* and without it are not synonymous: those with *be* are necessarily irrealis, while those with no verb can refer to an actual situation in the present.⁷ For example, *Me tired?! could be paraphrased as Is it conceivable that I am tired?*, whereas *Me be tired?! is paraphraseable only as Is it conceivable that I could/would be tired?* (Presumably the equative *Him be the murderer* is degraded because *the murderer* has to refer to a person in the real world at the present time, and therefore clashes somehow with the irrealis feature.)⁸ I take this to mean that we are not dealing with mere optional spell-out of *be* in these cases, but rather, with a difference in the semantic features of the clauses (to be elaborated shortly).

One might observe that several of the properties of MMs could be explained by positing that they contain a null modal. In particular, since clauses in English can only ever contain one modal, this would explain the impossibility of overt modals. It would also explain the absence of inflection on the verb, since any inflection must be realized on modals in English when they are present. The absence of *do*-support follows if we assume that a null modal can “support” tense/agreement, despite its phonological vacuity, just like an overt modal would. The modal meaning would of course follow immediately. The remaining properties do not receive an immediate explanation: ACC sub-

Thanks to Dominique Sportiche for pointing out this fact. Alec Marantz notes that the same argument might be made from English auxiliaries with modal meanings, e.g., *Me hafta leave?! Interestingly, Me gotta leave?! seems much worse, suggesting that gotta is syntactically a modal. Gonna seems to pattern with the modals too, while wanna patterns like a verb, in my judgment.*

⁷ See Akmajian 1984 for additional shades of meaning difference in the two versions of this construction.

⁸ Alec Marantz notes that stage versus individual level adjectives show a contrast here, with individual-level being essentially out when *be* is present:

- (i) a. *Me intelligent/tall? Compared to whom?!*
- b. *?*Me be intelligent/tall?!*...

However, individual level predicates seem to improve with generic subjects:

- (ii) *(?)A tenor be intelligent?*

If (ii) is OK, it suggests that the restriction in (ib) has something to do with how different the possible unrealized worlds of a verbal MM clause can be from the actual world, e.g., perhaps they must be possible future states of the actual world.

ject, null *be*, and marginally bad perfective. ACC case might arise by default in this environment if Accord were impossible in a MM clause, or ACC might be assigned by the MM INFL, but it is unclear whether either approach can be independently motivated. The other two facts do not follow from a null modal account because with overt modals, *be* and *have* are fine (and obligatory):

- (6) a. *John could *(be) {a doctor/the murderer/tired/thinking about quitting/continually prosecuted.}*
- b. *John could *(have) broken a promise.*

I do not explore the marginality of perfective MMs further,⁹ but I will now make a proposal regarding the distribution of *be*. I propose the following:

- (7) a. An empty V node is spelled out as *be* in isolation, i.e., when not head-adjoined to INFL.
- b. When an empty V is raised to INFL, a finite form of *be* is inserted if needed to support affixal material; if no material is in need of support, empty V is spelled out as zero.

The difference between (6a) with obligatory *be* and its counterparts without *be* in (5) is that the overt modal in (6) does not trigger the empty V to raise to INFL, leaving it in isolation where it must be spelled out (as *be*), whereas the null modal in (5) allows empty V to raise to it, and since (I claim) MMs contain no tense/agreement morphology that requires support, the empty V (as well as the null modal) can be spelled out as zero. What is going on in the irrealis variants of (5) with overt *be* is that raising of V to INFL has been disallowed by the INFL node carrying the irrealis semantic features; that is, there are two null modals, one of which triggers empty-V-raising, the other of which does not.¹⁰ (As we will see below, the same pattern is observed in subjunctives. As in

⁹ Akmajian (1984) suggests that aspectual *have* is just as odd in imperatives as in MMs, and notes that both cases improve with negation:

- (i) a. *(?)Johnny not have finished his chores?!*
- b. *(?)Don't have eaten all the cake before I get back!*

This suggests a semantic explanation invoking a clash between the irrealis nature of these clause types and the perfective meaning of *have + en*.

¹⁰ One further point about MMs bears mentioning. Since modals in English are compatible with past tense, as illustrated most clearly in sequence of tenses (e.g., *John says he will come, John said he would come*) but also in other contexts (*When Mary was in college, she could speak French well* (Gazdar et al. 1982; Lapointe 1980)), a null modal analysis of MMs predicts that while past tense marking can never surface, it should be able to be present on the null modal, unless something blocks this possibility. In assessing this question, the following kind of example is relevant:

- (i) *John drunk at 3:30 last night?!!! I can't believe it!*

declaratives, English main verbs are never candidates for raising.) The fact that *be* is not in INFL when it surfaces in MMs is clear from adverb placement:

- (8) a. John always be late?!
b. *John be always late?!

It will not have escaped the reader's attention that MMs resemble some English child OI utterances in many respects (see also Avrutin 1997 for interesting discussion): non-NOM subjects, absence of *-s* with 3sg subjects and *-ed* when past tense is intended, null auxiliary/copula, and absence of *do*-support.¹¹ Indeed, the fact that these properties cluster together in the adult language strikes me as a compelling reason to give them a unified treatment in child English as well. I will now develop an analysis that captures these sorts of similarities. I should stress, however, that I am *not* advocating a "null modal" analysis of OIs in the sense in which this term is sometimes used in the acquisition literature. In particular, under my analysis it will not be necessary that any modal semantics be present in order for *be*-drop etc. to occur. Furthermore, OI utterances will not have the same syntax as an adult sentence with an unpronounced modal, because crucially, the child but not the adult can leave out tense and/or agreement features; this is expressly not the intention of null modal OI analyses. My approach thus has no more than a certain spirit in common with these approaches.

It has been something of a puzzle in the OI literature why children produce bare forms of contentful verbs but almost never produce the stem *be*; i.e., utterances like *He/Him be tired* are virtually unattested. One important goal of my analysis of INFL is to capture this fact by means of features that independently must be part of adult English. To this end, we need to consider whether

(i) clearly means *Is it conceivable that [John was drunk at 3:30 last night]?* (This possibility seems to be systematically unavailable with verbal predicates in MMs, at least in my judgment:

- (ii) a. ?*John skip a class last week?!
b. John skip a class next week?!

I assume this again is related to Akmajian's observation that verbal predicates in MMs must be taken as irrealis.) The question is whether this is the interpretation we would expect of a [+past tense] modal of the MM sort. Unfortunately, it is difficult to find overt modal paraphrases of (i) where we can pose the question. For instance, *John couldn't sing at 3:30 last night* seems to have only a deontic, not an epistemic, reading. The meaning that would correspond to (i) would be rendered by *John couldn't have been singing at 3:30 last night*, meaning *It is not possible that John was singing at 3:30*. Thus, it seems that the most we can say is that there is no evidence against the claim that the alleged null modal of MMs is compatible with a [+past] feature.

¹¹ Another set of parallels between adult language phenomena and several of these English OI phenomena, which will not be discussed here, involves omission of INFL elements in Black English (Labov 1969) and other non-standard English dialects. See Brown 1973 for extensive discussion of the similarities and differences.

there are any other environments besides MMs where neither inflected *be* nor bare *be* itself surfaces. Another such environment is exemplified in the shorter versions of (9):

- (9) a. What (could be) better than a cold shower on such a hot day!
b. Who (could/would be) more fitting to speak first than Jeffrey.

This construction seems to be mostly limited to *Wh...comparative adjective*, for reasons I will not try to explain. What is relevant is that no form of *be* surfaces in the shorter versions of (9a, b), and the "missing" material consists of a modal plus *be*, just as in MMs. This supports my claim that null modals can constitute the environment for null *be*, i.e., non-insertion of lexical material into an empty V node:

- (10) [Empty V + null modal]_{INFL} → ∅

However, it is not the case that all apparent null modal constructions take zero forms of *be*. In particular, root infinitives with *Why* (cf. Akmajian, Steele & Wasow 1979, Rizzi 1996, Roeper & Rohrbacher 1994) always take the stem *be*.

- (11) a. Why talk when you can sing?
b. Why *(be) a doctor when you can make so much more as a lawyer?
c. Why *(be) tired when you can drink coffee?
d. Why *(be) working your butt off at the office when you can be relaxing at a bar?
e. Why always *(be) pessimistic?¹²

Semantically, there does seem to be a modal meaning involved in this construction: (11a) is paraphraseable as *Why would you talk when you can sing?* (see Emonds 1985). Furthermore, as in MMs, overt modals are impossible in this construction: **Why not can dance?*, **Why not must attend?*¹³ If I am right that empty V + modal has a zero realization in English, why are we seeing *be* here? I claim it is because the empty V cannot raise to INFL in this construction; thus, the null

¹² It is important to judge these examples in a neutral context. It is possible to question virtually any constituent with *why* if the context provides the material for elision in the question, e.g.,

- (i) A: I'm feeling so sleepy today.
B: Why sleepy? I thought you went to bed early last night.

¹³ Note that as in MMs, adjectival paraphrases of modals are syntactically possible, albeit somewhat hard to find natural contexts for:

- (i) a. Why not be able to dance?
b. Why not be obliged to attend?

modal feature of this *Why* construction must not trigger overt raising, otherwise by (10) we should not see *be*.¹⁴

Another construction apparently involving a root nonfinite clause is exemplified in (12):

- (12) a. What to do?
 b. Where to go?
 c. Who to talk to?

It is not clear how productive this formation really is, but it is nonetheless interesting that it seems to involve a null form of inflected *be*, since it is paraphraseable as *Where am I to go?* (or *Where are we/Where is one...*). Like the *Why* root construction mentioned above, some sort of subject is being omitted along with the finite verb, a fact I do not analyze here. The relevant point is that an empty V, which would have raised to INFL to be spelled out as *am*, is being omitted. If this is the right analysis, then (12) does not really involve a *root* infinitive at all, since the *to* would be in an embedded IP—*to* cannot co-occur with a raised V in the same INFL complex. The reason why we do not see *be* here, unlike in the *Why* construction, I suggest, is that the features of INFL, whatever they are, are not preventing the raising of V in (12), and once empty V has merged with INFL it cannot be spelled out as *be*.

There are other environments in English where *be* can apparently be present or absent with little or no change in meaning.¹⁵ I collect these environments here in order to support the claim that these kinds of *be* are inserted for formal rather than semantic reasons (some of these facts stem from observations in Higginbotham 1983 and Akmajian, Steele & Wasow 1979):

- (13) a. With John (being) so tired, we decided to stop for the night.¹⁶
 b. You described her as (being) fussy.

¹⁴ Importantly, even if a null modal undergoes morphological merger with the (unraised) empty V, (10) will not apply because the resulting complex head is of category V, not INFL. See further discussion below.

¹⁵ There are of course uses of *be* in English that do make an interpretational difference, as observed for instance by Partee (1977). See Stump 1985 for a thorough catalogue of the various kinds of *be* in English and their semantic types.

¹⁶ While (13a) might not show a semantic effect of the insertion of *being*, Stump (1985) has shown that it is not true in general that adjunct small clauses and their counterpart gerunds with *being* are synonymous. Consider the pair in (i):

- (i) a. A Chihuahua, Fido is harmless.
 b. Being a Chihuahua, Fido is harmless.

In (ia) the adjunct is most naturally interpreted as simply adding information, synonymous with *Fido, who is a Chihuahua, is harmless*. In (ib), on the other hand, the first reading one gets is *Since he is a Chihuahua, Fido is harmless*. I note that in absolutes, *being* can be completely obligatory with certain predicate types:

- c. I consider him (to *(be)) a fool.
 d. The medicine made her (be) tired all the time.
 e. I saw her (be) rescued twice.
 f. I've never seen (there *(be)) so many people in this room.

To the extent that the two versions of each sentence in (13) are synonymous, I would argue that when *be* shows up it is being forced to do so by the presence of some other element: *-ing* in (a), *to* in (b), etc. I take this as evidence that when a V is needed for formal but not semantic reasons, *be* steps in.¹⁷ Notice too that *do*, the other plausible candidate for a “dummy verb,” is completely impossible in all the environments of (13) and as a substitute for *be* in (11). On the basis of this and other facts, I argue that *do* in its dummy capacity is not a V, but rather a dummy INFL element, specifically a Mood (see below).¹⁸ This will capture the fact that “supportive” *do* occurs before verbs while “supportive” *be* occurs before other lexical categories, as follows. If Tense always takes a VP complement, then nonverbal main predicates must be embedded under an empty V, which sometimes surfaces as (a form of) *be*. Verbal predicates can occur as immediate complements of Tense, so there will be no possible source for dummy *be*, but the Mood position of INFL can still be realized as dummy *do*.¹⁹

I now wish to argue for a finer-grained claim about *be*-support, namely that the “infinitival” form *be* itself is inserted wherever a V is required but has no semantic content, whereas the in-

-
- (ii) (With) the computer *(being) so large, we'll need help to move it.

Still, I would hope to maintain that the contrasts in (i) and (ii) do not derive from *be* per se.

¹⁷ See Kayne 1989 for another argument for the semantic vacuity of *be*, based on some apparent contrasts in the ability of contracted auxiliaries to raise over *not*:

- (i) a. He's not doing anything.
 b. ??He's not done anything.

Kayne suggests that this contrast shows that *have* is harder to raise than *be* because its trace is not deletable, whereas the trace of contentless *be* is deletable; (ib) therefore violates ECP, while (ia) does not. I do not find the contrast as strong as such an account might lead one to expect, and there might be dialects where no contrast obtains at all, but the premise of Kayne's proposal may still be correct.

¹⁸ The claim that *be* is a “real” verb and *do* is only a modal is argued for by Rapoport (1987), who notes that the presence of *do* does not satisfy a sentence's need for a verb (in a non-elliptical context):

- (i) a. *I did not yesterday.
 b. *Did Yoni willingly?

¹⁹ There is of course another potentially “dummy” use of *do*, namely in the *do so* construction, where it stands in for a V projection, not an INFL element. But in that use it is clearly not devoid of semantic features, since it can take only nonstative antecedents: **John knew the answer, and Bill did so too*. This is therefore no challenge to the claim that *be* is the empty verb of English.

flected forms *am, are, was*, etc. are inserted only under specific conditions where an empty V raised to INFL must be spelled out in order to support some other element. In addition to the facts in (9) and (12), which I take as prima facie support for this claim, there is a special register of English that lends additional support to it, namely “Headline” and related forms of “Abbreviated English” discussed by Stowell (1991/1996). Stowell makes two relevant observations about verbal inflection in Headline. First, the simple present, including its overt manifestation in 3sg *-s*, is used with eventive predicates to refer to (recent) past events, but with stative predicates to refer to ongoing conditions:

- (14) a. CLINTON BUYS HOUSE (= Clinton (recently) bought a house)
 b. CLINTON OWNS YACHT (= Clinton owns a yacht)

This indicates that the mapping between tense features and their interpretation differs in Headline as opposed to standard English. Second, and more strikingly, the present tense forms of copular *be* can be omitted entirely in this register:²⁰

²⁰ Stowell asserts that “identificational” *be* cannot be omitted, citing the following example (his judgment):

- (i) *NIXON A CROOK

I am not convinced that this is an appropriate test case, however. In the first place, while (i) does not sound great as a headline, (ii) does not sound any better as a headline, to my ears:

- (ii) *NIXON IS A CROOK

Part of the problem seems to be that this statement is unlikely as a bare headline because the predicate *crook* would not be used by a newspaper to report an actual state of affairs. In a context where it is attributed to particular individuals, however, it is fine, and in such a context copula drop sounds acceptable to my ears:

- (iii) NIXON A CROOK, DEMOCRATS ARGUE

Furthermore, this actually seems to be a predicational, rather than an identificational use of *be*. If we try to construct more strongly equative examples, *be*-drop indeed sounds odd even when “Slifted”:

- (iv) a. CHARLES ??(IS) FATHER OF MADONNA’S CHILD(, PALACE INSIDERS CONFESS)
 b. KISSINGER ?*(IS) DEEPHROAT(, TELL-ALL BOOK REVEALS)
 c. BART SIMPSON ??(IS) THE MURDERER(, JURY FINDS)

However, as David Pesetsky points out, negating any of the examples in (iv) makes them sound fine. Thus, whatever is making *be*-drop sound bad in (iv) is evidently more subtle, perhaps having to do with unambiguously flagging the end of the subject.

- (15) a. BUSH IN CHINA NEXT WEEK FOR TALKS (= Bush is in China...)²¹
 b. U.S. TO SELL MISSILES TO TEHRAN FOR RELEASE OF HOSTAGES
 (= The U.S. is to sell...)
 c. JUDGE FOUND SLEEPING WITH CALL GIRL (= A judge was (recently) found...)

Notice that although the meaning of (15c) is rendered with a past form of the copula in standard English, this is an eventive passive sentence, and so on the model of (14a), what is unpronounced here is formally the *present* copula, which would get a recent past interpretation in this register.

Crucially, however, the infinitive form *be* by itself is not omissible in any environment in Headline:²²

- (16) a. HILLARY TO *(BE) INDICTED FOR FASHION FAUX PAS
 b. TAX CUT CAN *(BE) PAID FOR, DOLE INSISTS
 c. DEFICIT SHOULD *(BE) PRIORITY, PEROT URGES
 d. PENSIONS WILL *(BE) SAFE UNDER NEW PLAN
 e. CANDIDATES MIGHT *(BE) LYING, ANALYSTS POINT OUT
 f. HILLARY WANTS TO *(BE) PRESIDENT, FRIENDS CONFIDE

Thus, as Stowell also points out, deletability in Headline cannot be characterized simply by semantic recoverability, since if anything, *be* in (16) would be more recoverable than the missing inflected forms in (15), since the latter would encode tense information. (16b–e) also show that, unlike in MMs, modals are fine in Headline sentences. Therefore, something about *be*+INFL is special—something that allows it to be null in Headline. Notice also that it is specifically the verb

²¹ I assume that the missing verb here would be formally a present tense, used as a proximate future as in (iib), since in examples where distant future interpretation is intended, the future modal or the *be to* construction seems obligatory ((i) versus (iia)):

- (i) a. PEROT WILL RUN AGAIN IN 2000
 b. PEROT TO RUN AGAIN IN 2000

- (ii) a. *PEROT RUNS AGAIN IN 2000
 b. VOTERS GO TO POLLS NEXT WEEK

²² Some of the examples in (16) involve “Slifted” clauses. Inflected forms of *be* can still be dropped in such clauses:

- (i) a. YELTSIN ILL, OPPONENTS CLAIM
 b. YELTSIN STILL WORKING, SUPPORTERS NOTE

be, and not merely material that “supports” INFL in general, that is omissible: *be* and *do* contrast in this regard:²³

- (17) a. CLINTON DOES NOT OWN YACHT, PRESS SECRETARY INSISTS
 b. *CLINTON NOT OWN(S) YACHT, ...
- (18) a. JUDGE NOT SLEEPING WITH CALLGIRL, COURT SPOKESMAN CLAIMS
 b. YELTSIN NOT INCAPACITATED, TASS REPORTS
 c. BALLOTS NOT YET COUNTED IN RUN-OFF ELECTION

I take the set of Headline facts to show once again that certain combinations of *be* (i.e., an empty V node) plus INFL can be pronounced as zero.²⁴

5.2.2 Nodes and features

Having provided some initial plausibility to the claim that empty V is spelled out as *be* in isolation and as zero when combined with certain modal-like INFL elements, I can now present in detail my proposal for the adult English INFL system, in which the account of child OIs will subsequently be framed. I make one major revision to the system proposed by Halle and Marantz (1993), namely the addition of a M(ood) node in INFL (cf. Rizzi 1996), alongside Tense and (subject) Agreement. This M node distinguishes (at least) Indicative, Imperative, Subjunctive, and

²³ One might think it problematic for my claim that *past* forms of *be* are possible, and indeed required for some speakers, when a non-current past reading of a stative predicate is intended (other speakers seem to accept (i) with or without the auxiliary):

- (i) REAGAN *(WAS) AWARE OF CONTRA DEAL, NEW BOOK ASSERTS

This, I would argue, is a semantic recoverability effect, not a fact about bare V + past tense in general. In support of this claim, it seems to me that (ii) is fine, where the distant past meaning is recoverable from the adverbial PP:

- (ii) REAGAN AWARE OF CONTRA DEAL IN 1982, NEW BOOK ASSERTS

Déchaine (1991) notes that the behavior of tense marking in Headline seems to mirror the Factative Effect (Damoiseau 1982) in languages such as Haitian. It is therefore interesting that the contrast in overtiness of the copula in (i) versus (ii) is not paralleled in Haitian (Michel DeGraff, p.c.): past tense marking is not omissible on stative predicates even with unambiguously past adverbials. (ii) does however seem to parallel the MM null past discussed above.

²⁴ A related register of “Abbreviated English” mentioned by Stowell, that of “Recipe English” (Massam & Roberge 1989), also seems to allow omission of inflected but not uninflected *be*:

- (i) a. Beat eggs until (they are) fluffy.
 b. *Eggs must *(be) fluffy before folding in chocolate.

I will not pursue the details here. (See Quirk et al. 1985 for further description.)

Modal moods.²⁵ For concreteness, I assume M is a separate head from T in the syntax, though I believe the account would be unaffected if one assumed instead that Mood features are extracted from T by fission in the morphology. As for Tense features themselves, I will assume T can encode (at least) two binary distinctions, [\pm past] and [\pm finite].²⁶ In addition to the Tense and Mood features, I assume the existence of Aspectual features selecting verbs bearing Halle and Marantz’s [+participle] and [\pm past] features. That is, I implement the equivalent of “affix hopping” by an Aspect feature selecting features of its complement V[+participle] node.²⁷ Corresponding to Chomsky’s (1957) AUX elements *have + en*, *be + en* and *be + ing*, I will have [+perfective] selecting V[+participle, +past], [+passive] selecting V[+participle, +past], and [+progressive] selecting V[+participle, -past].²⁸ I assume that there is only one verbal element associated with INFL in each clause; complex tense/aspect constructions like *John has been being slandered for weeks* involve participial Vs selecting subsequent Vs; the feature [+participle] can appear only on V, never on T (unlike for Halle and Marantz) nor on M. As for the Aspect features themselves, I can be agnostic as to whether they are located in a separate syntactic head or not; all I require is that they wind up as features of a V node before vocabulary insertion. Purely for concreteness, I assume that Asp(ect) occupies a V position and can take VP as an immediate complement, that V always raises to the Aspect head, and that V and the Aspect feature are fused in the morphology, since together they are never realized as more than one vocabulary item. Once again, purely for concreteness, I assume that the [participle] and [past] features are features of V itself in the syntax, rather than heading a ParticiplePhrase, and as a pair undergo fission from V in the morphology, to allow the items *-en* and *-ing* to be inserted next to the V stem.

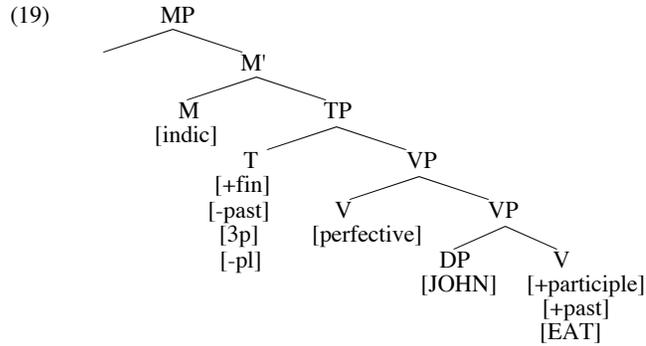
²⁵ By “subjunctive” I mean only the form that occurs in sentences like *It is important that John be on time*. A very different construction in English that is also sometimes referred to as a subjunctive is the counterfactual conditional, as in *If John were on time, we wouldn’t be in this mess*. I do not incorporate this latter type in my analysis, but I assume it should be treated as a separate mood.

²⁶ I assume that the combination [+past, -finite] occurs in at least some languages, in the form of a “past” or “perfect” infinitive, though nothing crucial hinges on this. I assume that this combination does not arise in English. Languages with simple (nonperiphrastic) true future tenses will require another feature, which I ignore in the present discussion, assuming that English *will* and *be going* futures are syntactically present tense (i.e., [-past]), with Mood and Aspect features, respectively, distinguishing them from simple present.

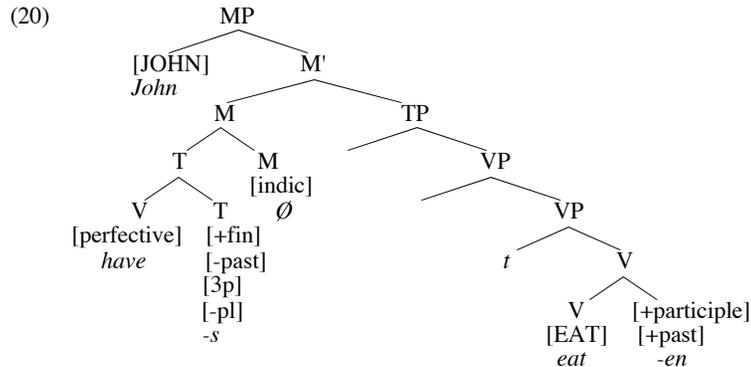
²⁷ I do not deal here with contrasts among the possible aspectual classes (passive, perfect, progressive) in which kinds of predicates they can be complements to—see Akmajian, Steele and Wasow 1979 for discussion.

²⁸ The three Aspect features themselves are merely labels; I make no claims concerning an appropriate feature system for Aspect.

The tree in (19) shows the syntax I assume for the sentence *John has eaten* prior to any movement.²⁹



The tree in (20) shows the structure at the point when vocabulary insertion occurs (head movement traces have been omitted to avoid visual clutter):



In (21) I summarize the possible feature values under each of the head types; I have annotated some additional properties that will become relevant shortly. Under each head I list the particular features that can be marked on that head and their possible values; I also indicate what selectional restrictions they place on the next lower head.

²⁹ I show AgrS not as a separate syntactic head but as features of T, following Chomsky 1995, contra Chomsky 1993. Nothing hinges on this, as long as AgrS and T are fused into a single node before vocabulary insertion.

- (21) a. *Mood*³⁰
 [indicative] [modal] [modal] [imperative] [subjunctive]
 possibility/
 capability/
 permission/
 necessity/
 etc.³¹
 selects T selects T selects T selects T selects T
 [±finite] [+finite] [-finite] [+finite] [-finite]
 [-past]
- b. *Tense / (Subject) Agreement*
 [±finite]
 [±past]
 ([1p/2p/3p])
 ([±plural])
 selects V
 [-participle]
- c. *Aspect (not a separate category in current implementation)*
 [perfective] [progressive] [passive]
 selects V selects V selects V
 [+participle] [+participle] [+participle]
 [+past] [-past] [+past]
- d. *Verb*
 [±participle]
 ([±past])
 (Aspect)

Let me briefly go through how the new pieces of this proposal, the Mood node and the removal of the [participle] feature from T, allow us to gain empirical coverage. By saying that [+participle] can only ever be a feature of V (it appears only in (21d)), and modals are not of category V,³² we capture the impossibility of participial *-ing* or *-en* on modals. We also correctly block them in complement types that are smaller than full clauses, if these contain VPs but no MPs, e.g., complements to causative and perception predicates:

- (22) a. *The teacher made her can/could sing.
 b. The teacher made her be able to sing.

³⁰ Kayne argues (contra Pollock 1989) against generating modals in INFL, based on the alleged badness of things like *He'll not do it* and *He'd not do it*, where *will/would* should be good if base-generated above NEG. While I do have the intuition that these sentence are not really part of my dialect, they do not seem un-English. I think they are simply beaten out by the alternatives with contracted negation (*won't/wouldn't*), which is generally preferred.

³¹ No claims about a possible feature system for modal semantics are intended.

³² I ignore here the treatment of the “semi-auxiliaries”/“semi-modals” *need*, *used (to)*, *dare*, and *ought*.

- c. *I saw her couldn't finish the race.
- d. I saw her be unable to finish the race.

By disallowing multiple MPs in a clause (while allowing multiple VPs because V can select for a V complement, as in (21c), while there is no recursion on M nodes), we capture the fact that multiple auxiliary verbs can co-occur, but multiple modals cannot. If it is right that MMs and *Why* root infinitives contain null modals, we can unify the impossibility of an overt modal in those clause types with the impossibility of modals in subjunctives and imperatives (see below), if [subjunctive] and [imperative] are alternatives to [modal] under M that cannot co-occur. By treating dummy *do* as an M rather than a V, we get the fact that *do*-support is impossible in gerund environments (**John doing not sing*, as compared to *John having not sung*) and perception and causative complements (**We made John do not sing*, **We saw John do not finish his dinner*), because these clause types lack M altogether. We also correctly block *do* from co-occurring with a modal. (*Do* in imperatives is discussed elsewhere.) As we will see below, co-occurrences of modals with infinitival *to* will be blocked because *to* is also an M element.

Before we can consider the vocabulary entries that are candidates for insertion in structures like (21), one more piece of the syntax needs to be considered, and this one is crucial. Following essentially the proposal in Pollock 1989, I assume that in English the highest V head of a clause can raise to T overtly iff it is semantically light. For my purposes, “semantically light” means having no features other than its category, except that it can pick up an Aspect feature. It will turn out that only forms of *have* and *be* can be inserted in such a V node, because all other verbs have “substantive content” features. I further assume that the highest “light” V can raise to INFL, but will do so only when the appropriate kind of M feature is present. To take the clearest example of this kind, since I will argue that modals are inserted under M, a modal there will not trigger the raising of V, correctly deriving *John can often/not be immature* rather than **John can be often/not immature*. Crucially, whether M will eventually be filled with (non-null) phonological material is *not* the factor that determines whether M allows raising. (Sentences like *Always be careful!* versus **Be always careful!* show that [imperative], which has no overt realization here, nonetheless disallows V-raising.) For present purposes, I assume that it is an arbitrary lexical fact that certain M features trigger raising and others do not (see the summary chart in the next subsection).

5.2.3 Paradigms: V-raising and morphological merger

I will now provide a catalog of the facts that this system is intended to capture, and then show how the vocabulary entries must be set up to derive them. It will be useful to subdivide sentence types into two groups, based on the structure relating the heads M, T and V at vocabulary insertion. (Hereafter, V refers to the highest V of a clause, but vocabulary insertion is not sensitive to

the syntactic location of a V node, only to the set of features in the (possibly complex) head of which it is part.) The two possibilities are that all three heads have united into one complex head, or that only M and T have united and V remains separate. It is irrelevant here whether T and M unite by syntactic head movement or morphological merger under adjacency, but I assume one or the other always happens. V can unite with this pair either by head raising (adjunction) in the syntax, or by merger under adjacency in the morphology if V has not raised overtly.³³

Let us begin with sentence types where V is united with T and M by raising overtly. Under my analysis, these are the cases exemplified in (23):

- (23) *Indicatives:*
- a. John has (not) cried.
 - b. John is (not) tired.
 - c. John is (not) singing.
 - d. John was (not) attacked.

Mad Magazine:

- e. John (not) tired?!
- f. John (not) a doctor?!
- g. John (not) singing?!
- h. ?John (not) been defeated?!

wh+adj

- i. What better than ice cream on a hot day?

Headlines:

- j. REAGAN (NOT) SUFFERING FROM ALZHEIMER'S
- k. DOLE (NOT) FRUSTRATED WITH VOTERS
- l. HILLARY (NOT) CRITICIZED FOR REFUSING TO TESTIFY

Questions:

- m. Was John (not) tired?
- n. Who has John (not) seen?
- o. What was John (not) watching?

The first thing to note in these examples is that the presence/absence of sentential negation makes no difference to the rest of the sentence.³⁴ The second thing to note is that a finite form of *be*, the empty V, must be spelled out in the indicatives and their question counterparts, but in the remaining sentence types empty V is not spelled out.

³³ I assume that adverbs intervening between T and V are invisible for this adjacency—see Bobaljik 1995 for discussion.

³⁴ There seems to be no way to add negation to the construction in (23i), for reasons that are not clear to me. David Pesetsky suggests the paraphrase should really be ‘What better thing is there than...’, which itself does not negate: **What better thing isn't there...*

I propose the following treatment of these cases. The vocabulary entries for V include, in addition to “contentful” verb stems, entries for the finite forms of *have* and *be*, whose insertion is conditioned on particular features that require support. If the conditions for inserting those items are not met, we must ensure that V is spelled out as zero, otherwise (23e–l) would not be derivable. But recall my earlier claim that a V with no features is normally spelled out as *be*. Thus, when conditions for insertion of inflected *be* and *have* are not met, we need to ensure that *be* is inserted in some contexts and zero in others. Once an environment for one of these is specified, the other can be a default entry. I am stressing the logic of this point because the choice of how to treat this case will turn out to be crucial to the acquisition story. The key observation about the distribution of *be* is that it has no positive specification: what *be* requires is the *absence* of T or M features within its complex head. If we assume that insertion rules cannot refer to the absence of features, then the environment of *be* is not directly statable. On the other hand, the environment for zero is given by the *presence* of other elements, in particular, a certain M within the same complex head. Thus, I suggest that the nature of the system forces us to posit a *blocking zero item* for V in the context of M; then the default spell-out of V can be *be*.

Consider now the situation where V is again in the same head with T and M, but this time V did not raise in the syntax, it underwent merger in the morphology. The sentence types in (24) represent this situation.

- (24) a. John (often) cries.
b. John (often) cried.

This arises when the highest V is contentful, hence cannot raise; there is no negation, so T+M and V will be adjacent at Morphological Structure; and there is no modal element in M that could take tense/agreement as an affix.

Now let us turn our attention to the situation when V fails to merge with T+M. First consider cases where no negation intervenes.

- (25) a. John can (always) cry.
b. John can (always) be tired.
c. John DID (always) cry.
d. (Always) be careful!
e. (Always) eat your vegetables!
f. John (always) be late?!
g. John (always) cry?!
h. (It is important that) John (always) smile.
i. (It is important that) John (always) be awake.
j. Why always be pessimistic? (cf. *Why be always pessimistic)
k. Does John cry?
l. Who does John like?

The placement of the VP-adverb in (25) indicates that the highest V is within VP, i.e., no raising has occurred, even for light *be* in (25b, c, d, g, j). I take this to mean that M must not allow V-raising in any of these cases. This seems clear enough in the case of overt modals (25b). For (25f) we can posit that the [imperative] Mood feature does not trigger raising. The same conclusion obtains for MM and subjunctive sentences (25g, h, i): each must involve a (zero) M element that does not trigger raising of *be*.³⁵ Finally, consider emphatic *do* as in (25c). In this example, the highest V is contentful, therefore could not raise in any case, so we cannot assess whether raising is triggered or not. All that this example shows by itself is that an inflected form of *do* can spell out an (emphatic) declarative T+M when no V has adjoined to them. Consider now **John DID be tired*. Under my analysis this is bad because V could have raised but did not; thus, it is the spell-out of an ungrammatical syntactic structure (to which vocabulary insertion rules have otherwise applied correctly). This means that the presence of [+emphatic] in T+M does not prevent V-raising. The corresponding good sentence *John WAS tired* indicates that emphasis can be spelled out as heavy stress on a V when V is merged with T+M. Thus, I treat [emphatic] as an element separate from M and T, whose presence can trigger *do*-insertion when there is no other host word inserted in M, via a support requirement like that of clitic *n't* (cf. Chomsky 1955). In (25k, l) we see overt I-to-C movement, which results in T+M and V not being adjacent at Morphological Structure, hence being unable to merge. Unmerged T features that require support trigger the insertion of a form of *do* in M.

The final set of facts corresponds to the situation where V and T+M have failed to merge and negation intervenes.

- (26) a. John does not cry.
b. Don't (you) cry!
c. Don't (you) be afraid!
d. John cannot cry.
e. John must not be tired.
f. John should not have eaten all the ice cream.
g. John not cry??!
h. John not be here??!
i. ?John not have eaten?!
j. (It is important that) John not be late.
k. (It is important that) John not have eaten.
l. (It is important that) John not cry.
m. Why not (always) be optimistic? (cf. *Why be not (always) optimistic?)

As we see in (26), what follows *not* is always a bare verb. I claim that this is the result of spelling out a V node that has not merged with T or M. This means that the “verbs” that precede *not* in (26)

³⁵ Thanks to Michel DeGraff for prompting me to deal with the problem of subjunctives.

cannot be of category V, since there is no V slot in which they could have been inserted. (Contra Halle & Marantz 1993, I assume that an empty V node is not inserted in the morphological component.) In each case, the highest V of the clause has not raised to T; in (26a), NEG also blocks morphological merger of V and T+M; in all the other cases, we have already established that features of M do not trigger raising. If T+M uniformly cannot merge with a V across an intervening *not*, then it must be the case that the V following *not* has no inflectional features in any of the examples in (26). Thus, for example, in (26j) *be* is a bare V, not a V with subjunctive inflection that happens to be zero. What is wrong with **John did not be tired* is that the highest verb, *be*, is semantically light, yet has failed to raise, but the feature in M is [indicative], which allows V-raising; thus, the bad version would be the spell-out of a structure that the syntax cannot generate. What is wrong with **Cry not!* and **Be not afraid!* is that V has raised overtly, which is syntactically impossible because [imperative] M disallows all V-raising. What is surprising in the negative imperatives is the presence of *do*, given that [imperative] M was happy with no overt spell-out in the positive imperatives. But notice that imperatives can have overt subjects, and when they do, the difference between positive and negative imperatives becomes clear: in positive imperatives, the subject precedes the verb, but in negative imperatives the subject follows *do*. Since the subject is always above VP (*Don't you ever lie to me again*, **Don't ever you lie to me again*), I take these facts to show that negative imperatives involve I-to-C movement while positive imperatives do not. Imperative M features themselves never require support, but I-to-C is followed by the insertion of *do* into M to support clitic *n't* and/or Tense/Agreement. Positive imperatives require no overt T+M marking unless some other feature, in particular, [emphatic], requires support, in which case we can get (*Everyone*) *DO be careful!* The concatenation of *do* and *be* here, which is impossible in emphatic indicatives (*I AM tired*, **I DO be tired*), indicates that V and T+M need not merge even in positive imperatives.

The final set of facts needed to motivate the vocabulary entries concerns infinitival *to*. Here I will follow the standard story (cf. Emonds 1976, Chomsky 1986, Pollock 1989, contra Pullum 1982) that *to* is somehow generated under nonfinite INFL, though certain word-order facts make this less than trivially obvious. In particular, *to* likes to follow *not* and VP adverbs:

- (27) a. John wants Mary not to leave.
 b. ??John wants Mary to not leave.
 c. John believes Mary never to lie.
 d. ?John believes Mary to never lie.

This might make one want to treat *to* as a verbal clitic or affix, spelling out some feature adjoined to V, but I will instead treat it as inserted under T+M, subject to some local reordering operation.³⁶ In support of this choice, I note that *to* is obligatory in VP ellipsis, like INFL features and unlike features of V:

- (28) a. John wants Fred to get married, and Bill wants Sue *(to).
 b. John has gotten married, but Fred hasn't (*gotten/*been/*done).³⁷

Also, in root infinitivals with *to*, the expected word order seems to emerge more clearly than in complement clauses:

- (29) a. Ah, to always have more money than you need! (cf. ??Ah, always to have...)
 b. Oh, to not have to worry about money!

The following chart summarizes which M features allow V-raising and which do not.³⁸

(30)	<i>Raising</i> indicative Headline realis MM <i>what Ø better</i> <i>what Ø to do</i>	<i>No raising</i> subjunctive imperative irrealis MM <i>to</i> overt modals <i>why Ø (not)</i>
------	--	--

5.2.4 Vocabulary entries

My proposal for the vocabulary entries is given in (31).

³⁶ This is an operation that we seem to need anyway to handle alternations like *John often was there*, *John was often there*.

³⁷ Judgments for North American English only.

³⁸ Ken Wexler points out that a possible generalization here is that raising happens with realis predicates and not with irrealis predicates. Exploring that possibility in full detail is beyond my scope here. There are some potential hurdles to be overcome. For instance, it would have to be that *What better* really means 'What is better...', and that *What (am I) to do* is in some sense realis. On the other side, as will be noted in chapter 6, it is not true that all uses of *to* are irrealis. Nonetheless, one obviously hopes that the division in (30) is not arbitrary.

c. *Tns/AgrS*

[3sg]	
[-past]	<—> -s / ___ [indicative]
[+finite]	
[+past]	<—> Ø / {was, were, ... } ___
([+finite])	
[+past]	<—> -ed ⁴¹
([+finite])	
[]	<—> Ø

Several aspects of this system require further comment. (31a) shows how “dummy” uses of *do* are inserted under M, and how infinitival *to* is inserted when adjacent to a [-finite] tense. These items are conditioned on a [+affix] element being part of the same word; [+affix] is a purely morphological diacritic that plays no role in the syntax. I return below to a list of which items have this property.

(31b) shows the treatment of the V slot. A contentful verb stem is always inserted if V has matching “real” semantic features. If it does not, then auxiliary *have* will be inserted to realize perfective aspect if present. Otherwise, various finite stems of *be* are inserted if a [+affix] element is part of the same word, the choice being governed by features of adjacent T. If the word contains no [+affix] but does contain a modal feature under M, the form of the verb will be zero. I assume crucially here that [+modal] is visible as the environment for this entry only if it is part of the same complex head as the V node being filled, to capture the fact that empty V is not zero when it has not merged with T+M. Finally, the default V entry is the stem *be* itself. Note that *be* will be inserted in participial environments as well as truly featureless V environments (e.g., *John is be-ing silly*), since none of the more specific V entries will be applicable in that environment. There is thus no need to make explicit reference to the disjunction of [+participle] and bare V as the environment for *be*. Similarly, we need no explicit reference to [progressive] or [passive] in the entries for finite forms of *be*: they are already covered by the same entries as the nonaspectual uses.

The entries for fused Tense+AgrS mostly follow Halle and Marantz, except that an additional feature is needed to block the insertion of *-s* in nonindicative clauses (**He mays*, etc.). Fused Tense+Agr is affixal even when phonologically null, as pointed out by Halle and Marantz. If an ap-

⁴¹ I ignore irregular past tenses other than zero—see Halle and Marantz for a treatment. I have not specified indicative mood as a condition on *-ed*, since *-ed* can appear on modals, unlike *-s*. I assume that [+past] is semantically incompatible with imperatives and subjunctives, but if that turns out to be untenable, the environment of *-ed* could be restricted in the morphology to prevent overgeneration.

propriate (phonologically overt) host exists as part of the same complex head, T+Agr will be affixed to that element (e.g., an overt modal). If not, if T+AgrS can undergo morphological merger with an appropriate host adjacent on its right, it will do so and be affixed to that element. This sequence of events must happen before vocabulary insertion, in order that *do*-support can be sensitive to whether T+AgrS has found a host for affixation or not. We will also need the (reasonable) assumption that the combination of a [+affix] element and an element that is a possible host for it yields a category that is no longer marked [+affix]. This is needed to ensure that M will not be filled when V already suffices to support T+AgrS, so that we get *He cries* and not **He do(es) cries*.

It should be clear that ensuring correct items are inserted under V and M requires careful consideration of which elements are specified as [+affix]. I assume that this is a marked value which a learner assigns to elements only after encountering some positive evidence for doing so. Unsurprisingly, I assume that the contracted negation form *n't* is [+affix], as are the T/AgrS suffixes *-s* and *-ed*. Halle and Marantz point out that the phonologically null T/AgrS suffix also behaves like an affix, in that it triggers *do*-support when it cannot be merged with a verb. However, things become less obvious when we consider clause types beyond those covered by Halle and Marantz. For instance, consider subjunctives, where I argued that there is no overt V-raising, and yet we see no overt material preceding negation (*It is important that he not be late*).⁴² One of only two conclusions is therefore possible: either the T/AgrS features in the subjunctive do not require support, i.e., are not [+affix], or the phonologically null [subjunctive] M head suffices to support the T/AgrS features.⁴³ The latter approach would require us to abandon an otherwise potentially exceptionless generalization that [+affix] elements require overt material to support them. I therefore take a variant of the former route. T+AgrS is always [+affix], but since *do*-support is restricted to finite environments, no overt material will be inserted to support T+AgrS in subjunctives. This leaves a stranded [+affix] element with no host; I assume it is simply deleted.

5.2.5 Implications for child English

Having laid out the details of my proposal for the adult INFL system, I can explain how we can account for differences in the child’s system in a minimal way. I take the following to be the

⁴² Also, since subjunctive subjects are always NOM in English, subjunctive clauses must have Accord, and therefore, AgrS has featural content here. Thus, it cannot be that the T/AgrS head is completely missing, or even completely (featurally) empty.

⁴³ Either way, this situation shows that the requirement that all clauses (indicative, subjunctive, imperative, and modal) must contain a verb cannot be reduced to the need for some INFL element to be supported by a verb. Therefore, I have implemented the verbal requirement as selection by Tense.

symptoms of the OI stage that we wish to account for (all happen optionally): omitting 3sg *-s*; omitting past tense *-ed*; omitting finite forms of *be*; omitting dummy *do* with uncontracted *not* and in questions (Klima & Bellugi 1966); using nonagreeing *do* (e.g., *Him don't like me*); omitting infinitival *to* (Roberts 1996).⁴⁴ If we assume that English children in the OI stage have the entire INFL system learned correctly as described above, we can give all these phenomena a unified explanation simply by appealing to the possibilities of omitting AgrS, Tense, or both.⁴⁵ Obviously, *-s* and *-ed* will not be produced if the features [3sg] and [+past], respectively, are missing from the syntactic tree. Non-agreeing *do* will arise (in questions) just like main verbs with missing *-s*, when only the [3sg] features are omitted. What about the other omissions? The key idea for making these work is the observation that, since children have not heard adults saying T without AgrS or vice versa, they have no reason to assume that these items are [+affix]; all they know is that fused T+Agr is [+affix].⁴⁶ If the unmarked option is to assume nonaffixal vocabulary entries (cf. Pesetsky 1992), then the triggering environment for the omitted “supporting” elements will not exist when one or other is underspecified, so the child’s grammar will require that they be left out.

This much will explain the absence of *do*-support and the absence of finite forms of *be*. But if *be* is the default V item, and children have learned it, why should it not appear when conditions for inserting the finite forms are not met? I propose that the answer to this question is that *be* is blocked by a zero form, which is the realization of V in the context of a Mood head, as shown for adults in (31b).⁴⁷ Assuming children have raising of light verbs in their syntax, like adults, empty V will indeed be merged with M in their sentences where an adult would produce an inflected form of *be*. This assumes crucially that V raising occurs even though Tense and/or AgrS features are

⁴⁴ See Phillips 1995 for reasons why he does not find it appropriate to assume that these phenomena *ought* to be unified. My analysis is in part an attempt to respond to his conceptual arguments from the acquisition of other languages, by showing that within the grammar of English many of them often pattern together. He also appeals to the empirical observation that the time course of acquisition of dummy *do* in obligatory contexts seems to be different from that of main verb inflections, though no data are cited. Even if *do* does come in later and faster than *-s* and *-ed*, that does not show that the syntax underlying their omission is different; it could simply mean that some additional factor is differentially affecting their production.

⁴⁵ Given the features for Tense in (21b), we need to be more careful about what absence of Tense is supposed to mean. I assume that, at least in English, specification of [±past] implies [+finite], absence of any value for [past] implies [–finite], and what children can omit is just the [past] feature.

⁴⁶ I assume crucially that children by the age in question have learned that T and AgrS fuse in English. If this had not been learned, we might expect to find past *-ed* and 3sg *-s* co-occurring in examples like *The cow moo-d-s*. Such errors seem to be completely unattested, even when they would be relatively pronounceable.

⁴⁷ Alec Marantz suggests an alternative for null *be* utterances with NOM subjects: their syntax might be completely adult-like, but children might think there is a null clitic form of present tense finite *be* in English, since its clitic forms in the adult language are not very salient.

missing. (This is consistent with my claim that it is M features that determine whether raising happens or not.) It also assumes that OI utterances can have a Mood feature that triggers raising.⁴⁸ For this account to go through, it would have to be the case that children have learned the vocabulary entry for null V in the context of M. This means that they would have to hear some instances of at least one of the sentence types where this item occurs: a copular MM, the *What better* or *What to do* constructions, or conceivably, one of the forms of Abbreviated English.^{49,50} It would obviously be of interest to examine adult utterances in transcripts of adult-child interaction to see whether any of these occur with some frequency. My suspicion is that copular MMs might well occur in conversations between adults that children hear, e.g.,

- (32) Father: Did you hear? John just got a job as a chef.
 Mother: John a chef?! He can hardly make toast.⁵¹

At any rate, the hypothesis that children hear null Vs is certainly testable. If it turns out that they do not, then we would need a theory in which their missing copulas could emerge from a child grammar that lacked the zero entry for V + M but still had *be* as the default V entry.^{52,53}

⁴⁸ Plausibly, this could be [Indicative], consistent with the claim that OIs can have indicative meanings (as well as null modal meanings).

⁴⁹ While headlines themselves are presumably not spoken to children, other abbreviated registers might be.

⁵⁰ Ken Wexler suggests an alternative whereby children start with only a zero entry for empty V, and then when the default stem form *be* itself is acquired, features are added to the null item so that it will not block *be*.

⁵¹ One worry might be that to know there is a null V in this utterance, it is crucial to treat the two DPs as part of one sentence. Mother could also have said, *John? [pause] A chef? . . .*

⁵² Such an alternative has been suggested by Alec Marantz (p.c.). His proposal makes important use of the fact that T and AgrS are fused in English, a property that seems to have deep consequences for the syntax of English and other Germanic languages where it holds (see Bobaljik 1995 for much discussion). Assume that the requirement for a V in every clause is enforced by a feature checking requirement of T, such that if T is missing, the requirement is no longer enforced. The suggestion is that when features of either T or AgrS are absent at the point where the morphology wants to fuse the two of them, some sort of adjustment must take place—neither set of features can survive on its own. One way to repair this situation would be to delete the orphaned set of features in the morphology. Furthermore, in situations where V has adjoined to T in the syntax, forming a complex T head, deletion of T will also imply deletion of that V, which derives the absence of *be* in child copular clauses. Thus, if the syntax contains AgrS but no T, there will be no empty V in the syntax of copular sentences, hence no trigger to insert any form of *be*, including *be* itself; if the syntax contains T but no AgrS, then V can delete along with T in the morphology, again leaving no trigger for insertion of *be*. Obviously if both T and Agr are missing in the syntax, V will also not be generated. As described so far, this approach makes different predictions from my proposal. To take the most important case, it predicts that a syntactic tree with [+past] Tense but no Agr will yield a child utterance with no past tense morpheme, since T deletes in the morphology under these conditions. On my account, where T features can survive to vocabulary insertion without Agr features, conditions for insertion of *-ed* will be met as I have formulated them, predicting that a verb with past tense marking will surface. Since Agr was missing in the syntax, the subject of this utterance must be non-NOM. Thus, my account predicts the existence of non-NOM subjects with verbs inflected with *-ed*, while the alternative predicts the nonexistence of such utterances. As we will see below, it is not yet very clear empirically what the fact of

5.2.6 Summary

Let me summarize the consequences of this analysis of English verbal inflection that will be crucial in the next section:

- 1) 3sg *-s* is not inserted unless both Tense and AgrS are (appropriately) specified;
- 2) *-ed* is inserted to mark past tense, insensitive to AgrS features;
- 3) Modals are inserted to realize certain semantic features, insensitive to AgrS features;
- 4) Finite auxiliary *be* and *do* and infinitival *to* are inserted only in the presence of the feature [+affix]. If, as I suggest, Tense features without AgrS and AgrS features without Tense are not [+affix], these combinations will not trigger insertion of any of those elements. Under such conditions, a zero morpheme can block insertion of the stem *be* under certain circumstances.

In the next section I turn to testing the predictions that my proposals make for co-occurrence of verbal forms and case marking in acquisition.

5.3 Patterns of child case errors

5.3.1 English

5.3.1.1 Normal children's production

5.3.1.1.1 Previous findings

Subject/Object Asymmetry

The fact that the frequency of case errors in child English is asymmetrical, with subject errors being frequent and object (of V or P) errors virtually non-existent, was noted in print as early as Gruber (1967) (see Tanz 1974 for a review of early work, including both naturalistic observa-

the matter is. For now, I continue to assume my original proposal, but this alternative should be kept in mind as a viable fallback.

⁵³ I consider it implausible that two-year-old English children do not have this entry for *be*, since they must hear some number of copular imperatives like (*You be quiet!*) It also seems implausible that the child believes English is like Russian or Hebrew in having a null copula in general, even just in the present tense, given that she is hearing overt present copulas all the time. Another worthwhile project would be to see where the form *be* occurs in child speech at this stage, in order to assess whether children have the adult lexical entry for it. In particular, one should attempt to determine whether they ever use it in contexts where it is semantically empty, as opposed to contexts like those discussed by Partee (1977) where it means 'act'.

tion and a repetition experiment).⁵⁴ Subsequent studies have consistently reported the same asymmetry,⁵⁵ e.g., Aldridge (1989), Budwig (1995). Powers (1995a, b) analyzed 1sg pronouns for five CHILDES corpora: Eve (1;6.0–2;3.0), Naomi (1;6.29–3;8.19), Nina (1;11.16–3;3.8), Adam (2;3.4–3;11.0) and Sarah (2;3.5–3;11.29). Notice that most of these were tracked well past age three, to a point where case errors were likely rare to nonexistent. Thus, the absolute numbers are somewhat distorted, but still she confirms the basic asymmetry: there was only one use of *I* in object position out of 12,956 uses of *I* and 20,104 1sg pronouns altogether (33), while 2% of the subjects were *my* and 1% *me*.

(33) fell down # see I. (Adam 2;6.3)

Pensalfini (1995) also documents this general asymmetry for all of Eve's pronouns, as well as Peter's (Bloom 1970).⁵⁶

Table 1
Peter's pronoun case distribution, 2;0–2;8 (Pensalfini 1995)

Correct form	Child form			% of obligatory environments
	NOM	ACC	GEN	
NOM	1688	41	39	95%
ACC	2	348	1	99.1%
GEN	0	2	513	99.6%
% Correct usage	99.9%	89%	93%	97%

Table 2
Eve's pronoun case distribution, 1;6–2;3 (Pensalfini 1995)

Correct form	Child form			% of obligatory environments
	NOM	ACC	GEN	
NOM	1390	23	13 (excludes <i>her</i>)	97%
ACC	7	284	1	97%
GEN	38	0	440	92%
% Correct usage	97%	93%	97%	96%

⁵⁴ In contrast, Leopold (1939, 1949) observes that his daughter Hildegard produced both subject and object errors. This could well be a result of the fact that Hildegard was learning German as well as English.

⁵⁵ Occasional reports of isolated overextensions of NOM can be found, e.g., Chiat (1981).

⁵⁶ Eve's data show that NOM forms are used correctly more often than ACC (and most NOM misuses are not in object positions), but there is almost no difference in the rate of errors in subject (1.6%) versus object (2.4%) position.

To my knowledge, Tanz (1974) was the first to suggest that this asymmetry was related to the fact that ACC occurs in a wider range of syntactic environments than NOM in English, the same idea that forms the intuitive basis of the analysis proposed here.

The largest study of child English pronoun usage to date was carried out by Rispoli (1994, 1995) (using data collected by Hart (1991)), who tabulated pronoun occurrences and their position for 12 children each transcribed from ages 1;0 to 3;0. Unfortunately, the pronoun distributions are not as informative as one might wish, since Rispoli does not distinguish forms produced before contrasting forms had been acquired from forms produced as part of concurrent alternations (see chapter 3 for methodological discussion). He also fails to distinguish between ACC and GEN environments, lumping them together as ‘nonsubject’. Nonetheless, if we assume that for a major part of the children’s given age range they were producing all case forms of each pronoun, we can reach some tentative conclusions from these figures. A major contribution of this work is to quantitatively substantiate the use by English children of GEN pronouns, particularly *my*, in subject position, first observed to my knowledge by Huxley (1970). Strikingly, all 12 children used *my* as a subject, and for 10 of them it constituted at least 10% of their 1sg nonNOM subjects (Rispoli 1995). (See below for discussion.) I have compiled two of Rispoli’s charts in order to make certain patterns more salient. Let us consider each column of table 3 in turn.

Table 3
12 children’s pronoun case errors in English (Rispoli 1994)

Distribution	Pronoun features			
	1sg	3sg fem	3sg masc	3pl
NOM: correct	11,791	232	831	444
# of environments	12,788	424	866	468
incorrect	0	3	30	19
ACC+GEN: correct	4992	345	387	638
# of environments	989	192	36	25
incorrect				
ACC: correct	1,765	233	211	592
in NOM environment	798	can’t tell	36	24
GEN: correct	3,186	109	141	26
in NOM environment	191	can’t tell	0	1
Overall % of obligatory environments	92%	55%	96%	95%
% Usage errors	0 <i>I</i> > 31% <i>me</i> > 6% <i>my</i>	1% <i>she</i> > 36% <i>her</i>	3% <i>he</i> > 15% <i>him</i> > 0% <i>his</i>	4% <i>they</i> 4% <i>them</i> 4% <i>their</i>

The 1sg column shows that *I* was produced over 11,000 times, and never outside subject position. On the other hand, both *me* and *my* were used incorrectly quite a lot (798 and 191 times,

respectively). 4951/4992 ACC and GEN environments contained the correct pronoun form; since *I* was never used incorrectly, we can conclude that the remaining 41 cases involved ACC for GEN or GEN for ACC substitutions. We can thus compute that in subject position, about 92% of pronouns were NOM, 6% were ACC, 1.5% were GEN, and 8 environments were unaccounted for. In ACC and GEN positions, we cannot determine the precise percentages because the number of environments is not given, but we can deduce that since there were only 41 errors in those environments (none of them NOM), there must have been at least 97.7% ACC in ACC environments, and at least 98.7% GEN in GEN environments. Thus, there is a clear asymmetry both in terms of which forms were incorrectly used (ACC and GEN but never NOM), and which environments contained errors (substantially more subject than object or possessor environments). Performing the same calculation for 3sg masculine, we find in subject position 96% NOM, 4% ACC, 0% GEN; in object position, at least 88% ACC and 0% GEN; and in possessor position at least 82% GEN. For 3pl, in subject position 94.7% NOM, 5.1% ACC, 0.2% GEN; in object position at least 97% ACC (and 0% GEN); in possessor position, at least 58% GEN (and 0% ACC). Finally, for 3sg feminine we cannot distinguish ACC and GEN errors, but we do know that only 55% of subjects were NOM, the other 45% *her*; in object position at least 99% were *her*, and in possessor position at least 97% were *her*. Thus, the overall pattern that emerges is that the rate of nonNOM subjects varies from 45% for 3sg feminine, to 8% for 1sg, to 5.3% for 3pl, to 4% for 3sg masculine. However, for phonological reasons the number of GEN subjects for 3sg masculine and 3pl may be underestimated here (see below); even so, there is a whopping discrepancy between *her* errors and all other subject errors, perhaps related to relative frequencies in the input (see figures below). Most importantly, however, in three of the four paradigms, object position errors are less frequent than subject position errors; in the fourth we cannot be certain. Pooling across the paradigms gives us the totals in Table 4; however, this is not terribly meaningful since the 1sg numbers swamp all others.

Table 4
Summary of 12 children’s pronoun case usage in English
(Rispoli 1994), ages 1;0–3;0

Correct form	Child form		% of environments
	NOM	non-NOM	
NOM	13,298	1,242	91%
non-NOM	52	6,263 correct 53 errors	98%
% correct usage	99.6%	83%	94%

I should emphasize again why these result must be taken with a large grain of salt, however. At age 1;0 it is quite possible that a child might have only a single form for a particular per-

son-number-gender combination (e.g., *me* for first person singular), and use that form out of necessity in every syntactic environment. Such errors ought not to be attributed to the syntax when the morphology will not let the child get it right. In order for us to test for a syntactic contrast, it must be expressible.⁵⁷ Conversely, by age 3;0 many children have stopped making case errors altogether, so lumping in large numbers of correct uses from that stage might overinflate how good children actually are at making contrasts before they master them. (The latter problem likely explains why other authors have found much lower subject case error rates for English, e.g., Powers, as reported above; Valian (1991) reports error rates pooled for several groups of children and several pronoun forms at 2% or less of total subject pronoun usage.)

An important question about GEN subjects in child English is how general the phenomenon is across person and number: the only GEN errors that have been quantitatively documented are 1sg *my* (Vainikka 1994; Rispoli 1994, 1995) and Rispoli's one instance of *their*. One would feel more confident in treating this as GEN overextension rather than a lexical quirk if it also occurred with other pronouns. Of course, there is no direct way to test this for 3sg feminine since the form is homophonous with the ACC form, though one may be able to make a guess based on relative frequencies (see below). However, there is at least suggestive evidence that GEN subjects are more general. For instance, the child Sophie, from whom selected transcripts are excerpted in Fletcher 1985, apparently uses *our* as a subject, and her mother seems to interpret it as meaning 'we':

- (34) *Sophie* (from Fletcher 1985)
- a. our play that on floor (2;4.28)
 - b. look our found that other bit (3;0.4)
 - c. can our do it again (3;0.4)
 - d. once our came back from somewhere (3;0.4)

Unfortunately, it is impossible to determine which features might underlie *our* in Sophie's grammar, since there are no instances of *we* or *us* in the two samples in question whose distribution it could be compared to. Nonetheless, the utterances in (34) at least suggest that 1pl GEN subjects are possible. As far as I know, there are no quantitatively attested claims that *his* occurs as a subject in child English. However, Vainikka (1994) suggests that this might be because *his* is mistranscribed as *he's*, since child phonology is imperfect and/or transcribers find that *he's* sounds much more plausible in subject position of a sentence. It is hard to assess the likelihood of this without having access to tapes on which the transcriptions were based, but again, I will provide some dis-

⁵⁷ The absence of contrasts in the very young child's lexicon can probably explain an initially surprising finding of Powers's for English, namely that case errors emerge in child production only after a period of correct usage; quite possibly, the child did not have the lexical resources to produce subject case errors at first. But if we are interested in the child's *syntax*, error rate is meaningless if the child did not control any lexical items with which an error could have been produced. Thus, Powers's claim is as yet unsubstantiated.

tributional evidence that Vainikka may well be correct in her conjecture. Notice that the same problem would arise even more strongly with *their* versus *they're*, and the full homophony of *your* versus *you're* and *its* versus *it's*. Thus, even if children were actually producing GEN pronoun subjects in all person-number combinations, we might not expect to find any more reflection of them than what has been reported for *my*. Given the complete absence of any grammar-based reason why GEN subjects might be generable only in the first person singular for young English speakers, I will assume that something along the lines of the mistranscription suggestion is true.

Finite/Nonfinite asymmetry

There has been occasional discussion of the question of whether subject case correlates with the finiteness of the verb in child English. Perhaps the earliest attempt at a grammatical account of nonNOM subjects in child English was proposed by Gruber (1967), who noted that when Mackie (2;2-2;5, Bullock et al. 1964) produced a copular sentence with a non-NOM subject, the copula was always omitted (4/4 instances, listed in (35)), whereas with a NOM subject the copula could be present or absent (36).⁵⁸

- (35) a. him bear
 b. him bad dog
 c. them eyes
 d. me no bear
- (36) a. He dog
 b. He's dog
 c. He's a dog
 d. He is a dog.

In noncopular sentences, both NOM and ACC subjects appeared, perhaps also with a systematic distributional difference. Gruber cites six examples of each type, which interestingly include two instances of *him* and missing 3sg *-s*, one instance each of *he* with and without *-s*, and no instances of *him* with *-s*; he also cites one instance of a nonNOM subject with a past tense verb form, *me caught it*, which was followed by *me catch it*. Amazingly, this tiny sample exemplifies most of the generalizations that have been uncovered in quantitative work 30 years later, as we shall see.

With regard to the question of whether nonNOM subjects occur with overt inflected verbs, as far as I know, only one quantitative assessment of this claim on an utterance-by-utterance basis is in the literature (but see Vainikka 1994 and Pensalfini 1995 for some relevant data). Loeb and Leonard (1991) looked at third person singular subject pronouns and verbs that could take *-s*

⁵⁸ It is unclear whether the examples in (36) were verbatim examples or merely illustrations of the general pattern Gruber observed.

(auxiliary and copular *be* and main verbs), and found the pattern in Table 5, pooled across their eight subjects. Loeb and Leonard observed that subject case errors were very rare when the verb was marked for third singular *-s*, suggesting that INFL is somehow involved. In fact, when one exceptional child is removed, ACC subjects represent less than 1% of finite clause subjects (table 6).⁵⁹ Quite possibly, this apparently exceptional child did not have a case contrast for one gender of pronoun (i.e., either never produced *he* or, more likely, never produced *she*); if so, uses of *her + -s* do not counterexemplify the generalization (see §3.2.1). (Unfortunately, one cannot determine from Loeb and Leonard's presentation what each child's productive inventory was.) Notice that NOM subjects occurred mostly with inflected verbs but also with some uninflected verbs.

Table 5
Finiteness versus case for Loeb and Leonard's (1991)
8 normal subjects, ages 2;11–3;4

Subject	Verb form	
	Inflected	Uninflected
<i>he + she</i>	503	95
<i>him + her</i>	26	58
Percent non-NOM	5%	38%

Table 6
Finiteness versus case for 7 of
Loeb and Leonard's (1991) normal subjects

Subject	Verb form	
	Inflected	Uninflected
<i>he + she</i>	436	75
<i>him + her</i>	4	28
Percent non-NOM	0.9%	27%

Sporadic apparent counterexamples to this generalization, i.e., instances of nonNOM subjects with overtly agreeing verbs, have been reported in the literature (e.g., in Huxley 1970, Radford 1994, Aldridge 1989, Rispoli 1995), some of which will be mentioned below, but in no case that I am aware of were actual numbers of occurrences relative to numbers of environments reported, so we cannot assess whether of any of these represent a genuine challenge to the generalization noted by Loeb and Leonard.

⁵⁹ Loeb and Leonard note a significant correlation between case and finiteness but do not observe that nonNOM + finite, unlike the other three cells, is essentially empty.

5.3.1.1.2 New corpus data

The purpose of performing additional counts of English children's subject case errors was to attempt to answer several questions left open by the studies cited above. Most importantly, does the pattern that Loeb and Leonard found generalize beyond their eight subjects? Does it generalize to other inflections besides 3sg *-s*? Does it generalize to pronouns other than 3sg? Concerning the difference between tables 2 and 5, how rare are instances of nonNOM + finite verbs? On the issue of GEN subjects, do these co-occur with ACC subjects for a given child at a given stage? If so, is there any difference in their distribution?⁶⁰ Finally, do the answers to these questions differ if one restricts the focus of attention to children who use all the relevant pronouns correctly in positions other than (clausal) subject, i.e., can we separate the syntax of these errors from any possible differences between child and adult morphology? (See chapter 3 for further motivating discussion of this last point.)

Another point that one would like to establish regarding children whose case errors we shall study is whether they have correctly determined that the default case for English is ACC, since if they have not, we cannot explain any ACC subjects they might produce by appeal to the notion of default case. To my knowledge, the only previous work that has attempted to assess children's knowledge of default case was that of Abdulkarim and Roeper (1996), who found in an experimental elicitation task that children ages two to six answered subject *wh*-questions either with *Me* or with *I did/can*, but never with *Me AUX* or *I*. Unfortunately, we have no data on what these children do in other syntactic environments. Thus, I also tabulated case usage in default environments in the corpora.

In some sense, the most convincing evidence that English children know ACC is "special" is the very fact that they use it so readily as a sentential subject, where they never hear it. This is all the more striking since, as Phillips (1995) points out, ACC is *not* the most frequently occurring case in English text (Table 7), although *her* is slightly more frequent than *she*;⁶¹ thus, children's ACC errors cannot be characterized as mimicking the most common forms in their input. (Indeed, the ACC forms are generally not even the most frequent in children's own output.)

⁶⁰ Budwig (1995) attempts to answer a related question, namely, are there any differences in the distribution of *I*, *me*, *my*, and other forms of self-reference for children learning English? Unfortunately, she does not address this question specifically for the use of these words in subject position; indeed, the counts she reports do not distinguish the use of these pronouns as possessors versus as DPs unto themselves, nor does she consider verbal inflection at all.

⁶¹ Although the figures in table 7 represent written text addressed to adults, it would be highly surprising if these whopping asymmetries in distribution were reversed in adult speech to children. This could of course be verified by performing counts on adult utterances in CHILDES transcripts.

Table 7
Occurrences of pronoun forms
in parsed Brown corpus (Francis & Kuçera 1982)

<i>I</i>	5132	<i>me</i>	1173	<i>my</i>	1306
<i>he</i>	9500	<i>him</i>	2572	<i>his</i>	6891
<i>she</i>	2857	<i>her</i> (object)	1107	<i>her</i> (poss.)	1925
<i>we</i>	2628	<i>us</i>	668	<i>our</i>	1233
<i>they</i>	3621	<i>them</i>	1774	<i>their</i>	2666

In the rest of this subsection I describe the results of corpus counts from three English child transcripts, and then describe an experiment designed to help resolve some questions left open by these data. See chapter 3 for general points about how the corpora were analyzed.

As I have stressed already in this study, key to interpreting child subject case forms is knowing the distribution of the various forms in other syntactic positions in the same transcripts. Thus, it is important to note that for all three children, while we find a mixture of case marking on subjects, none of them is confused about the function of the NOM forms: these virtually never occur in object or possessor positions. Similarly, the possessive pronouns are almost never used in object position by any of these children, and the object pronouns appear only occasionally in possessor positions. (See tables below.) The point is that nonNOM subjects cannot be attributed to confusion over which form spells out which case feature—these children have already figured that out.

Finally before turning to the data themselves, some comments on the rationale behind the categories of verbal inflection used in the tables are in order. These were divided into three categories: agreeing, ambiguous and uninflected. As will be explained in more detail below, my theory predicts a three-way contrast in the rate of nonNOM subjects with these three categories of forms (fewest with agreeing forms, most with uninflected forms). Uninflected clauses are those with a bare main verb stem missing a required affix, or a missing auxiliary or copula. Ambiguous forms show the presence of some inflection, but under the analysis in §5.2 are claimed not to differentiate presence and absence of agreement features. For English, I argue that modals and all past tense forms have this property. Finally, agreeing forms are claimed to signal the presence of agreement features unambiguously, and hence should never allow nonNOM subjects.

Utterances where the appropriate adult form was used but was ambiguous between an inflected and a bare stem form, e.g., *I go*, were omitted from the analysis. Included in this last category were forms such as *wanna* and *gotta*, when used as the first verb of a clause (i.e., *I gotta* but

not *I've gotta*), because these cannot show any inflectional contrasts and might well be being used as quasi-modals or portmanteau forms including inflection.

Nina

I will now describe the findings from the Nina database (Suppes 1974); as we will see, most of the findings here also hold of the other transcripts I studied. (See Vainikka 1994 for numerous examples of Nina's pronoun subject utterances.) Tables 8 and 9 show the overall distribution of pronoun forms in the files that were tabulated. (Note that counts started in different files for the different pronoun categories—as discussed in chapter 3, these distributions are only meaningful once the child has started producing a case contrast for the relevant person-number-gender features.) These tables show that Nina knows which pronouns express which features, and that default case environments must contain ACC forms. (Examples of the default case environments are given in (37).)

Table 8
Nina's 1sg pronoun distribution (files 3–31, 1;11.29–2;5.28)

<i>Form</i>	<i>Environment</i>				% correct uses
	<i>Subject</i>	<i>Complement</i>	<i>Possessor</i>	<i>Default</i>	
<i>I</i>	903	0	0	0	100%
<i>me</i>	15	171	29	3	80%
<i>my</i>	122	3	569	0	82%

Table 9
Nina's 3sg pronoun distribution
(masculine: files 2–31, 1;11.24–2;5.28; feminine: files 12–31, 2;1.29–2;5.28)

<i>Form</i>	<i>Environment</i>				% correct uses
	<i>Subject</i>	<i>Complement</i>	<i>Possessor</i>	<i>Default</i>	
<i>he</i>	391	0	2	0	99%
<i>him</i>	13	149	44	9	73%
<i>his</i>	0	0	20	0	100%
<i>she</i>	15	0	0	0	100%
<i>her</i>	141	88	64	10	53%

- (37) *Nina's default case usage:*
- a. *Bare DP answer to (subject) wh-question*
Mother: Who's going to eat with a big spoon?
Nina: Me. (File 31)
 - b. *Ellipsis*
Mother: Shall we look for it?
Nina: Yup. xxx. Me too. (File 23)

- c. *Predicate nominal*
Nina: That's him. (File 14)

Table 10 gives the distribution of Nina's 1sg subjects by type of verbal inflection (examples in (38)).

Table 10
Distribution of Nina's 1st person singular subject pronouns

Verb form	Subject form			% nonNOM
	<i>I</i>	<i>me</i>	<i>my</i>	
Auxiliary	11	0	0	
Copula	4	0	0	0%
Modal	72	0	0	
Past Tense	47	1	5	
Dummy <i>do</i>	55	0	0	3%
Null Auxiliary	52	2	10	
Null Copula	11	2	4	22%

- (38) a. I will get it # Mom. (File 16)
b. I tired of clay. (File 11)
c. My going in. (File 16)
d. My ate outside. (File 10)

What we observe is that nonNOM subjects do not occur in nonagreeing environments, occur rarely in ambiguous environments, and occur most frequently in uninflected environments. Note also that most of Nina's nonNOM subjects were *my*, not the default *me*. Table 11 splits these data into early versus late files to show that this effect is not due to a sequence of stages each containing no contrast in inflection or case options: rather, it represents an utterance-by-utterance implication.

Table 11
Nina's 1st person singular subjects split in half

Subject	Files 3–17			Files 18–31		
	Verb form			Verb form		
	Agreeing	Ambiguous	Uninflected	Agreeing	Ambiguous	Uninflected
<i>I</i>	7	39	31	8	135	32
<i>me + my</i>	0	4	8	0	2	10

Tables 12 and 13 show the same pattern for Nina's third person subjects (examples in (39)). Note also that both here and in the 1sg data, NOM subjects of OIs are not rare: in fact they form the majority of overt OI subjects.

- (39) a. He has six. (File 13)
b. No # she's not up there. (File 23)
c. He bite me. (File 13)
d. She drink apple juice. (File 19)
e. He home. (File 13)
f. Her sick. (File 13)

Table 12
Distribution of Nina's 3rd person singular subject pronouns

Verb form	Subject form				% nonNOM
	<i>he</i>	<i>him</i>	<i>she</i>	<i>her</i>	
Main verb with <i>-s</i>	6	0	1	0	
Auxiliary with <i>-s</i>	113	0	3	3	
Copula with <i>-s</i>	88	3	2	4	4%
Modal	13	1	1	2	
Past Tense	20	0	2	6	20%
Main verb without <i>-s</i>	91	8	5	60	
Auxiliary without <i>-s</i> ⁶²	19	0	1	14	
Null Auxiliary	24	1	0	27	
Null Copula	9	0	0	25	48%

Table 13a
Nina's masculine 3sg subjects split in half

Subject	First Half			Second Half		
	Verb form			Verb form		
	Agreeing	Ambiguous	Uninflected	Agreeing	Ambiguous	Uninflected
<i>he</i>	78	12	48	129	21	95
<i>him</i>	1	1	5	2	0	4

Table 13b
Nina's feminine 3sg subjects split in half

Subject	First Half			Second Half		
	Verb form			Verb form		
	Agreeing	Ambiguous	Uninflected	Agreeing	Ambiguous	Uninflected
<i>she</i>	1	0	3	5	3	4
<i>her</i>	4	1	56	3	7	70

⁶² The category of auxiliary without *-s* includes utterances like *he do cry* and *he don't cry*.

Like Nina, Peter (Bloom 1970) shows evidence of knowing the correct features of the pronouns, and knowing that ACC is the default case.

Table 14
Peter's 1sg pronoun distribution (files 04–13, 1;11.7–2;5.0)

Form	Environment				% correct uses
	Subject	Complement	Possessor	Default	
<i>I</i>	700	0	0	0	100%
<i>me</i>	37	152	0	12	82%
<i>my</i>	39	0	269	0	87%

In addition to replicating the Nina findings (Tables 15–17, examples in (40)), Peter's data shed further light on the *me* versus *my* issue. As Pensalfini (1995) observes, both ACC *me* and GEN *my* subjects are used in almost equal numbers, in the same range of syntactic environments and at the same ages (cf. Budwig 1989, Rispoli 1996)—see tables 15 and 17.⁶³

(40) *Peter's subject usage*

- a. I'm doing that. (File 12)
- b. I can't do it. (File 9)
- c. I writing. (File 8)
- d. Me workin(g) a railroad. (File 11)
- e. My had a tape recorder. (File 13)

Table 15
Distribution of Peter's 1st person singular subject pronouns

Verb form	Subject form			% nonNOM
	<i>I</i>	<i>me</i>	<i>my</i>	
Auxiliary	126	0	0	
Copula	10	0	0	0%
Modal	54	0	0	
Past Tense	74	3	1	
Dummy <i>do</i>	2	0	0	3%
Null Auxiliary	27	4	2	
Null Copula	0	1	1	23%

⁶³ There are many more instances in table 17 than in table 15, because I have included utterances where the finiteness of the verb is indeterminate.

Table 16
Peter's 1st person singular subjects split in half

Subject	Files 4–8			Files 9–13		
	Verb form			Verb form		
	Agreeing	Ambiguous	Uninflected	Agreeing	Ambiguous	Uninflected
<i>I</i>	5	14	12	131	116	15
<i>me + my</i>	0	1	4	0	3	4

Table 17
Frequency of Peter's *me* versus *my* subjects by file

	04	05	06	07	08	09	10	11	12	13	Total
<i>me</i>	0	0	0	5	13	3	3	10	2	1	37
<i>my</i>	0	1	3	20	1	3	4	4	2	1	39

Sarah

Sarah's 3sg feminine data (Brown 1973) may confirm that the basic finding for feminine forms for Nina was not an artifact of Nina's extremely low usage of *she*: agreeing environments show a very different distribution of subjects (examples in (41)). However, the split half analysis suggests a possible confound with changing rates of inflection over time.

Table 18
Sarah's 3sg feminine pronoun distribution
(Files 26–46, 2;8.25–3;1.24)

Form	Environment				% correct uses
	Subject	Complement	Possessor	Default	
<i>she</i>	44	0	0	0	100%
<i>her</i>	14	20	3	2	64%

(41) *Sarah's subject usage*

- a. She cried. (File 30)
- b. She stan(d)s up. (File 46)
- c. She up there. (File 45)
- d. Her smoking. (File 27)
- e. Her go home? (File 40)

Table 19
Distribution of Sarah's 3rd person singular subject pronouns

Verb form	Subject form		% nonNOM
	she	her	
Main verb with -s	3	0	
Auxiliary with -s	6	0	
Copula with -s	2	0	0%
Modal	3	0	
Past Tense	8	4	27%
Main verb without -s	9	7	
Auxiliary without -s	1	0	
Null Auxiliary	8	3	
Null Copula	4	0	31%

Table 20
Sarah's 3sg subjects split in half

Subject	Files 26–36			Files 37–46		
	Verb form			Verb form		
	Agreeing	Ambiguous	Uninflected	Agreeing	Ambiguous	Uninflected
she	0	7	3	11	4	19
her	0	4	8	0	0	2

5.3.1.1.3 Summary of data and implications

The following points summarize the empirical findings so far and their import.

- 1) There are no case errors in object position, and few errors in possessor position;
- 2) NonNOM subjects essentially never co-occur with agreeing verb forms;
- 3) There are plenty of NOM subjects when inflection is absent (as noted also by Pierce (1992));
- 4) NonNOM subjects occur occasionally with past tense and modals, i.e., inflected forms where agreement is indeterminate, but generally occur most frequently with uninflected forms;
- 5) 1sg GEN subjects seem to represent a real phenomenon, given their frequency for Nina and Peter;
- 6) NonNOM subjects can be both ACC and GEN for the same child at the same age in roughly equal proportions, not conditioned by verb type in any obvious way;
- 7) The children exhibiting the above behavior know that the ACC forms represent the default case.

Regarding the generality of these results beyond the few children studied here and by Loeb and Leonard, as far as I am aware, Rispoli (1995) is the only investigator who at least reports num-

bers of utterances containing (1sg) nonNOM subjects and overt INFL material; unfortunately, he reports no baselines for the clause types in question, and as noted above, we cannot tell what each child's pronoun inventory was at the time the examples were produced. However, since Rispoli does exhaustively list all the actual examples of nonNOM + INFL, we can see that the number of true counterexamples to my generalizations is actually vanishingly small. The kinds and numbers of INFLs that he counted occurring with *me* and *my* subjects are as follows:

- 1) Agreeing auxiliary: 3 instances of *my am*, 1 instance of *me am*;
- 2) Cliticized auxiliary: 2 instances: *me'll*, *my'm*;
- 3) Overregularized past tense: 3 instances: *my waked him up*, *my broked it*, *me sawed her*;⁶⁴
- 4) Uncontracted modal: 58 instances: mostly *can* and *can't*, a few *will*, *won't*, *didn't*;
- 5) Subject-aux inversion: 17 instances: all modals, mostly *can*.

With the caveats noted above, Rispoli's findings 4) and 5) support the suggestion that nonNOM subjects with modals may be a real phenomenon in child English, and finding 3) is at least consistent with my claim that nonNOM subjects can occur with past tense features. Thus, only the examples in 1) and *my'm* in 2) are actual counterexamples to my generalizations. These represent 5/1001 of the 1sg subject *errors*, less than one percent. In terms of overall 1sg subject environments, which numbered 12,792, the rate of counterexamples is less than .05%. Although 1sg forms obviously provide fewer opportunities to show inflection than 3sg forms do, this is still a striking result: since the children were taped through age 3;0, it is unlikely to be an artifact of there being no inflected auxiliaries in the corpus at all.

5.3.1.1.4 Analysis

I now step through how my proposal concerning children's INFL specifications accounts for the generalizations uncovered above. Recall the proposal is that Tense features can be present or absent in main clauses, and Accord can happen or fail to happen, resulting in presence versus absence of agreement features in INFL. A DP that does not undergo Accord must be spelled out by the morphology in the default case. The claim about Accord is intended to apply in the same way to both subject and object Accord (see chapter 6 for further motivation and discussion). However, failure of object Accord will have no visible effect in English, since ACC will be produced either

⁶⁴ Counts for regular past tense forms are not reported, since Rispoli felt they could always be dismissed as rote unanalyzed forms anyway.

way. (For other languages where NOM is the default, however, we correctly predict no subject errors but NOM object errors, as will be shown below.) I therefore ignore object Accord in this section, and “Accord” in the chart below should be taken as subject Accord. (42) shows the INFL types hypothesized to be available to English children at the stage described above.

(42) Possible INFL features for child clauses

INFL	Verb Form	Subject	Examples
a. [Tns=present, +Accord]	-s	NOM	<i>he cries, I am crying, she is tired</i>
b. [Tns=present, -Accord]	OI	ACC	<i>him cry, me crying, her tired</i>
c. [Tns=past, +Accord]	-ed	NOM	<i>he cried, I crying, she tired</i>
d. [Tns=past, -Accord]	-ed	ACC	<i>him cried, me crying, her tired</i>
e. [-Tns, +Accord]	OI	NOM	<i>he cry, I crying, she tired</i>
f. [-Tns, -Accord]	OI	GEN(?)	<i>his cry, my crying, her tired</i>

(42a) and (42c) correspond to adult finite agreeing clauses in which the subject is NOM and the verb is inflected. (42b) and (42d) contain a tense specification but no agreement features; as a result NOM cannot be assigned, so the subject will show up in the default case. The verb form cannot be marked with 3sg -s because that is inserted only when both tense and agreement have the required values; the same is true for 1sg *am*. Thus, the nonoccurring **him cries* and **me am crying* cannot arise under (42b, d). However, if the value of the tense feature is [past], then it does show up as -ed, since this morpheme does not depend on particular phi-features. Thus, *him cried* is a possible form. (42e) contains agreement features but no tense; thus, NOM can be checked, but -s and *am* cannot be spelled out; this is how NOM subjects of OIs arise. What about the fourth logical combination of feature specifications, shown in (42f)? If we ask ourselves which case a DP subject gets when there are no tense or agreement features present, the adult grammar yields one clear instance of this, namely gerunds, which cannot be marked for tense or agreement but have been argued to contain a sort of INFL (cf. Reuland 1983 and references cited there): they can have GEN subjects. I suggest speculatively that this feature matrix is responsible for GEN subjects of OIs, and explore the consequences of this and an alternative in the rest of this section.

First, however, a brief reminder on the verb types that appear in the various lines of (42). Given the treatment of modals in §5.2, I assume that they can appear whenever there is a tense feature specified, independent of the presence/absence of Accord, since their vocabulary entries make no mention of phi-features, just like past -ed. This predicts that they can occur with both NOM and nonNOM subjects, as appears to be the case. Consideration of (42) shows why my account predicts the nonNOM subject rate to be lower with past tense and modals than with uninflected forms, but still nonzero and higher than with agreeing forms. Notice that there are two ways

of generating, for example, a verb marked for past tense: (42c) and (42d). Assuming that the rate of Accord is independent of tense specification (see chapter 6 for discussion), the predicted rate of nonNOM subjects with past tense verbs is simply the overall rate of missing Accord. In contrast, there are three ways to generate an uninflected verb form: (42b), (42e) and (42f). Between (42e) and (42f) the expected nonNOM rate is again simply the rate of missing Accord, but added to that we have all the cases from (42b), none of which involve Accord. Thus, the rate of missing Accord over all three categories will be higher than across (42c) + (42d). This correctly captures the observation that there are generally more nonNOM subjects in uninflected clauses. The other important observation is that I assume a null form of *be* in all clause types other than (42a, c), that is, unless both tense and agreement are specified. This followed in §5.2 because all finite forms of *be* mention [+affix] in their insertion environment, and I proposed that tense without agreement and agreement without tense are not [+affix], and that the infinitive *be* itself is blocked by a zero form when raised to INFL.

Returning now to the speculation about GEN in (42f), the original inspiration for my suggestion that child GEN subjects have something to do with gerunds is the observation that the range of possible subjects of gerunds in English is very close to what we find with OIs in child English: PRO, ACC and GEN are possible, while NOM is impossible, as I claim it is in [-Accord] OIs.

- (43) a. PRO/Him/His/*He winning the lottery surprised me.
 b. I remember PRO/him/his winning the lottery.

While POSS-*ing* gerunds and NP-*ing* (ACC-*ing*) gerunds have different properties in adult English (Abney 1987),⁶⁵ Reuland (1983) points out (attributing the observation to Horn 1975) that at least with a pronoun subject, POSS-*ing* can also take on some of the properties of ACC-*ing*, e.g., allowing extraction:

- (44) a. Which movie would you disapprove of me watching?
 b. Which movie would you disapprove of my watching?
 c. *Which movie would you disapprove of Mary’s watching?

As Reuland puts it, “The presence of a genitive need not be incompatible with analyzing the clause as being essentially an NP-*ing* construction.” Importantly, the corresponding child clause seems not to be headed by a Determiner, since we never find a nonpronominal subject taking possessive ’s, which is plausibly a D head. That is, alongside *her go*, we never find *Daddy’s go*. Rather, there

⁶⁵ Portner (1992, ch. 3) provides a useful review of the literature on gerunds. He argues, contra Abney and others, that POSS-*ing* and ACC-*ing* gerunds have the same syntactic structure, differing only in definiteness.

seems to be a way to mark a pronoun subject of certain nonfinite verb forms GEN without inducing a DP structure.

I am crucially not claiming that (all) child English GEN-subject utterances are literally gerunds. I am instead speculating that OIs with GEN pronoun subjects are gerund-like in some way to be worked out. If this notion can be nailed down, it might provide an explanation for an otherwise troubling crosslinguistic gap that I have so far glossed over. In particular, we will see in the rest of §5.3 that while other child languages (including Germanic ones) show case errors involving overextension of default NOM, errors involving GEN on subjects are unattested. This gap is not accounted for by what I have said so far: If English *my* subjects are really genitive and *not* default case forms, why are they not also possible in German, Dutch, etc.? My answer here is complete speculation at the moment.

The key observation is that English has a type of GEN-subject gerund that is more “clause-like” than those in German and Dutch in that it allows a full range of referential direct objects in the ACC case, as in (45). German and Dutch gerunds with GEN subjects allow only incorporated nonspecific direct objects (cf. Reuland 1988); full complements must appear in a PP (46, 47). Russian, which also lacks GEN subject errors in child language, does not have a closely equivalent construction at all, instead using a clearly nominal form whose subject appears in a special semi-adjectival possessive form, not an identifiable nominal case (Masha Babyonyshev, p.c.).

- (45) John’s eating all the strawberries I bought yesterday was the last straw.
- (46) a. Johanns Muschel(n)⁶⁶ Essen war unwahrscheinlich. [German]
John’s clam(s) eating was unbelievable.
- b. *Johanns die guten Muscheln Essen war unwahrscheinlich.
(John’s the good clams eating was unbelievable)
- c. Johanns Essen von den guten Muscheln war unwahrscheinlich.
John’s eating of the(DAT) good clams was unbelievable
 (Uli Sauerland & Susi Wurmbrand, p.c.)
- (47) a.???Jan’s brieven-schrijven is ongelooflijk. [Dutch]
John’s letter-writing is unbelievable

⁶⁶ There seems to be considerable interspeaker variation as to whether the plural morpheme is even possible in this configuration.

- b. *Jan’s al die geparfumeerde {brieven ge-schrijf/brieven-schrijven} die mijn
John’s all those perfumed letters writing that my
 brievenbus opvullen, is ongelooflijk.
mailbox fill.up is unbelievable
 (‘John’s writing all those perfumed letters that fill up my mailbox is unbelievable.’)
- c. Jan’s schrijven/geschrijf van al die geparfumeerde brieven die mijn brievenbus
John’s writing of all those perfumed letters that my mailbox
 opvullen, is ongelooflijk.
fill.up is unbelievable
 ‘John’s writing of all those perfumed letters that fill up my mailbox is unbelievable.’
 (Fleur Veraart, p.c.)

Whatever the underlying source of this difference, the possibility of (45) coupled with the observation in (44) could mean that in a relevant sense English has *clausal* projections with (pronominal) GEN subjects, while German, Dutch, Russian etc. do not. If this idea is at all on the right track, it suggests that the difference between adult English and these related languages shown in (45–47) must derive from something fairly basic, in order for children to be sensitive to it so early.^{67,68}

Given the rather tenuous nature of this proposal, it is worth entertaining the possibility that children’s GEN subjects do *not* reflect some property of adult English GEN, but rather arise in some more indirect way. One counterproposal has been that child English *my* subjects are the result of a misanalysis of a similar sounding phonological sequence *am I* with a reduced/elided vowel, as in *What ’m I doing?, Why ’m I here?, Boy ’m I tired!* (This proposal was originally made by Leopold (1939, p. 101) and is taken up by Powers (1995).) The claim is that there is no genuine grammatical option for GEN subjects, which predicts that we should not find any other GEN pronoun occurring as an OI subject. (Above I cited some data from Fletcher suggesting that *our* was used as a subject by one child, but we do not have quantitative data on this.) However, given that all the utterances where this confound could arise involve I-to-C movement, one might expect the child to assume that *my* is licensed only when I-to-C occurs, and perhaps is required in that environment (after all, she is hearing incontrovertible *I* subjects in all other environments), but no such regularities are found in children’s use of *my* subjects. One striking fact about child English that would make sense if GEN subjects were generally possible is that researchers consistently find proportionately more *her* than *him* subjects. This is predicted on the taxonomy in (42) because *her*

⁶⁷ David Pesetsky points out that my suggestion predicts that we should find GEN subject errors in child Finnish, since Finnish has a gerund/participle with a GEN subject and an ACC object. I have not yet been able to find any data bearing on this question.

⁶⁸ Another possible explanation might appeal to the fact that possessive pronouns in languages like German inflect like adjectives and themselves take case endings matching the case assigned to the DP that contains them, e.g., *Er liebt seinen Sohn* ‘he loves his(ACC) son’. This might make their DP-internal nature more salient than their English counterparts’.

go can instantiate either [+Tns, -Accord] or [-Tns, -Accord], yielding *her* as ACC or GEN, but *him* *go* can only instantiate [+Tns, -Accord], so there should be fewer instances of the latter, *ceteris paribus*. But why then do we not find masculine GEN subjects? One possible answer, suggested by Vainikka (1994), is that *his* subjects might be being produced but mistranscribed as *he's*.

Even if the general availability of GEN subjects is correct, it is far from obvious that the way I have fit them into the taxonomy in (42) is correct. The suggestion that all and only GEN subjects represent [-Tns, -Accord] makes some further distributional predictions that are not testable based on the limited data I have available, but they seem somewhat doubtful. For one thing, this analysis predicts that we should not find GEN subjects with past tense verbs, e.g., *my cried*. There are a couple of instances like this in the corpora I analyzed, but one really wants a larger sample to decide if they are more than noise. Conversely, it implies that *him cry* and *me cry* could not represent past tense meanings, since according to (42) a (present) tense specification is required in order to generate these. While intended temporal reference is very hard to assess based on the transcripts I looked at, I do not have a great deal of confidence that this prediction is accurate. (These predictions contrast with the claim for NOM subjects, which is that they can occur with OIs in both present and past tense contexts.) The experiment described below might help test this more directly. If these two predictions turn out to be false, then one might relax the claim in (42f) as follows. Suppose that INFL[-Accord] can yield either an ACC or a GEN subject, depending on the presence of some other feature in INFL that distinguishes them. This other feature would be compatible with both [+Tns] and [-Tns], undoing both of the predictions discussed in this paragraph. In fact, it is plausible that such a feature is required in the adult grammar anyway, to distinguish between gerunds, which allow both ACC and GEN subjects, and small clauses, which are presumably also [-Tns] but allow only ACC subjects.⁶⁹ What is tricky is whether this distinction can be drawn without forcing the conclusion that OIs with GEN subjects must be nominal projections, since that seems problematic semantically. The issue of the proper treatment of children's GEN subjects will obviously have to await a more extensive empirical foundation.

⁶⁹ If this much is right, we would still have to say that the children do not connect this feature contrast with the presence versus absence of the *-ing* morpheme (i.e., they have it wrong), since this does not seem to correlate with the choice of ACC versus GEN in their production. I.e., we find *me crying* and *my crying*, *me tired* and *my tired*.

5.3.1.2 SLI children's production

5.3.1.2.1 Previous findings

While it has been observed for a long time that language-impaired English children tend to use nonNOM subjects (Menyuk 1964, Lee 1966), Loeb and Leonard's (1991) study, whose normal control subjects were reported on above, is the only quantitative study I am aware of that has looked at the relationship between verbal inflection and case marking in English SLI children. Table 21 presents the data from all 8 of Loeb and Leonard's SLI subjects, and shows that the general pattern of results matches what we have seen above for normal children, though the rate of nonNOM subjects with verbs in *-s* is higher than what we have seen. Table 22 shows that this is partly due to one child who failed to produce any relevant NOM forms during the transcribed sessions: when that child is excluded, the percentage of nonNOM + finite utterances drops, though arguably still not to the near-zero levels found for normals even in Loeb and Leonard's own control sample. My own figures confirm both the general sensitivity to finiteness and the possibly nonzero rate of exceptions.

Table 21
Finiteness versus case for Loeb and Leonard's (1991)
8 SLI subjects

Subject	Verb form	
	Inflected	Uninflected
<i>he + she</i>	221	86
<i>him + her</i>	32	313
<i>Percent non-NOM</i>	13%	78%

Table 22
Finiteness versus case for 7 of Loeb and Leonard's (1991)
SLI subjects who have case contrasts

Subject	Verb form	
	Inflected	Uninflected
<i>he + she</i>	221	86
<i>him + her</i>	16	283
<i>Percent non-NOM</i>	7%	77%

5.3.1.2.2 New data

The data analyzed here are drawn from a study of 18 SLI children, age 4;7–5;8, and 20 normal children, age 2;6–3;4, both groups with mean MLUs of 3.49.⁷⁰ I am grateful to Romi Morikawa for the counts. Tables 23, 24 and 25 report data from children who were producing both the applicable NOM and nonNOM 3sg subjects. For this reason, the counts for masculine and feminine pronouns involve different subsets of children. As can be seen most clearly in table 25, these data conform to the predictions of the theory presented above: nonNOM subjects are very frequent with uninflected verb forms, quite infrequent with agreeing verb forms, and moderately frequent with ambiguous verb forms. Thus, the most important finding here is that these SLI children clearly have the same grammatical knowledge as normals, the knowledge that agreement requires NOM subjects while nonagreement does not. However, the exception rate is very high compared to normal children—30% nonNOM subjects in agreeing clauses.

Table 23
Distribution of 3sg feminine pronouns for 8 SLI children

<i>Verb form</i>	<i>Subject form</i>	
	<i>she</i>	<i>her</i>
Main verb with <i>-s</i>	3	2
Auxiliary with agr	3	3
Copula with agr	5	4
Modal	2	3
Past Tense	3	3
Main verb without <i>-s</i>	4	12
Main verb missing <i>-ed</i>	1	4
Missing modal	0	0
Null auxiliary	2	15
Null Copula	0	8
Auxiliary without agr ⁷¹	1	1
Copula without agr	0	0

⁷⁰ Data for the analyses of children with language impairments and their control groups was made available from the data collection of an ongoing study supported by National Institute of Deafness and Communicative Disorders, Award R01 DC01803 to Mabel L. Rice and Kenneth Wexler.

⁷¹ In this study, unlike in my counts of normal English children from CHILDES, *he/him don't* was not counted as a nonagreeing auxiliary because this locution apparently occurs in adult speech in this dialect region.

Table 24
Distribution of 3sg masculine pronouns for 10 SLI children

<i>Verb form</i>	<i>Subject form</i>	
	<i>he</i>	<i>him</i>
Main verb with <i>-s</i>	3	3
Auxiliary with agr	7	0
Copula with agr	9	1
Modal	2	4
Past Tense	8	6
Main verb without <i>-s</i>	5	6
Main verb missing <i>-ed</i>	1	6
Missing modal	0	2
Null auxiliary	11	16
Null copula	3	30
Auxiliary without agr	0	0
Copula without agr	0	1

Table 25
Pooled 3sg pronoun distribution for 13 SLI children⁷²

<i>Subject</i>	<i>Verb form</i>		
	<i>Agreeing</i>	<i>Ambiguous</i>	<i>Uninflected</i>
<i>he, she</i>	30	15	28
<i>him, her</i>	13	16	101
<i>Percent non-NOM</i>	30%	52%	78%

That this difference is not an artifact of different situations or recording techniques is shown by comparison with table 28, data for the normal children in the MLU-matched control group who were producing case errors: for them the error rate is below 10%, comparable to the findings above for CHILDES transcripts. (Although the numbers are small, the nonNOM rates in the three kinds of clauses show the predicted progression once again.)

⁷² The pooled masculine and feminine data in tables 25 and 28 should be interpreted with caution, since some children contributed only one or the other gender, while others contributed both.

Table 26
Distribution of 3sg feminine pronouns for 6 normal children

Verb form	Subject form	
	<i>she</i>	<i>her</i>
Main verb with -s	22	2
Auxiliary with agr	8	0
Copula with agr	5	0
Modal	7	4
Past Tense	6	1
Main verb without -s	5	5
Main verb missing -ed	3	0
Missing modal	1	0
Null auxiliary	5	3
Null Copula	5	0
Auxiliary without agr	0	0
Copula without agr	0	0

Table 27
Distribution of 3sg masculine pronouns for 4 normal children

Verb form	Subject form	
	<i>he</i>	<i>him</i>
Main verb with -s	5	2
Auxiliary with agr	6	0
Copula with agr	5	0
Modal	3	0
Past Tense	3	0
Main verb without -s	9	6
Main verb missing -ed	4	0
Missing modal	0	2
Null auxiliary	7	1
Null copula	1	1
Auxiliary without agr	0	0
Copula without agr	0	0

Table 28
Pooled 3sg pronoun distribution for 9 normal children

Subject	Verb form		
	Agreeing	Ambiguous	Uninflected
<i>he, she</i>	51	19	40
<i>him, her</i>	4	5	18
<i>Percent non-NOM</i>	7%	21%	31%

I do not have a specific proposal to make regarding where SLI children's larger number of errors are coming from, but two observations may be relevant. First, the "errors" in each table are coming from children with very little production of the NOM forms. Thus, these errors might really reflect a system that effectively has no NOM subject option available. (See the next paragraph.) Second, it is not simply the case that performance noise is being randomly distributed on top of children's knowledge of case. If that were true, we would also expect some case marking errors in object position, but there are no such errors (27/27 correct objects). Rather, the instances where SLI children do not obey the grammatical restriction on case/agreement involve choosing only among possible case forms allowed by their grammar—their grammar allows ACC (default) as well as NOM subjects, but only ACC objects, and their productions are restricted to those options. If the empirical findings hold up, they place a considerable constraint on the kind of account of the "exceptional" utterances that can be entertained.

Some of the children in this study were not producing the relevant NOM pronouns at all when they were first recorded. As discussed in chapter 3, my view of syntax-morphology interactions predicts that children lacking the lexical resources to distinguish NOM from nonNOM subjects should be able to use the nonNOM form in all syntactic environments, including agreeing environments where children who have a NOM form cannot. This prediction appears to be borne out. Six SLI children produced no instances of *she* in their spontaneous or elicited production, and 9/33 = 27% of their *her* subjects occurred in agreeing clauses, as compared to 9/55 = 16% in Table 23. (They also used *her* with agreement in 7/23 = 30% of their *her* responses in the subject pronoun probe task.) Similarly, the one normal child who was producing neither *he* nor *she* used the non-NOM counterparts 8/24 = 33% of the time with agreeing verbs, as compared to 4/27 = 15% in table 28 for children with a contrast. The relevant utterances are listed below.

- (48) a. him is fixing dinner
 b. him's going to drive
 c. him's getting food
 d. him's got to go home
 e. him's going
 f. because her's dirty

- g. her's done
- h. her is done eating

Note that most of these examples involved using a contracted auxiliary with an ACC pronoun, creating words that the child would never have heard. This possibility suggests that the infrequency of *him's* and *her's* for children with contrasting case forms is not an artifact of their unwillingness to create novel clitic-host combinations.

Given the pronoun frequency corpus data mentioned above, it is all the more surprising that many children with SLI apparently use the ACC forms of pronouns exclusively; this suggests that SLI children are quite sensitive to case inflections in their input and have acquired the default case. Otherwise, one might expect their first productive forms to be those that they hear most frequently. Of course, there is as yet no theory of morphological acquisition that would predict that the default case forms should be learned first, and indeed there seem to be children for whom this is not the case. Still, sensitivity to the grammar of the language is clearly implicated.

5.3.1.3 Experiment in progress

I now describe an elicitation experiment currently being conducted with both normal and SLI English children to assess one of the crucial predictions that distinguishes my theory from other accounts of subject case errors, namely, the claim that these should be impossible with present *-s* but possible with past *-ed*, since only the latter can appear in the absence of Accord. As was noted above, the corpus data on past tense forms are rather scant. Thus, we are trying to gather the crucial sorts of data more directly.⁷³

Our hope is to elicit utterances from normal children around 2;6 to 3;6 that will contain the crucial elements of interest to us: a subject pronoun and either a past tense or simple present tense verb form. The prediction is that nonNOM subjects will be significantly more frequent with the past tense forms (and ideally, nonexistent with *-s*). At least for the first attempt, we restrict ourselves to 3sg subjects, half masculine, half feminine. To avoid a potential confound whereby certain verbs or verb classes might be more or less likely to take nonNOM subjects (if there is something to the claims that volitionality, transitivity, or other such factors are relevant (cf. Budwig 1989, 1995)), the same set of verbs will be used in both the present and past conditions. In order to conduct elicitation via an act-out task, this necessitates using a generic/habitual description for the present tense condition, because only stative verbs could take simple *-s* as descriptions of a single situation. (We felt that comparing simple *-ed* forms to present progressives would potentially

⁷³ Development of the design and materials for this experiment was done in collaboration with Ken Wexler and Felicia Tai.

introduce more serious confounds.) Verbs will be equally divided among those that take regular versus irregular past tense forms, with the hope that both will show the predicted effect, and we might even elicit some overregularizations, which could be particularly informative (see earlier discussion).⁷⁴ The expectation is that, along with the target *-s* and *-ed* forms, a proportion of OIs will also be produced. If these are of sufficient number, they will allow us to test the following additional prediction, which was all but impossible to assess with transcript data. If agreement omission and tense omission are really independent phenomena, and case depends only on the former, then the nonNOM subject rate in past tense contexts should not differ regardless of whether *-ed* is present versus omitted. In contrast, we of course expect a large difference between *-s* forms and OIs in present tense contexts, since by hypothesis all *-s* forms must have agreement.

The elicitation procedure itself is designed to avoid biasing the child towards one pronoun case over another, and also to avoid modeling the desired verb form, in case it could be imitated without the child having the accompanying syntax. We did, however, want to model the use of past or present tense, in order to increase the chances that the child would use the desired inflection. In addition, we wanted to maximize the chances that the subject form would be a pronoun rather than a full DP or proper name (we of course also expect some proportion of null subjects).⁷⁵ For these reasons, all references to the protagonist of the acted-out scenario use his/her proper name, and we strove to have the last mention of that name occur as close as possible to the point at which the child's response would be elicited, since we felt this should make a pronoun more felicitous. We also use the same protagonist in several consecutive scenarios. In order to provide motivation for the children to describe events that they have just witnessed, a Kermit puppet is also present, but is very distracted and does not pay sufficient attention to know what had actually occurred. Kermit's incorrect descriptions (on most trials) should prompt the child to give the correct description. Below I provide sample scenarios for the past and present tense conditions, along with the sorts of child responses we are hoping for. (In each case, Piggy is the play figure acting out the scenario, Kermit is the puppet "observer," and Johnny is the child subject.)

Past tense scenario:

Experimenter: Oh look, Johnny, Miss Piggy is washing some clothes. "These clothes are SO dirty," says Piggy. "I'd better wash them really well." [*she does*] Hey Kermit, did you see what just happened?

⁷⁴ An additional consideration in the choice of verbs is that the inflected forms be easy to distinguish phonetically from the stem.

⁷⁵ In fact, if null subjects are common enough, this experiment could provide a nice assessment of relative null subject rates for present versus past versus OI main verbs, a point on which there is disagreement in the corpus-based literature—see §5.5.2 below.

Kermit: Uh...er...Piggy *folded* the clothes?

Experimenter: Johnny, is that what Piggy really did?

Johnny: No!

Experimenter: Tell Kermit what really happened.

Johnny: She/Her *washed* them.

Present tense (habitual) scenario:

Experimenter: Look, Johnny, Piggy just got home from school. "I'm SO tired after school!" Piggy says. "The first thing I do when I get home is sleep." [*she does*] Hey Kermit, did you see what Piggy does after school?

Kermit: Um...well...Piggy *rides a bike*?

Experimenter: Johnny, is that right?

Johnny: No!

Experimenter: So, tell Kermit what really happens (after school).⁷⁶

Johnny: She *sleeps*.

5.3.2 German

5.3.2.1 Previous findings

There are almost no quantitative studies of errors in child German case production that I am aware of. However, some researchers do report having observed trends in these errors. MacWhinney (1978) cites three studies claiming that NOM is overgeneralized by German children in their twos and threes. Mills (1985) states that nominative case marking with definite and indefinite articles is overgeneralised to accusative positions with considerable frequency; see also Tracy 1986 and Clahsen et al. 1994. Kaper (1976) cites Ronjat (1913) for a child saying *für du* as an error (but never *für ich*). Leopold (1949) reports a handful of utterances in which his German/English bilingual daughter uses NOM in place of ACC or DAT, though these errors occur after the age of four and might thus simply represent adult-like production errors. Harald Clahsen (p.c.) informs me that German SLI transcripts that he has examined show these children making NOM object errors. Eisenbeiss (1994) reports that Andreas (2;1) correctly marked only 60% of strong determiners and pronominal adjectives in 43 ACC masculine singular contexts. Thus, the

⁷⁶ Once children get the hang of the game, they will hopefully volunteer the correction without this additional prompt, which will reduce the number of DPs in the dialogue since the last mention of Piggy and hence make the pronoun more felicitous.

expectation that errors should involve overextension of default NOM seems plausible, but the evidence is far from conclusive. Thus, I performed my own corpus analyses.⁷⁷

5.3.2.2 New data

Andreas

Table 29 summarizes the distribution of NOM and ACC forms from the Andreas corpus (2;1—Wagner 1985). I counted only words that appeared in both their NOM and ACC forms in the transcript. It is evident that NOM is overextended to object position much more often than ACC is overextended to subject position (5/23 = 22% vs. 1/163 = 0.6%).

Table 29
Distribution of unambiguous NOM and ACC forms in Andreas corpus

Form	(gloss)	Distribution	
		NOM environments	ACC environments
<i>ich</i>	(1sNOM prn)	116	0
<i>du</i>	(2sNOM prn)	26	1
<i>der</i>	(mascNOMs def det)	18	3
<i>einer</i>	(mascNOMs indef det)	1	1
adjective in <i>-er</i>	(mascNOMsg)	1	0
		ACC environments	NOM environments
<i>mich</i>	(1sACC prn)	1	0
<i>dich</i>	(2sACC prn)	1	0
<i>den</i>	(mascACCs def det)	9	1?
<i>einen</i>	(mascACCs indef det)	2	0
adjective in <i>-en</i>	(mascACCsg)	5	0

Daniel

This asymmetry towards object errors is confirmed in the much smaller Daniel corpus (files 17–27, 2;9.28–3;6.28—Clahsen 1982). In these files I found no subject case errors, but 11 object case errors, of which 5 involved the use of *der* on a direct object after *den* had been produced:

- (49) a. mach der würs.
make the(NOM) sausage
(in response to *bis du der metzger?* 'are you the butcher?')

⁷⁷ An earlier version of these data was presented in Schütze 1996b.

- b. hab der keubeu noch nich auf
have the(NOM) cowboy yet not on
'I don't have the cowboy on yet.'
- c. gib der hocker wieder!
give the(NOM) stool again
- d. der korb ich alleine festhalten.
the(NOM) basket I alone hold.onto
- e. hast du der klebstift sehn?
have you the(NOM) gluestick seen

5.3.2.3 Analysis

As noted already above, if Accord relations involving both subjects and objects can fail to be established in child language, such that no case feature can be checked on the relevant DP, we predict that the default case form will be used. In German, NOM is default, so we expect to see no evidence for the lack of subject Accord. Indeed, we expect to find NOM subjects in OI clauses, which we do: for instance, there are nine OI utterances with unambiguously case-marked subjects in the Andreas corpus, and all nine subjects are NOM. An example is given in (50).

- (50) Papa ich auch Hegabahn fahren
Dad I(NOM) too H (toy racecar) drive(INFIN)

(Similarly, Jonas (1995b) reports overt NOM subjects of OIs in child Faroese.) However, when object Accord fails to happen, ACC cannot be checked, so default NOM is predicted to surface, which it does. Object case errors are not predicted to correlate with the form of the verb, since object agreement is phonologically null in German, so both finite verbs and OIs could have object Accord or not. In a larger corpus, one could check whether the proportion of object case errors is roughly the same in finite and OI clauses.

5.3.3 Dutch

As noted earlier, NOM is the default case in Dutch, so my account predicts that Dutch children, like German children, should get subject case marking correct but overgeneralize NOM to nonsubjects positions. Unfortunately, the empirical facts are not terribly clear from the literature available. Kaper (1974) cites examples from two Dutch children who "repeatedly substituted the nominative form of the personal pronoun of the first person singular for the objective one, particularly after prepositions" (p. 439): he gives nine such examples, from the children's ages 2;5.4 to 6;10.21, that are objects of prepositions, e.g.,

- (51) Is dat van ik?
is that of I
'Is that mine?'

Kaper found only one example of NOM as (direct or indirect) object:

- (52) Pappa, zal jij ik losmaken?
Daddy, will you I unbuckle
'Daddy, will you unbuckle me?'

Kaper never noticed any substitution of *mij* 'me' for *ik* 'I', however he cites Van Ginneken (1917) for one such example:

- (53) Mij moet 't hebb'.
me must it have (Keesje 2;7)

Van Ginneken claimed that only object forms were used after prepositions. As for second person singular forms, Kaper never found objective *jou* substituted for NOM *jij*, but he did find "several examples" of the opposite; he presents only one:

- (54) Voor jij niet; voor mij is het!
for you(NOM) not; for me is it
'Not for you; for me it is!' (E, 4;0.17)

Kaper also cites three examples of NOM overextensions from other published studies. Thus, Kaper's observations make it look like Dutch bears out my predictions, while Van Ginneken's do not.

Powers (1995a, b) set out to resolve this apparent contradiction by analyzing five transcripts. She concludes that *neither* kind of error occurs as more than rare noise for Dutch children. However, given the ages of the children, it is possible that they were beyond the stage at which such errors are productive, and thus her data may not bear on the crucial question here. Here I focus on the four monolingual children she examined. She found 3,269 NOM 1sg pronouns, of which four were objects of prepositions (all of the form *ik*) and none were direct objects. The number of nonNOM subjects was three, all ACC *mij*, out of a total of 545 instances of that pronoun. However, it does not seem to me that one can conclude that there is no asymmetry of errors based on these data. For one thing, given the much larger number of NOM environments, the subject errors are proportionately less frequent. For another, all three of these alleged subject case errors involved a sequence of uninterpretable phonemes immediately preceding the pronoun (as noted by Powers), making their true syntactic position uncertain; this was not the case for any of the NOM objects of prepositions. Obviously, we need to see whether younger children produce

more errors before any firm conclusions can be drawn.⁷⁸ On the issue of GEN subjects, Powers reports there were about 159 instances of the 1sg GEN forms *mijn*, *m'n* ('my') and *de mijne* ('mine'), but none of these occurred in subject position. (See above for a possible explanation of this difference with respect to English children.)

One other interesting phenomenon in Dutch case acquisition concerns children's choice between the regular NOM 1sg subject *ik* and the emphatic *ikke*, which occurs in isolation contexts in the adult language, e.g., as a bare answer to a subject *wh*-question. Haegeman (1995) observes that the choice of *ik* versus *ikke* is correlated to a certain degree with the finiteness of the clause for two of the children she examined, Hein and Niek, as shown in the following tables.

Table 30
Distribution of 1sg pronoun subjects in Niek
(pooling two consecutive files from Haegeman's table)

Form	Environment			
	Finite	Root infinitive	Participle	Other nonfinite
ik	113	3	1	8
ikke	5	17	3	11

Table 31
Distribution of 1sg pronoun subjects in Hein

Form	Environment			
	Finite	Root infinitive	Other nonfinite	Elliptical constructions
ik	749	4	23	46
ikke	10	6	10	21

Though there are exceptions, the general trend is for finite environments to take almost exclusively *ik* and nonfinite environments to take a mixture of forms, predominantly *ikke* for Niek. Haegeman (1995) also observes that for Hein, weak pronoun subjects make up one third of all pronoun subjects with finite verbs (472/1443), but 0/78 instances of pronoun subjects with root infinitives—the

⁷⁸ After this thesis was completed, I received Boezewinkel 1995, a very detailed study of the acquisition of all pronouns by two Dutch children. (Thanks to Jacqueline van Kampen for making this work available to me, and to Jeannette Schaeffer for helping me read it.) I was not able to incorporate Boezewinkel's findings, but they suggest that more needs to be said about Dutch children's case usage. In brief, she found that both children produced more first person singular pronoun errors substituting ACC for NOM than substituting NOM for ACC, counter to what my account predicts. However, none of these subject errors (totaling 43 instances) occurred in finite clauses: they were either subjects of OIs, or utterances containing just the pronoun but intended as the subject of some implicit predicate. Thus, they strongly support my claim that subject case errors do not occur with agreeing verbs. What remains for future work is to explain the source of this ACC case on the subjects of OIs, given that ACC is not the default case in Dutch.

latter are all strong pronouns.⁷⁹ She points out further that possible phonological clitic-like properties of the weak pronouns could not explain this distribution, which she argues should be tied to the absence of AgrS (following Cardinaletti and Starke's (1993) treatment of weak pronouns).

While a detailed pursuit of the correct analysis of these contrasts is beyond my scope here, the data do suggest that "all subjects are not created equal" for Dutch children, even if they are (almost?) all NOM. It does not seem implausible that the contrasting patterns observed in child Dutch are attributable to presence versus absence of agreement features (i.e., Accord). This possibility gains support from the fact, noted by Haegeman, that adult Dutch root infinitives cannot take weak pronoun subjects, though some of them can take strong pronoun subjects. If so, these facts support my contention that absence of subject case errors in languages like German and Dutch, if it proves true, does *not* argue against my claim that subject Accord is omissible in the OI stage for all languages. Rather, we can maintain that both subject and object Accord are omissible in all languages, while the asymmetries in observable errors derive from independent differences in the default case of these languages.⁸⁰

5.3.4 Russian

Babyonyshev (1993) conducted a quantitative analysis of the case productions of two Russian children, ages 1;6–2;0 and 2;1–2;7. Her main findings are summarized in Table 32. In this table, cells on the diagonal represent instances where the child produces the correct adult case form; off-diagonals represent errors. Her key finding was that Russian children produce virtually no case-marking errors on subjects: NOM is used in more than 99% of the utterances where it is required.⁸¹ In contrast, object ACC marking is only 84% accurate, and a frequent wrong case on objects is NOM. Indeed, the first column of the table shows that NOM is overextended to all other case environments; no other case forms are so promiscuous. As noted earlier, NOM can be argued

⁷⁹ This cannot be an artifact of developmental progression: Haegeman breaks these data down file by file, making it evident that all three occurring combinations of pronoun and verb type are well represented in each recording.

⁸⁰ I should note that Haegeman also finds some correlation between finiteness and presence/absence of weak *object* pronouns and object clitics in the child data, though the relevant numbers of utterances are smaller. This might seem unexpected under my account, since object Accord should have nothing to do with the form of the verb in Dutch, and indeed, all sorts of nonfinite clauses in adult Dutch allow these kinds of pronominal objects. However, as Haegeman notes, these forms must always move to a high position in the clause, higher than AgrO in her analysis, so some factor other than Accord is presumably to blame for this asymmetry.

⁸¹ It should be noted, however, that these numbers include some instances that are morphologically ambiguous between NOM and ACC, which were always counted as correct (Masha Babyonyshev, p.c.). Thus, percentages in the table represent upper bound estimates of the children's accuracy. It may also not be safe to assume that these children had all the relevant morphology in their lexicons, at least at the beginning of transcription. Thus, some overuses of NOM might not represent absence of syntactic case features.

to be the default case in Russian, so this pattern of data is exactly as expected under my hypothesis. Similarly, Bar-Shalom et al. (1996) report that all the overt subjects of OIs produced by their Russian child subject were NOM.

Table 32
Distribution of two children's nominal case usage in Russian (Babyonyshev 1993)

Correct form	Child form						% of environments
	NOM	ACC	GEN	DAT	Poss	Prep	
NOM	597	1	2	0	0	0	99.5%
ACC	3	32	2	1	0	0	84%
GEN	6	0	21	2	0	0	72%
DAT	3	0	0	21	0	0	88%
Poss	16	0	0	14	20	0	40%
Prep	1	0	0	0	0	3	75%
% correct usage	95%	97%	84%	55%	100%	100%	93% (694/745)

5.3.5 French

French shows case contrasts only in its clitic pronouns. If one defines a default case environment as one where no case is syntactically assigned/checked, as I have done, then one must conclude that neither subject nor object clitics are the default forms of pronouns; rather, the tonic pronouns must have this status. (They occur as predicate nominals, as left and right dislocations, in conjunction, as subjects of nonfinite clauses such as (the equivalent of) Mad Magazine expressions, in isolation, etc.) If my hypothesis is correct that both subject and object Accord are optional in the OI stage, then French children in this stage should show variation between the appropriate clitic pronoun and the corresponding tonic pronoun in both subject and object position. We do not expect any errors involving substitution of subject for object clitics or vice versa.

Beginning with the latter prediction, as far as I know it is borne out: there seem to be no attestations of clitic case errors in child French. As for alternation between clitics and tonic pronouns, this is certainly attested for subject position. Pierce (1992) observes that tonic *moi* is used both with finite verb forms and with OIs, preverbally and postverbally, at a stage where children have started producing clitic *je*. In contrast, *je* (and subject clitics in general) occurs almost entirely with finite verbs (more than 95% of the time for three of the four children Pierce studied; 98.2% for Augustin (2;0.2–2;9.30), the child studied by Hamann et al. (1996)). This distribution would follow if finite verb forms can be both [+Accord] and [-Accord], while OIs can only be [-Accord].⁸²

⁸² I have no proposal as to why French OIs could not be [-Tns, +Accord]—under reasonable assumptions about the morphology, this feature combination should yield an infinitive.

Furthermore, these children seem to know that the tonic form is the default form, inasmuch as they use it in left- and right-dislocated positions. Pierce does not report any data on the use of pronoun forms as objects, and my own search of the two French transcripts on CHILDES turned up no clear cases of *moi* or *toi* as an object where clitic *me* or *te* would have appeared in an adult utterance. It should be noted, however, that object pronouns in general are rare and appear late in child French (Hamann et al. 1996 and references cited there), so this could potentially be a sampling artifact. If this gap is real, it would require some independent explanation. For instance, if whatever blocks **Il voit moi* in adult French is not the case of the object but some obligatory cliticization requirement, then if children know the relevant restriction, they would be unable to generate a syntactic tree containing an object position into which *moi* could be inserted (if object clitics are heads but *moi* is necessarily a full DP, for example). One might then wonder why the same should not also apply to subject position. However, it has been argued (e.g., by Cardinaletti and Starke (1993)) that subject “clitics” and object clitics in French do not have the same syntactic status, and that the former are actually weak pronouns—XPs, not syntactic heads. If so, then the claim that *moi* is a default stand-in for *je* could be maintained.⁸³

There is one other observation about child French that could support my claim that subject Accord is optional, based on Ferdinand's (1996) analysis of the corpora of Grégoire (1;9.14–2;3.0), Philippe (2;1.19–2;6.21), and Daniel (1;8;1–1;11;1). She observes that there are a nontrivial number of what appear to be agreement errors, i.e., finite verb forms that do not match the phi-features of the subject, at a stage when correct agreeing forms are also being produced. However, in all such cases, the verb form in question is what Ferdinand identifies as the default form, that is, the (present tense) finite form with the widest distribution across subject features. Some of her examples are given in (55a–d), and other examples she cites from the literature in (56).

- (55) a. des motos fait du bruit
(pl) motors makes(3sg) noise
'Motors are making noise.'
- b. moi a tout bu
me has(3sg) all drunk
'I have drunk everything.'
- c. je va les retrouver
I goes(3sg) them find.back
'I am going to find them back.'

⁸³ Of course, it is very difficult to rule out the alternative possibility that preverbal *moi* is always left-dislocated, with a null subject occupying the position that would be occupied by *je*. If that turned out to be the case, the French data would simply not bear on my hypothesis at all.

- d. les bulles elles s'en va
the bubbles they(fem.pl) goes(3sg) away
 'The bubbles are going away.'
- e. est dedans moi est dedans
is(3sg) inside me is(3sg) inside
 'I am inside. I am inside.'
- f. des garçons va à l'école
(pl) boys goes(3sg) to school
 'Boys go to school.'
- g. cheveux est ça
hair(pl) is(3sg) that
 'That is hair.'
- (56) a. Des madames elle est assis
(pl) women she is seated
 'The ladies are sitting.'
- b. moi est pas vilain
me is not naughty
 'I am not naughty.'
- c. vous a des bas
you(pl) has (pl) stockings
 'You have stockings.'
- d. moi va
me goes
 'I am going.'
- e. moi a
me has
 'I have.'
- f. les poupées va pas manger
the(pl) dolls(pl) goes(3sg) not eat
 'The dolls are not going to eat.'

There are crucially no errors involving misuse of a marked finite form, e.g., **papa vont* 'daddy go-3pl', **des motos vais* 'some motorbikes go-1sg'. The distribution of correctly agreeing forms versus incorrect default forms is as shown in table 33. Note crucially that Ferdinand counted not only utterances where the subject was overt, but also those where it was null but the intended meaning was clear from context. She notes that "elsewhere forms and specified forms do not differ in their ability to license different types of subjects. There are not only null subjects but also lexical subjects occurring with the elsewhere form as well as with specified forms" (p. 56), though she gives

no counts. Unfortunately, she also does not report how many of these utterances were of the type (55c), with mismatch between a subject clitic and a verb form.⁸⁴

Table 33
 Distribution of agreeing versus default verb forms as a function of subject phi-features for three French children (Ferdinand 1996)

Form	Environment	
	Elsewhere context	Specified context
Grégoire		
Elsewhere form	> 50	14
Specified form	0	8
Daniel		
Elsewhere form	> 100	27
Specified form	0	5
Philippe (early files)		
Elsewhere form	> 100	16
Specified form	0	5
Philippe (later files)		
Elsewhere form	> 100	20
Specified form	0	89

Prima facie, these data look like counterexamples to the general claim that children do not misuse agreeing verb forms. It would be hard to claim that they are really infinitives with a phonologically dropped ending, since Ferdinand claims that "no positional difference can be observed between elsewhere forms and specified forms," i.e., the elsewhere forms apparently undergo V-raising, unlike OIs. However, under my hypothesis these forms plausibly represent INFL that is [Tense=present, -Accord].⁸⁵ If phi-features are missing from INFL, there is nothing to trigger insertion of the correct agreeing verbal suffix, but since the form is tensed, the infinitival suffix cannot be inserted either. Instead, the agreement slot will be filled with the agreement affix that has no

⁸⁴ If these existed in substantial numbers, they would be problematic for my account, since the subject clitic should require Accord, which should then force the correct matching phi-features on the verb.

⁸⁵ Ferdinand herself proposes a very different account of these data.

phi-features specified, the elsewhere affix. In the case of *-er* verbs, this will be zero, but with irregular verbs like those illustrated in (55), that affix may be audible.⁸⁶

5.4 Advantages over other theories of case acquisition and OIs

I have proposed an account of the OI phenomenon and its effects on case marking that differs from all other accounts of these phenomena that I know of in the following two key respects:

1) Child utterances can be missing tense features, agreement features, or both; these omissions may or may not result in overtly nonadult verb forms, depending on the morphological paradigm of the language; thus, in particular environments (e.g., where English *-s* is required), children's nonadult forms are not all the same syntactically;

2) The same syntactic "deficit," absence of Accord, combines with independent crosslinguistic differences in choice of default case to predict different patterns of case errors in different child languages.

In this section I argue that these properties make my account superior in empirical coverage to other accounts of child case errors in the literature.⁸⁷

One way that some authors have suggested dealing with English child nonNOM subjects is by saying that they are not subjects at all. Gruber (1967) proposed that the nonNOM pronouns in Mackie's data were actually not subjects but left-dislocations (which he called "topics"), and as such were in conformity with the adult grammar. The idea was that NOM pronouns cannot be (left- or right-) dislocated—they never occurred postverbally in Mackie's speech; Gruber assumes that when the subject is null (and there is a left-dislocation instead), the verb must also be null, since "Is a bear" is not a possible sentence of adult English. The details of his proposal are perhaps problematic, but some kind of dislocation analysis of nonNOM "subjects" is also entertained by Powers (1995b). The idea would presumably be that while left dislocation would be generally available in all sentences, only OIs license null subjects (to a first approximation), so only in OIs would a left

⁸⁶ In fact, one might tell a similar story about non-agreeing auxiliary *do* in child English, in cases like *Do it live in a windmill, How do he go?, He bite me, he do* (Ferdinand 1996, citing Radford 1992) or *Him don't run*. Tense and/or Negation is present, requiring *do*-support, but agreement is omitted, so the elsewhere form of *do* is inserted. This is in contrast to OI accounts that do not posit missing agreement, which are generally forced to claim that *don't* is an unanalyzed negation word.

⁸⁷ I limit discussion here to theories that make some predictions regarding children's syntactic distribution of case forms and case errors. Rispoli (1994) proposes an account of the relative frequencies of different case errors in child English in terms of "retrieval error," as a function of how much of their phonological shape certain forms have in common with others. His proposals are thus largely orthogonal to my own.

dislocated pronoun actually look like a subject. That is, we would expect utterances like (57a–c), but there would be no way to generate (57d).⁸⁸

- (57) a. [_{CP} Him, [_{IP} Ø like toys.]]
 b. [_{CP} Him, [_{IP} he likes toys.]]
 c. [_{CP} [_{IP} He likes toys.]]
 d. * [_{CP} Him, [_{IP} Ø likes toys.]]

In this way, the non-occurrence of nonNOM subjects of inflected verbs might be derived while maintaining that only Tense is underspecified in the OI stage. In principle, this is a reasonable proposal to pursue, but I offer numerous arguments against it. First, I am aware of no evidence that children's nonNOM subjects are set off intonationally from the following clause in the way that true left dislocations must be in adult English. If they are not, we would have to explain why the child can use the construction without the intonation. Second, it seems hard to maintain that all child nonNOM subjects are contrastive, in the way that left dislocated pronouns in adult English must be. Either we would have to explain why the child can use the construction without the semantics, or we would expect nonNOM subjects to differ from NOM subjects with regard to presence or absence of contrastive intent, a claim for which I know of no evidence. Third, we should expect to find utterances like (57b) surfacing, if left dislocation is as common as it would need to be to account for all nonNOM subjects, yet such utterances are virtually unattested in child English. Fourth, treating nonNOM pronouns as left-dislocated implies that children who know the difference between default case pronouns and GEN pronouns should not be able to use GEN pronouns in place of *Him* in (57a), since GEN pronouns cannot be left-dislocated in English. However, we have seen that there clearly are children who do this, so for them we need some different way to generate nonNOM subjects anyway. Fifth, treating nonNOM pronouns as left-dislocated predicts that they should not co-occur with fronted *wh*-expressions, since left dislocations, to the extent that they co-occur with *wh*-fronting at all, must precede the *wh*-expression in matrix questions; they should also not follow inverted auxiliaries. However, we will see shortly that utterances like *What me do?* are well attested in child English, and some reports of utterances like *Can me stay?* have also appeared (e.g., in Rispoli's analysis of Hart's data, summarized above). Sixth, while this account would correctly predict the absence of subject case errors in German, Dutch, etc., since subject left dislocations are NOM in those languages, it seems to have nothing to say about the fact that children speaking those languages make object case errors, while English chil-

⁸⁸ Whether one would also be able to generate utterances like *He like toys*, with NOM but no inflection (which I have shown are extremely common) would depend on whether OIs could optionally license overt as well as PRO subjects.

dren do not. For these reasons, I find it more promising to pursue an analysis in which all initial nonNOM pronouns can be subjects.⁸⁹

Another attempt to dismiss nonNOM subjects from the child's grammar is made by Radford (1990, 1994), who treats them as random errors. Radford claims that at the stage when children are making these errors, there is no general correlation between verbal inflection and the form of the subject. He cites examples like (58) as support for the claim quoted.

- (58) a. Me'll splash on you. (Stella, 36 months)
b. Where him is? (Martin, 42 months) (Radford 1994: 153)

The central claim made here is that children at [the lexical] stage *have not acquired the morphosyntax of nominatives* (i.e. they do not 'know' that nominative case is assigned to a DP which functions as the specifier of an agreement-marked I). (Radford 1990: 177)

My quantitative analysis, as well as Rispoli's, shows that counterexamples like (58) are so rare relative to the general pattern that one can reasonably attribute them to noise in the data. Indeed, not to do so would miss a very striking generalization. I actually find no evidence for a stage of English acquisition at which Radford's description holds; rather, as early as there is any evidence for case contrast, it is sensitive to agreement in INFL. In particular, note that at least Peter and Sarah (and, for 3sg forms, perhaps also Nina) had not produced the relevant case contrasts in their earliest transcripts, so the analysis above does cover the earliest point at which the syntactic distribution of case forms can be meaningfully studied.

Working within Radford's general approach, Aldridge (1989) proposes to account for nonNOM subjects in English by postulating that some children go through a stage where they have the following rule: "NP is Objective if governed by V, P, or a finite I." This rule obviously disconnects the phenomenon from anything we know about adult grammars, and furthermore fails empirically on Aldridge's own data, since most of her examples of ACC subjects are not in unambiguously finite clauses. It also has nothing to say about child GEN subjects. A further problem for this account is explaining the large number of NOM subjects with OIs: she is forced to say (and does say) that these must actually be imperatives, or have covert past tense features, or be morphological errors.

A third approach to child nonNOM subjects (and, in one instance, case errors more generally) is to say that they are part of a stage at which functional elements, including those required for

case assignment or checking, are absent altogether, and that they are produced systematically by the grammar of that stage. For this purpose we can lump together Lexical Learning theories (e.g., Clahsen, Eisenbeiss & Vainikka 1994) with theories like that of Vainikka (1994) and Radford (1995).

Radford assumes that functional projections are missing or inactive in early English; structural case marking is not available for the subject and so default case should show up. In contrast, Vainikka (1994) claims that some structural case marking is possible for an element in Spec-VP, in particular, genitive case, as found in errors like *my go*. Both of these authors make the strong claim that NOM case should not be assignable to Spec-VP, so instances of NOM subjects must involve the full IP-projection that appears at a later stage. There is one basic empirical prediction from stage-based acquisition theories of this kind, where initially for some length of time the child has an impoverished syntax, and then at a certain point "graduates" to a fuller structure that is used consistently from then on. If we assume, as Clahsen et al. and Vainikka do, that the absence of Infl/AgrS/Tense means that NOM case cannot be assigned, then we predict that structural NOM should be absent during this stage, and we should find default case forms instead. But my own data as well as Powers's and others' have consistently shown that for the majority of English children, there is *no* stage at which most of their subjects are nonNOM. Once NOM case marking is happening, that should imply that INFL is present, at which point any further errors require some other explanation. In fact, Vainikka acknowledges that both early instances of correct case marking and late instances of errors are problems for which her theory has no explanation. Such problems are of course characteristic of strict stage-based accounts of OIs in general: they simply cannot deal in a principled way with an extended period during which adult and non-adult clauses co-occur.

Independent of this issue, Vainikka's account of GEN subjects is problematic. While I agree with her that these should be treated as a grammatical phenomenon distinct from ACC subjects, her particular implementation is unsatisfying, for two reasons. She claims that GEN subjects arise when the subject is overtly in Spec-VP, because GEN is generally a "specifier case" crosslinguistically (she notes that its distribution in Finnish supports this in greater generality than its distribution in English). Unfortunately, in English GEN seems to be a *nominal* case, hence unexpected in Spec-VP, unless the child has not yet set some parameter that distinguishes English from Finnish-type languages. (The same criticism could be leveled at my account, though I have tried to finesse the problem in a different way.) The second problem is that it is dubious whether child English subjects are ever in Spec-VP overtly. Vainikka assumes Déprez and Pierce (1993) to have shown this, but subsequent work suggests that their evidence was fallacious (e.g., Stromswold 1996). Vainikka would predict that GEN subjects should surface only to the right of sentential

⁸⁹ Of course, I do not wish to exclude the possibility that *some* utterances actually involve left-dislocation combined with a null subject, if it can be shown that they have the properties expected of this construction.

negation, while NOM subjects should surface only to the left of negation. I am not aware of any data on this point—Nina does not seem to use negation with *my* subjects at all.

Let us turn now to alternative accounts that are utterance-based, rather than stage-based. Most of these to date have posited a single difference between adult-like clauses and all OIs: absence of Tense in the case of Wexler (1992, 1994), for example; absence of V-raising for Phillips (1995); absence of number for T. Hoekstra et al. (1996). Because these accounts give themselves less machinery to work with than mine, they cannot account for the range of case + inflection combinations that are attested in child English. Specifically, if they are to capture the absence of nonNOM subjects with inflected verbs by saying that “adult” INFL must assign NOM, they must say that in an OI utterance choice of case is free/random, since both NOM and nonNOM subjects occur there. As I pointed out above, this is clearly not the result of morphological confusion on the child’s part. In contrast, under my account, NOM and nonNOM have different underlying syntactic features, predicting that in languages with richer verbal inflection, one should see them co-occurring with different non-adult verb forms. In fact, this random choice scenario has to extend also to GEN subjects under a single-deficit account of OIs. But if OIs allowed random choice of subject case marking, we should expect to see this also in OI languages like German, Dutch, Russian, etc., yet this is emphatically not true. It is also not obvious how *object* case errors in those languages could fit a single-deficit theory of OIs, because there is little motivation for associating the defective property of OIs with object case assignment. (In fact, the same could be said even for *subject* case marking under Phillips’s approach: I am not aware of any adult language evidence that subject case marking depends on V-raising or morphological merger of INFL and V.)⁹⁰

There is one other major approach to OIs that does allow for different structures for different OI clauses, namely the clausal truncation approach (Rizzi 1994b etc.); unfortunately, it too fails to account for the data, for two reasons. First, whichever relative ordering of AgrS and T we assume,⁹¹ there will be no way to generate both [+Tense, –AgrS] and [–Tense, +AgrS] clauses. It is

⁹⁰ Phillips (1997) actually suggests a missing *agreement* treatment of OIs, noting parallels between OIs and “anti-agreement” or “*wh*-disagreement” effects in adult languages (see Phillips for review). However, he crucially claims that the agreement features that fail to show up in both child and adult clauses are nonetheless syntactically present; this importantly differentiates his claim from mine. Nonetheless, it is worth noting that for most of the adult languages Phillips discusses, he provides no evidence for the syntactic presence of the agreement features. It is thus conceivable that at least some of those phenomena could be treated as absence of agreement features. In this regard it is striking that the Belfast English facts I discussed in §4.1.5 show a parallel to the anti-agreement effects discussed by Phillips, in that agreement becomes obligatory again when I-to-C movement is independently forced (e.g., by question formation).

⁹¹ Treating subject agreement as features on T does not seem to help: if the tree is truncated below T, subject agreement features should also be obligatorily absent.

thus unclear how both NOM subjects with OIs and nonNOM subjects with past tense verbs (if these are real) can be generated without recourse to some random choice scenario as discussed above. The second argument is of the same type that has already been used with regard to null subjects (Roeper & Rohrbacher 1994, Bromberg & Wexler 1995): truncation theories of OIs claim that OI clauses are less than full CPs or even IPs, so elements that must be in Spec-CP should not co-occur with OIs. That is false for English null subjects: they occur frequently in *wh*-questions, as the cited authors have shown. Similarly, Truncation predicts that nonNOM subjects will not co-occur with fronted *wh*-expressions, if such subjects are due to (parts of) IP and higher projections being truncated. But this also seems to be false, although the numbers available to date are rather small. Looking first at Nina, she produced seven *wh*-initial clauses with nonNOM subjects and only three with NOM subjects. While these are small numbers, if anything they show the opposite pattern from what Truncation predicts.

For a larger sample of *wh*-questions, I examined Adam. As table 34 shows, he produced exactly the same number of *wh*+nonNOM clauses as *wh*+NOM clauses over the period during which both constructions occurred (examples in (59)), so again, the Truncation prediction is false.⁹² (In fact, as Vainikka (1994) notes based on the same transcripts, Adam, like Nina, seems to go through a stage where nonNOM subjects are much *more* frequent with *wh*-fronting than in initial position.) The children described by Huxley (1970) also show examples of *wh*+nonNOM, but no counts are provided.

Table 34
Adam’s *I* versus *me* subjects in *wh*-clauses by file (Brown 1973; 2;10.2–3;2.21)

	15	16	17	18	19	20	21	22	23	24	25	Total
<i>I</i>	1	0	0	0	(1?)	3	1	1	13	2	11	32
<i>me</i>	1	1	16	6	4	1	1	1	0	0	1	32

- (59) *Examples of Adam’s wh-clauses*
 a. what me think? (File 15)
 b. why not me break plate? (File 17)
 c. where me sleep? (File 17)
 d. why me drop it in (th)ere? (File 19)
 e. what I eat? (File 23)

While other OI theories have not necessarily addressed the subject case problem explicitly, they are clear enough that one can derive predictions. Wexler’s (1992, 1994) theory in which only

⁹² The scarcity of *I* subjects in *wh*-clauses in the early files of table 34 might lead one to suspect a time course confound here, but that cannot be the explanation: in file 17, for instance, when the largest number of *wh*+*me*’s occur, Adam produced 69 *I* subjects; the 16 *me*’s in *wh*-questions were the only *me* subjects in this file.

Tense is omitted in OIs predicts that all overt OI subjects should have the same case, since they all have the same syntax. Whether they should be NOM or some other case depends on whether one assumes T is responsible/required for NOM assignment by INFL or not; Wexler suggests they should be default ACC. However, what we have observed is that NOM, ACC, and GEN are all possible subject cases in OI utterances, even for a single child at a given age. Thus, extra machinery is required to allow these possibilities. Phillips (1995) proposes a theory in which OI properties are attributed to lack of raising of a verb to INFL at S-structure. As Phillips explicitly points out, this account predicts that inflected versus uninflected *nonraised* verbs (i.e., main verbs other than *have* and *be*) in child English should not differ on any syntactic properties, since neither involve overt V-raising. We might then expect a correlation between subject case and presence/absence of auxiliaries in INFL, but we should expect no such correlation based on the form of the main verb. As we saw above, the data are sparse enough that we cannot adequately assess this prediction yet.

The one remaining OI theory that I shall mention here is that of Wexler (1996), which derives the basic character of my account from a single-deficit theory. Wexler proposes that D-features of DPs are optionally [-interpretable] during the OI stage. He assumes further that AgrS and T have separate D feature requirements of their own, implementing the Extended Projection Principle, which could be motivated from the “two subject positions” of Icelandic (cf. Jonas 1995a and works cited there). Then it will turn out that a derivation containing a subject with [-interpretable] D can converge only if either AgrS or T is omitted, if we assume that uninterpretable features must erase as soon as they are checked. This is because the subject will be forced to raise to one of these projections to get its [-interpretable] D feature checked, but then that feature will erase, leaving no way to satisfy the D-feature requirement of the other functional head. Thus, the only way to converge is to omit that other head altogether. In this way, the three combinations [+Tns, -AgrS], [-Tns, +AgrS] and [+Tns, +AgrS] can be derived from a single deficit; however, [-Tns, -AgrS] could be derived only if the D feature were omissible from the subject altogether (an extra stipulation that would create a trivalent account) or if both Tense and AgrS were completely optional.⁹³ But the latter route would seem to be positing the two deficits that my account posits plus the additional D-feature problem, and hence is not an attractive move. Suppose we stick strictly to Wexler’s original proposal. Then we would generate NOM + finite, nonNOM + past, nonNOM + OI, and NOM + OI clauses, from the first three INFL combinations mentioned just above. We would need some independent way of getting the ACC versus GEN contrast, but as noted, all accounts may end up needing that. The additional prediction that would be made by the absence of the [-Tns, -AgrS] combination would be that nonNOM subjects do not occur in OIs with past meaning. As

⁹³ This would work because if [+interpretable] D is chosen, it need never be checked at all.

noted, it has not yet been possible to assess this kind of prediction. What about capturing object case errors in other languages? Here Wexler’s proposal as stated does not seem to buy us anything. It would be natural to assume that D-features of objects, as well as subjects, could be optionally [-interpretable], but if AgrO is the only head that has a D-feature requirement for objects, this will make no difference to the derivation. To unify object case errors with subject case errors, one would have to motivate a theory in which there were two heads that had a D-feature requirement for objects, one related to case, the other to something else (e.g., specificity). My own theory of adult grammar supports the idea of separating these two functions, often attributed jointly to AgrO, but I know of no evidence that the object case features also have a D-feature requirement.

This problem could obviously be given some technical solution, and Wexler’s account could thus be given equal empirical coverage to my own for the range of facts that currently seem secure. (As I show in §5.5.1.2, it may make different predictions from my theory for the time course of case errors and OIs, however.) It appears that, if one wishes to make a choice between them given our current state of knowledge, the more solid basis for such a choice would have to be the underlying assumptions concerning the locus of nonadulthood in child grammars. Wexler posits [-interpretable] D, which seems to lack motivation from adult grammars (hence, might not be a syntactic option in UG) and potentially implies substantially non-adultlike semantic properties for child DPs, depending on how exactly one works out the details. (Chomsky’s proposal for D-features seems to imply that they are the locus of referentiality; presumably, under a [-interpretable] D account, reference for DPs must be supplied in some other way in the semantics.) On the other hand, I have tried to argue that tense underspecification and omission of Accord have good precedents in adult grammar, but in so doing, I am forced to posit two independent differences between child and adult grammars, one having to do with the distribution of syntactic tense features, the other with competition between interpretationally-equivalent derivations (see chapter 6 for more on this last point). I leave it for the reader to judge whether one of these is more appealing.

5.5 Other predictions of the two-factor OI theory

5.5.1 Time course

I have claimed that OIs in child English can arise in two different ways: by virtue of the absence of a tense specification, or by virtue of failure of Accord leading to absence of agreement features. As will be discussed further in chapter 6, these two nonadult aspects of children’s clauses seem to have rather different characters, and it would thus not be surprising if children became like adults at different times on the two dimensions. That is, the requirement for Accord (i.e., application of the AMP) and the requirement for syntactic tense features could come to be enforced asyn-

chronously. This prediction differentiates my account of OI phenomena from all others I know of. Theories that tie OIs, subject case errors and null subjects to a single factor predict that these three phenomena should disappear together: as long as OIs are allowed, nonNOM subjects and null subjects can (in fact, should) appear, and once OIs are gone, these kinds of subjects should be gone too.

For some of the transcripts I have studied, the temporal dissociation that I predict is indeed found. For instance, in Nina’s File 32 (2;9.13), the file after her last subject case error (which was recorded four months later, after she got back from summer vacation), the OI rate is still 32% (86 finite, 41 nonfinite); similarly, in Sarah’s file 47 (3;2.2) it is 56% (18 finite, 23 nonfinite). For Adam, File 25 is the last file where he produces any nonNOM subjects; in File 26 he is still producing OIs 34% of the time (123/362). Thus, for these children, the Accord requirement seems to come in before the Tense requirement.⁹⁴ This pattern is also reported by Mabel Rice (p.c.) with regard to children in the Kansas/MIT longitudinal study. She notes that case errors in the probe task disappear while omissions of *-s* (and for the SLI children at least, also *-ed* and finite *be*) persist. In fact, the subject case probe was no longer administered after Round 3 of this study (SLI children at mean age 6, normal controls at mean age 4), because all children were performing at ceiling levels. But this may not be true of all children. (For Peter, OIs and nonNOM subjects seem to disappear at about the same time.) What sort of pattern would we expect if Tense became obligatory before Accord? This is hard to diagnose in English, but if tensed versus untensed main verbs in child English differ in whether they allow null subjects (contra Phillips 1995), then we would predict that the null subject rate should drop to Topic-Drop levels while OIs and nonNOM subjects were still being produced. That is, obligatory Tense would block PRO subjects, but optionality of Accord would continue to allow nonNOM subjects and would lead to inflection being missing from the verb. The only relevant data I know of come via Rizzi (1996), who takes figures from a case study by Ingham (1992) to show that null subjects can disappear while OIs are still being produced. Further research is required to establish whether both developmental orders are generally attested.

Two patterns that I predict should *not* occur are 1) for *both* case errors *and* null subjects to disappear before OIs disappear, or 2) for either phenomenon to continue after OIs disappear (modulo Topic-Drop). This is because the absence of verbal inflection is always a reflection of the absence of tense features or agreement features (or both), so if OIs are occurring, one of those features must be optionally absent, so the syntactic consequences of that absence should obtain.

⁹⁴ In fact, I make a further prediction here, which I have not yet attempted to test. If I am right that *-s* omissions can be due to agreement omission or tense omission (or both), while *-ed* omissions can only be due to tense omission, then a child who acquires obligatory Accord before obligatory Tense should show a decline in the rate of *-s* omission that is not matched by a decline in the rate of *-ed* omission.

The attested temporal dissociations for English children seem to mitigate against an account in which tense and agreement deficits are directly reduced to a unified source at the utterance level (see chapter 6 for more general discussion). In particular, Wexler’s (1996) suggestion that both types of omissions derive from [–interpretable] D features should lead one to expect that as long as D can be [–interpretable], either AgrS or Tense can be omitted. This is true on the assumption that children know that both AgrS and Tense are obligatory from the earliest stages, and are omitting them only because the subject’s D features force them to do so. If developmental dissociations turn out to be the norm rather than the exception, that would require some independent explanation on Wexler’s account.

5.5.2 Null subjects

I have proposed that the feature responsible for allowing (PRO) null subjects in both adult and child English clauses is independent of the feature responsible for checking the case of the subject. Based on the patterns across clause types discussed in §2.1, I claimed that PRO is possible iff tense contrasts are not. (Recall that the possibility of PRO does not exclude the possibility of the same clause type licensing an overt subject.) Given the taxonomy of English child clause types proposed in §5.3.1, we can now make predictions about the distribution of null subjects vis-à-vis verbal inflection, as the following expanded version of (42) shows.

(60) Possible INFL features for child clauses:

	INFL	Form	Subject Case	PRO subject possible?
a.	[tns=present, +Accord]	<i>-s</i>	NOM	no
b.	[tns=present, –Accord]	OI	ACC	no
c.	[tns=past, +Accord]	<i>-ed</i>	NOM	no
d.	[tns=past, –Accord]	<i>-ed</i>	ACC	no
e.	[–tns, +Accord]	OI	NOM	yes
f.	[–tns, –Accord]	OI	GEN(?)	yes

The following predictions ensue, based on the combinations of “Form” and “PRO subject” that occur in the table:

- 1) Null subjects are
 - a) more frequent with null auxiliaries than with overt auxiliaries, and
 - b) more frequent with uninflected than with inflected main verbs.

This is because both null auxiliaries and uninflected main verbs are represented as “OI” in the chart (60b, e, f), while overt auxiliaries and inflected main verbs are represented by the suffixes in (60a, c, d). PRO subjects are listed as possible in (60e, f) but not elsewhere.

2) Null subjects are about equally frequent with present and past tense inflected verbs (in both cases they can only be the result of Topic-Drop).

This is because none of (60a, c, d), the inflected verb entries, allow PRO subjects.

(These predictions are of course not different from those of Wexler (1994) or any other theory that ties child null subjects to missing inflection across the board; prediction 1b) differs from the prediction of Phillips's approach, because Phillips claims that only V-raising versus lack of V-raising is relevant to null subject rates, and both inflected and uninflected main verbs in English are unraised, so they should not differ in this regard.) Note crucially that since I claim that absence of tense contrasts does *not* imply absence of overt subject licensing, I do *not* predict the absence of overt subjects with clause types (60e, f). I therefore make no prediction concerning the overall rate of null subjects in OI clauses. In particular, in child languages other than English, it seems that overt subjects in OIs may be quite rare (see Phillips 1995 for review), but this is clearly not true for child English. Whether this contrast would be derivable under my approach depends on which clause types internally license overt subjects in those languages (continuing to maintain the assumption that children have figured this out by the age at which we can look for evidence of it), an issue I do not investigate in this thesis. (See Phillips 1995 for a proposal for V-raising languages.) Unfortunately, the available data for testing the predictions in 1) and 2) are somewhat problematic.

As far as I am aware, there are no direct counts in the literature concerning the prediction in 1a). The closest we can come is to look at null subject rates in nonsubject *wh*-questions, where Roeper and Rohrbacher (1994) report that only 2 instances in their finite verb category involved *-s* on main verbs, the rest being auxiliary *have* or *be*, modals, or *do*; since we know that uses of infinitive *be* as an OI are virtually nonexistent, and modals can never be seen to be OIs, we can guess that a large proportion of clauses in their nonfinite category involved null auxiliaries (the only other possibilities would be the forms *do* and *have* with 3sg subjects). Roeper and Rohrbacher found a much higher null subject rate with nonfinite than with finite questions, which is at least consistent with, if not very strong support for, prediction 1a).

Table 35
Adam's null versus pronominal subjects
in *wh*-questions, as a function of finiteness
(Roeper & Rohrbacher 1994)

Subject	Verb form	
	Finite	Nonfinite
pronoun	107	106
null	6	98
<i>Percent null</i>	5%	48%

If Eve's pattern of verb types in *wh*-questions is similar to that surmised for Adam, then the following data from Bromberg and Wexler (1995) would make the same point.

Table 36
Eve's null versus pronominal subjects
in *wh*-questions, as a function of finiteness
(age 1;5.12–2;2.21) (Bromberg & Wexler 1995)

Subject	Verb form	
	Finite	Nonfinite
pronoun	43	59
null	1	18
<i>Percent null</i>	2%	23%

Preliminary counts on the Naomi corpus (Sachs 1983) (Files 16–76, 1;10.19–2;11.12), which did specifically target overt versus null auxiliaries, are finding the same asymmetry.⁹⁵ (The two tables differ as to whether the baseline subject rate encompassed all overt subjects or only pronominal subjects; the effect is very clear in both counts.)

Table 37
Naomi's null versus all overt subjects
with auxiliary and missing auxiliary verbs

Subject	Auxiliary verb form	
	Overt	Omitted
overt	567	216
null	19	215
<i>Percent null</i>	3%	50%

$$\chi^2 = 302.35, p < .000001$$

⁹⁵ These counts were provided to me by Ken Wexler; they were conducted with the assistance of Christine Lim. I have not verified these counts myself.

Table 38
Naomi's null versus pronominal subjects
with auxiliary and missing auxiliary verbs

Subject	Auxiliary verb form	
	Overt	Omitted
pronoun	487	135
null	19	215
Percent null	4%	61%

$$\chi^2 = 343.55, p < .000001$$

The prediction in 1b) (that null subjects are more frequent with uninflected than with inflected main verbs) is much harder to test, for several reasons. Most importantly, an OI main verb with a null subject sounds identical to an imperative, and it is often difficult to rule out an imperative intention from the context in a transcript. Nonetheless, Phillips (1995) attempted these counts for two CHILDES transcripts, and found the null subjects rates were nonsignificantly different for one child, and actually higher with finite verbs for the other:⁹⁶

Table 39
Finiteness and null subjects with main verbs
Eve 1;6-2;3, files 01-20 (Phillips 1995)

Subject	Main verb form	
	Finite	Nonfinite
overt	78	138
null	8	17
Percent null	9%	11%

$$\chi^2 = 0.17, p = 0.68$$

Table 40
Finiteness and null subjects with main verbs
Adam 2;3-3;0, files 01-20 (Phillips 1995)

Subject	Main verb form	
	Finite	Nonfinite
overt	79	195
null	34	47
Percent null	30%	19%

$$\chi^2 = 4.98, p = 0.026$$

At face value, these findings are obviously problematic for any theory that treats main verb OIs in English on a par with dropped auxiliaries, or with OIs in other languages, where asymmetries between inflected and uninflected main verbs are found (see Phillips 1995 and sources cited there). However, it is unclear whether Phillips's figures really show that the difference in null subject rates predicted by such theories does not exist. The rest of this paragraph explains my reasons for skepticism. For one thing, assuming that null subject utterances that could have been imperatives were excluded, the null subject-nonfinite cell is only a lower-bound estimate on the actual null subject rate, since not every utterance that could have been an imperative might actually have been an imperative for the child who produced it. Second, Phillips, unlike the previously cited sets of authors, used all overt subjects as the baseline measure, rather than just pronouns.⁹⁷ While there is no reason to predict that this should make a difference, we simply do not know whether the rates of non-pronominal DPs are the same in OIs versus inflected clauses, so it would be desirable to verify Phillips's results against pronominal baselines. Third, Phillips points out (citing a suggestion from Ken Wexler) that due to semantic restrictions on the simple present in English, counting just main verbs could result in a confound if generic/habitual utterances are less likely to take null subjects; Phillips cites examples of several verbs from the Adam corpus that would not succumb to this problem, but does not report comprehensive counts of stative versus eventive verbs. Fourth, Phillips counts only utterances with (expressed or implied) third person subjects, where one might expect null subjects to be less likely; he reports that there is "no marked difference" between first and third person subjects concerning null subject rates for the transcripts he counted, but reports no counts. Fifth, Phillips advocates excluding from the counts null-subject utterances that would be valid adult utterances in the same context.⁹⁸ Presumably he has in mind sequences like *What did you do?—Ride a train*, where the latter might be a bare VP when used by an adult, but superficially has the form of an uninflected main verb with a null subject. Note that this is a place where the adult grammar instantiates an INFL/PRO correlation: one could not very felicitously answer the above question with *Rode a train*, keeping INFL but omitting the subject, or *I/Me ride a train*, dropping INFL but keeping the subject. It is of course not obvious whether the appropriate analysis of adult *Ride a train* contains a PRO subject. Nonetheless, we cannot rule out the possibility that a child using the same string in the same situation is producing a full OI clause (as opposed to, say, a bare VP). If there really is an effect of main verb inflection on null subjects, then excluding utterances that occurred in this environment could in principle be systematically removing evidence for it, since most or all excluded utterances would belong in the nonfinite-null subject cell. Phillips

⁹⁷ See Hyams and Wexler 1993 for empirical evidence that pronouns provide a more appropriate baseline measure.

⁹⁸ His intention (Phillips, p.c.) was also to exclude utterances that *could have been* felicitous as adult utterances except for the choice of verb form.

⁹⁶ Thanks to Colin Phillips for much helpful discussion about these data.

does not report how the numbers would look if these examples were put back in, but he cites figures from Wang et al. 1992 showing that at least half of the null subject utterances in their corpus fell into this category,⁹⁹ so this could be a serious concern. Given this range of possible objections, I consider Phillips's finding inconclusive.

Turning now to prediction 2), the relative rates of null subjects with present versus past inflection, there is one potentially relevant finding in the literature, from Sano and Hyams 1994. Their data suggest that null subject rates are actually higher with past tense marking than with present tense (they appear to be using all overt subjects as their baseline):

Table 41
Adam and Eve's null subject rates
as a function of verb form (Sano & Hyams 1994)

<i>Verb form</i>	<i>Proportion of null subjects</i>	
	<i>Adam</i>	<i>Eve</i>
uncontracted <i>am, are, is</i>	7%	0%
present in <i>-s</i>	25.8%	10%
past in <i>-ed</i>	56.5%	22.5%
all past tense forms ¹⁰⁰	45%	41.5%

Interestingly, while a nonsignificant tendency in this same direction for main verbs was found in counts of Naomi when all overt subjects were used as the baseline (Table 42), the difference is thoroughly nonsignificant for auxiliaries, and for main verbs when only pronoun subjects are used as the baseline.¹⁰¹

⁹⁹ In fact, Wang et al. are inconsistent in their description of which sorts of instances were excluded. At one point they say that all null subjects with gerunds and *to*-infinitives were excluded, because these are generally felicitous for adults. At another point they state that only those sentences of the above types that would have been felicitous for an adult were excluded. Either way, it appears that other categories of subjectless clause (e.g., the VP-looking answers to questions discussed in the text) were not part of their exclusions. If so, even their large numbers may underestimate the number of child utterances that fall into this category and are being excluded from Phillips's counts.

¹⁰⁰ These numbers were taken from Bloom 1990, and represent only the first 10 files of the 20 counted by Sano and Hyams for the other rows.

¹⁰¹ Also, Colin Phillips (p.c.) reports noticing no contrast in null subject rate between present and past tense main verbs in his counts of Adam and Eve.

Table 42
Naomi's null versus all overt subjects
with present versus past tense main verbs

<i>Subject</i>	<i>Main verb form</i>	
	<i>Present</i>	<i>Past</i>
overt	70	114
null	6	19
<i>Percent null</i>	8%	14%

$$\chi^2 = 1.32, p = .25$$

Table 43
Naomi's null versus pronominal subjects
with present versus past tense main verbs

<i>Subject</i>	<i>Main verb form</i>	
	<i>Present</i>	<i>Past</i>
pronoun	38	98
null	6	19
<i>Percent null</i>	14%	16%

$$\chi^2 < 1$$

Table 44
Naomi's null versus pronominal subjects
with present versus past tense auxiliary verbs

<i>Subject</i>	<i>Auxiliary verb form</i>	
	<i>Present</i>	<i>Past</i>
pronoun	440	47
null	16	3
<i>Percent null</i>	4%	6%

$$\chi^2 < 1$$

Table 45
Naomi's null versus all overt subjects
with present versus past tense auxiliary verbs

<i>Subject</i>	<i>Auxiliary verb form</i>	
	<i>Present</i>	<i>Past</i>
overt	506	61
null	16	3
<i>Percent null</i>	3%	5%

$$\chi^2 < 1$$

Once again, it appears that more study is called for. Despite the empirical uncertainties, it is clear what predictions my hypothesis makes for English.

6

Open questions and future directions

Needless to say, we are now pretty far out on a limb.

(Chomsky 1995: 376)

The central claims of this thesis have been the following:

- Agreement and case marking reflect a single syntactic relationship, Accord, and children show evidence of knowing this as early as we can test for it.
- The presence of features involved in Accord is not a convergence requirement but a preference among convergent derivations, expressed by the AMP, and children do *not* always obey/implement the AMP.
- In non-null-subject languages, the presence of Tense features bars null subjects, but the absence of Tense features is often compatible with both null and overt subjects. Children's distribution of subjects in uninflected versus finite clauses is consistent with adult grammars in this respect.
- There is no general requirement for Accord when Tense features are present or absence of Accord when Tense features are absent. Children are UG-consistent in allowing these two to vary independently.
- Obligatory presence of tense features, even in root clauses, is not a convergence requirement, but an interface requirement on certain kinds of interpretations (e.g., declaratives)—see later in this chapter. Children's Tense distribution is consistent with the purely syntactic requirements on Tense, but does not always conform to adult interface conditions.

In each instance, however, I have offered little in the way of an answer to *why* things are the way they are. I will not be offering many such answers here either, but I will try to spell out what questions ought to be asked.

6.1 Open questions about adult grammars

With regard to Accord first, the most fundamental question to ask is why there is such a notion. I defined Accord as a checking relation involving case- and phi-features and stipulated that, at least for a wide range of instances, these form an indivisible bundle for purposes of the syntax. The argument for doing this was purely utilitarian: I tried to show that a large number of facts (including acquisition facts) could be captured if we make this move. In particular, Accord captured

the correlation between English children's nonNOM subjects and lack of verbal inflection, and correlations between NOM case and agreement in many adult languages. We would obviously like to know why case features and verbal phi-features go hand-in-hand this way, and whether this is a universal or just one parametric option. The only hint I have so far been able to offer is that on the V/INFL side they are all uninterpretable. A second set of questions surrounding Accord has to do with Accord Maximization: if there is indeed some principle like this at work in human languages, why? Why not simply allow speakers free choice as to how much case and agreement to stick into their sentences? This could of course simply be an arbitrary property of UG, arising by evolutionary accident. One wonders, however, whether something more systematic is involved.

With regard to subject licensing and tense/event specifications, I have suggested some possible correlations among these properties of the functional system of the clause. It appears that subjects are licensed if a clause has an inherent event binder, and PRO subjects are possible if a clause does not take tense contrasts (at least, to a first approximation in each instance). Then, we perhaps have a descriptive correlation between some formal aspect of the syntax of the clause and some aspect of its meaning. Let us assume for the sake of continuing the speculation that many apparent problems can be resolved and something like these correlations actually holds, not even worrying for now about obvious issues as to whether the correlations could conceivably be universal. The burning question again is, Why would there be this kind of connection between the syntax of subjects and verbs on the one hand and the gross semantic character of the clause on the other? See Pesetsky 1992 for the first attempt to tackle this problem systematically, and earlier work by Borkin. Some further issues regarding the mapping between these kinds of functional features and the possible interpretations of various clause types will be raised later in the chapter.

6.2 Open questions about acquisition

6.2.1 Descriptive questions

Limitations of various sorts have made it impossible to find answers to numerous descriptive questions about acquisition that bear quite directly on whether some of my claims could be maintained. Here I list just a few of the more important ones that I hope to pursue in future work.

The first and most critical gap is of course the question of whether child languages other than English show correlations between subject case "errors" and forms of inflection. The search for such evidence has been hampered by the apparent scarcity of languages where the default case is not the subject case, but a couple of such languages have now been identified (Norwegian and Danish) as targets for future study. The same question is also critical with respect to objects: we need acquisition data for a language with object agreement and object case distinctions in order to

test more directly the claim that *object* Accord is also optional in early acquisition. That may prove a more difficult quest.

The second data gap has already received a fair bit of attention in §3.2.2. That is the question of whether children's case errors in OI languages always go in the direction of the default case of their language, as diagnosed independently by certain syntactic environments in the adult language. (In fact, we already know that the answer is No in one sense, given GEN subject errors in child English. Hence, a subsidiary question is, do any "extra" errors like this have something in common with the English GEN situation? Recall my claim there was that GEN-subject gerunds look sufficiently "clause-like" in English that the child concludes that GEN subjects of non-finite clauses are possible in general.) A complete answer to the first descriptive question might also help us decide whether children are keying in on one specific syntactic environment to establish the default case setting, or looking at a range of environments, or performing some sort of more general deduction involving the grammar of the particular language they are learning.

A third important data gap concerns the claim that, at least in OI languages, two different things are optional in early acquisition, Tense and Accord. This claim makes the straightforward prediction that a language that marks tense and agreement with separate morphemes could show independent omission of each of them in an early stage of acquisition; then, non-NOM subjects should be limited to [-Accord] clauses and excluded from [-Tns, +Accord] clauses as well as from [+Tns, +Accord] clauses, and null subjects should more frequent in [-Tns] than in [+Tns] clauses, independent of [\pm Accord]. Testing these latter predictions may again be hampered by the shortage of nonNOM default languages, though we saw some hints in chapter 5 (e.g., from Dutch) that other kinds of subject contrasts might also be relevant.

A broader set of questions concern the generality of Optional Accord (OA) phenomena¹ both within and across languages. Within a language like English that is hypothesized to show these phenomena, does every child go through an OA stage? The question comes up because, at least at first blush, there appear to be children who do not make any case errors in their transcribed production. Is that because the errors were simply rare and escaped the sampling process? Did the OA stage end before multi-word speech began? Or do some English children never go through OA at all? Across languages, two other questions arise. First, looking at the data in §5.3, one could reasonably ask whether the object case error rates in other languages do not often seem a lot lower than the subject case error rates in English. In some instances, that could be because no one has

¹ In this chapter I refer specifically to optional agreement omission as OA, in contrast to optional finiteness omission, OF.

counted the phenomenon for young enough children to see OA in full bloom. But if there is a real difference, why should that be? Is there something easier about object case and agreement than subject case and agreement? At the most general level, do we expect OA phenomena in all child languages, even those that might not show other optional finiteness (OF) effects (if indeed this is a categorical distinction, contra Phillips 1995)? More generally, what sorts of verb forms are possible expressions of OF and OA structures—participles, bare stems, inflected infinitives, . . . ? Can some universal characterization of the INFL features of child clauses plus independently motivated morphological analyses predict the range of these forms that occur in child production?

6.2.2 *Issues for learning*

Despite all that we still do not know at a descriptive level, I hope to have established a few facts that raise serious and interesting questions about how development proceeds and how language-particular aspects of clause types could be acquired. Here I enumerate some of those issues. One whose importance has become increasingly clear to me while working on this study is the issue of how inflectional morphology is acquired: what sorts of assumptions and inferences allow the child to build up this system without making errors of commission along the way? How much does a child have to have figured out about the distribution of a vocabulary item before creating an entry for it in her productive lexicon? How radically can she change existing entries in the face of new entries? How are properties such as fusion of T and AgrS learned? Clearly, the role of defaults and priorities of insertion among vocabulary items are central to the kinds of phenomena I have been talking about, and deserve further attention. Does anything force a child to posit a default case feature-filling rule for every language, for example?

Turning now to syntax, I have argued that the structural case system at least has been mastered by the time multi-word utterances are produced. This means that the child must have figured out the setting for the accusative versus ergative versus split parameter and which structural case is associated with which functional head. Doing so presupposes figuring out which morphology encodes case features in the language; I have argued that in some instances this is far from obvious, e.g., Choctaw nominal suffixes and Korean "stacked" case particles, both of which look like plausible candidates for case markers but have been argued not to be. There are also "smaller" parameters to be learned, for which there is as yet little or no evidence concerning how early they are mastered, e.g., whatever distinguishes Icelandic versus Faroese with regard to what happens to structural case checkers when quirky cases are around.

Another big set of problems for the child is figuring out where each clause type falls on the range of possible INFL features [\pm Tense] and [\pm Accord]. Clearly at least some of this cannot be

universal, for instance, the fact that Belfast English root declaratives can lack Accord while in Standard English they cannot,² the contrasts between Greek and Portuguese on which types of complement clauses take Accord, etc. In future work I hope to explore whether some clause types are uniform crosslinguistically in this regard. (For instance, a plausible candidate might be Mad Magazine sentences, which take their subjects in the default case in every language where I have seen them attested, i.e., they might always disallow Accord.) As for how DPs in particular positions get their case feature, the child must figure out in which environments case Concord applies, which sorts of clauses assign “special” cases (e.g., DAT subjects of infinitives in Russian), and which environments are left to be filled in with the default case. We saw evidence that even in “close” pairs of languages like English and German, there is considerable variation on concord versus default environments, with some positions showing mixed behavior. It might be fruitful to investigate what sorts of errors children make in these environments, if any (we saw that they do not seem to misapply concord in default environments in English).

Turning to the main respects in which children are clearly *not* adult-like that have been the focus of the acquisition portion of this study, the \$64,000 questions are, what is the locus of child-adult differences, and how do children eventually come to be adult-like? In particular, how does it come to be that Accord Maximization (or whatever requires agreement in environments where it is obligatory for adults) is eventually enforced, and how does it come to be that tense marking where it is obligatory for adults is eventually enforced? One of the purposes of talking about the range of clause types that I have discussed was to emphasize that there is a considerable range of environments, including root environments, where tense features are not obligatory, and a (different) range of environments where Accord does not obtain. Thus, the knowledge in question cannot be anything as coarse as “Every root clause must have ...”; it apparently must refer to specific semantic properties of clause types (see also the next subsection). In §6.3 I will speculate further on the nature of the AMP deficit, suggesting that *knowledge* of it might not be absent, only the ability to *implement* it. With regard to tense, characterizing the deficit entirely as one of implementation rather than knowledge seems less plausible (but see discussion in §6.3 and in Phillips 1995). Since I have not provided evidence here for any particular explanation for the source of the tense deficit in OF languages, I remain open to a range of possibilities found in the literature that are consistent with the known facts, including maturation of a piece of grammatical knowledge, maturation of a pragmatic principle, etc. My suggestion, however, has been that children are using adult clause types with non-adult meanings; if that is literally true, then their deficit would lie specifically in the

² In this regard, a study currently underway by Alison Henry (p.c.) and colleagues on the acquisition of Belfast English could be very informative.

mapping between syntactic features of clauses and their semantic interpretation, a speculation that I pursue further in the next subsection.

6.2.3 *Semantic implications of the analysis of child clause types*

In this subsection I explore the question, Are the range of child OF meanings the same as the range of adult root infinitive meanings, or perhaps as the range of adult nonfinite clause meanings? That is, is there anything special about what OIs mean, given their internal composition, or is what is special simply the fact that they can occur in matrix environments?³ In trying to answer this, we should also take account of a related question: To what extent are the meanings of adult root nonfinite clauses “special,” i.e., idiosyncratic to their occurrence in root environments? I focus here on infinitives. (See Pesetsky 1992 and sources cited there for much more discussion of the semantics of infinitives.)

The central descriptive point to be made here is that infinitives are not necessarily irrealis: this is clear in the case of complements to true ECM verbs like *believe*, where the semantics is not relevantly different from a present tense clause, but it is also true for *for-to* infinitives.⁴ Although many uses of these obviously are irrealis, this is not true across the board (cf. Pesetsky 1992, Stowell 1982, Huettner 1989, Portner 1992). For example, subject infinitival relatives can be factive:

- (1) He was the last man to arrive.

Non-purposive adjunct and subject infinitives can, too:

- (2) a. John awoke [to find a bottle of gin by his bed.]
 b. He finally found a flashlight, only [for the lights to come back on.]
 c. To lock the door was stupid of us.

With regard to cases like (2a, b), Portner observes, “the relation between the fact expressed by the infinitive and that expressed by the matrix clause is somewhat vague. The situation is similar to that discussed by Stump (1985) for absolute constructions. Absolutes, according to Stump, may either be an argument of a modal or other quantificational operator or be connected to the rest of the sen-

³ I limit discussion of adult root infinitives here to English; see Weverink 1989 for Dutch, Haegeman 1995 for French and Dutch, and Rizzi 1994b for Italian. None of these languages differ greatly from what is found in English, not surprisingly.

⁴ Recall from §5.2 that nonverbal Mad Magazine sentences, the other major kind of root nonfinite clause, do not have to be interpreted as irrealis either.

tence by a vague connective that just states that the one proposition is relevant to the other.” Perfect infinitives, which can occur as root clauses, seem also to be realis:

(3) After all that’s happened, to have in the end been left by her! (Portner 1996)

(3) seems to mean something like ‘It is terrible to have been left by her’, ‘It is terrible that I have been left by her’—the infinitival clause again is clearly not unrealized.^{5,6} In my intuition, forcing a past interpretation with an adverb also gives this kind of reading:

(4) You fool, to forget your wedding anniversary yesterday!

I think (4) can be paraphrased ‘It was really stupid that you forgot...’ On the other hand, there are of course many uses of *for-to* infinitives, including most root uses, that are irrealis:

- (5) a. Oh, to some day meet her!
 b. Now (for us) to make our escape!
 c. Where to go for help?
 d. This is a good book for children to read.

It is not my intent here to attempt to explain these observations (see, inter alia, Portner 1992, 1996 for discussion). Rather, I simply wish to suggest that they imply that *for-to* infinitivals are not inherently irrealis, even as root clauses, and therefore, if a child were to use a clause of this syntactic type as a simple description, that would not be incompatible with its syntax.⁷ (Of course, children are not doing exactly that, since they are not using *for* or *to*, but the moral is more general.) That plainly leaves open exactly what *is* violated by such uses, but as I suggested above, a plausible place to look would be in the mapping from the features (e.g., tense or lack thereof) that are actually encoded in the sentence to the interpretation of the force of the utterance (e.g., as asserting versus intending, etc.).

Having discussed the realis/irrealis component of root infinitive meanings, let us turn now to a related issue that arises with regard to the interpretation of OFs, the question of temporal reference. It has been claimed (cf. §1.2) that OIs can refer (at least) to ongoing, past, or future events,

⁵ Portner suggests that the “regret” component of the meaning is inferred from the context rather than being directly encoded somehow in the structure. Indeed, it seems one can use pragmatics to encourage a positive affect reading, as pointed out by Alec Marantz: *To have won the game by 20 points!*

⁶ However, David Pesetsky points out that another possible paraphrase does involve (what looks like) a modal: ‘Oh, that I should have been left by her!’ He notes that sentences like (3) might have both a realis and an irrealis component to them: the first, stating or presupposing that the event took place, the second, commenting on how unlikely such an event would be.

⁷ However, see Pesetsky 1992 for the suggestion that in the adult grammar, the factive use of infinitives requires its Comp to be licensed by an appropriate higher element.

as well as having “modal” meanings. To what extent are these temporal options a violation of the adult grammar? In the usual situation, nonfinite clauses that have a specific temporal reference acquire it from a higher finite clause, as in the examples in (6).

- (6) a. Yesterday I enjoyed singing *Soliloquy*.
 [both the singing and the enjoying happened yesterday]
 b. Today I want to sing *If I Loved You*.
 [the wanting is happening today, and so should the singing]
 c. Tomorrow we will hear [John Raitt sing].
 [both the hearing and the singing will happen tomorrow]

However, there are also many environments where nonfinite clauses of all sorts can be freely specified for temporal reference distinct from or in the absence of a higher tensed clause.

- (7) *adjunct small clause*
 a. With John out of town last week, we’ll have a lot to catch up on next week.
 b. With John out of town next week, we had a lot to prepare last week.
 c. With John out of town this week, we have a lot to do today.
- (8) *Mad Magazine sentence*
 a. John drunk at 3:30 last night??!!
 b. John in the hospital now??!!
 c. Clinton (still) the president next year??!!
- (9) “*wistful*” infinitive
 a. Oh, to know her name yesterday and forget it today!
 b. Oh, to see her face right now!
 c. Oh, to be with her tomorrow!
- (10) *Headlines*
 a. YELTSIN ABLE TO TALK LAST WEEK
 b. YELTSIN NOW ABLE TO WALK
 c. YELTSIN ABLE TO RESUME DUTIES NEXT MONTH
- (11) *complement small clause*
 a. I can envision [John happy in his youth/in 1965].
 b. I can envision [John upset right now.]
 c. I can envision [John content in his old age/twenty years from now.]
- (12) *adjunct gerund*
 a. (What with) John eating the pizza yesterday, there’s nothing left in the fridge now.
 b. (What with) John eating the pizza as we speak, we’ll have to order Chinese tonight.
 c. (What with) Mom making pizza tomorrow, we warned our friends to bring their Zantac.
- (13) *imperative*
 a. Go jump in the lake right now!
 b. Go jump in the lake at 6 p.m.!
 c. Go jump in the lake next Tuesday!

- (14) “Why” root infinitive
- a. Why break her heart right now?
 - b. Why break her heart at 6 p.m.?
 - c. Why break her heart twenty years from now?

In Dutch, a root infinitive can be used in story-telling as a simple declarative; temporal reference can be specified by an adverb:

- (15) Driesje vocht met Aadje. Hij toen snikkend naar zijn moeder **lopen**.
D fought with A. He then sobbing to his mother run(INFIN).
 (Reuland 1981: 165)

What I wish to conclude from these facts is that there is no grammatical incompatibility between nonfinite clauses, even root clauses, and specific present or past temporal reference. Therefore, if children indeed use OIs with such reference, they are at worst leaving out a temporal adverb (which they perhaps believe can be inferred from context), but aside from that they are making perfectly legitimate use of the type of clause they are uttering. Thus, children’s nonfinite utterances ought to be able to mean what children seem to use them to mean. If so, children’s deficit does not lie in the mapping from INFL types to meanings per se. Rather, they seem to be ignoring some extra restrictions on the *distribution* of clause types that demand that a root clause cannot be interpreted as declarative/realis if it lacks a tense feature in INFL. Given the observations in (7–15), this restriction is plausibly *not* part of the machinery of convergent derivations, but rather, lies in the mapping between the syntax of an utterance and its possible discourse force.⁸

6.3 Comparisons among derivations in child and adult grammars

In this thesis I have been chiefly concerned with two constellations of properties that differentiate clause types, both adults’ and children’s. One, which I have characterized as Accord phenomena, involve (a particular subset of) case and agreement features. The other, which I have characterized (very roughly) as Tense phenomena, include tense features themselves and the kind

⁸ Children might have a fair bit of learning to do in order to master this mapping, given that it is apparently not (completely) universal (cf. (15) versus its impossibility in English). Note that everyday English conversation provides lots of utterances that might tempt the learner to conclude that it too allows root untensed declaratives, e.g.,

- (i) A: What was that noise?
 B: John starting his old car.

Thanks to the very free ellipsis licensed in question answering situations, utterances that have the intonation of declarative sentences and the superficial structure of valid complete nonfinite clauses are abundant. It could take children quite a while to sort out that this option is not made available in full generality by English—doing so requires them to pay attention to contiguous speech encompassing more than one utterance and more than one speaker and to ascertain whether a certain semantico-pragmatic relation obtains between the utterances.

of subject (overt, PRO, none) that is licensed by them. I have shown that children learning several European languages show nonadult behavior with regard to both kinds of phenomena. I have argued, however, that this nonadult language production behavior does *not* arise from lack of knowledge of how these systems work. In particular, I have attempted to show that young children know that (the relevant kinds of) case checking and agreement checking must happen together, that all nonselected clause types license overt subjects, and that tenseless but not tense-contrasting clause types license PRO subjects.⁹ If I am on the right track, then children’s nonadult behavior is not due to a lack of syntactic knowledge. More specifically, the “deficit” cannot be localized within the computational system, the machinery that attempts to find a convergent derivation given a set of lexico-syntactic building blocks. This is true if one assumes the kind of view of tense feature distribution sketched in §6.2.3, and accepts my claim that the presence of case and agreement features cannot be required by convergence considerations. I conclude this work with some speculations concerning how (dis)similar the two types of “nonsyntactic” nonadulthood, OA and OF, might be.

In terms of their superficial symptomology, the phenomena have one thing in common, one reason that they have been treated together in this study and in the generative acquisition literature in general: they both affect the form of the verb. Tense features and agreement features are most often expressed on the same word, and in familiar European languages there is considerable interaction in how each set of features is spelled out depending on the other set. However, one could argue that the similarities end there. My particular characterization of OF and OA phenomena attributes them to separate components of the grammar that seem to work in very different ways. Specifically, if anything like the AMP characterization of adult case/agreement systems is on the right track, they crucially involve comparisons among convergent derivations that differ only on the

⁹ I have not attempted to show directly that children know that clause types that mark tense contrasts disallow null subjects, since such subjects are observed, presumably because of an independent process like Topic-Drop, as generally assumed in the acquisition literature (cf. §3.1.3). However, the difference in null subject rates between tensed and untensed clauses at least shows that children are sensitive to some difference in the extent to which subject drop is possible in the two clause types.

presence/absence of case and agreement features.^{10,11} This computation is thus completely oblivious to meaning: regardless of which “winner” output form is chosen, meaning cannot be affected; feature counting is all that is required. In contrast, OF phenomena as I have characterized them seem to involve considerations far removed from the computational system, caring only about the interpretable features in the output representation and how to map them into the message being communicated. Looked at in this extreme way, it should not be surprising that we seem to find a temporal dissociation in the course of acquisition of OF and OA phenomena (§5.5.1). It would also not be surprising to find a neurological dissociation such that one system could be impaired by brain damage while the other was left intact, and this might well be true. Friedmann and Grodzinsky (1997) argue that there are a set of agrammatic aphasics who show Tense deficits (similar to but in some sense much “worse” than what normal children exhibit) while their agreement system is completely intact (cf. Cahana-Amitay 1997 for a similar finding).¹² On the other hand, Borer and Rohrbacher (1996) looked at other agrammatic data that show considerable distortion in the agreement system (again, beyond the types of errors made by normal children); I have not yet investigated the state of the Tense system in the data from these latter patients. These obser-

¹⁰ Note that my account has in common with Phillips’s (1995) the idea that among the things that differentiate children from adults is how they resolve comparisons among competing derivations. As far as I can see, we arrived at that conclusion by completely different routes.

¹¹ I have been deliberately noncommittal as to what is going wrong in this comparison. Three possibilities come to mind, all of them plausibly relatable to limited computational resources: 1) the correct set of derivations is being computed and the comparison is being attempted, but it sometimes cannot be carried out to completion accurately; 2) some of the relevant derivations are not being computed and therefore are not available for consideration by the comparison; 3) the comparison component is not active at all, and whatever derivation happens to be computed (first?) gets spelled out. (This is of course all framed in terms of Chomsky’s derivational metaphor for linguistic competence; I make no claims about how the function characterized by that system is actually being computed in humans.)

It is actually possible to tease apart the predictions of these three alternatives to some degree, if one accepts my suggestion in chapter 4 that certain other aspects of the case/agreement system also involve comparisons among convergent derivations. In particular, I suggested that the Accusative/Ergative parameter could be implemented in this way, essentially saying that, for an Accusative language, a convergent derivation involving object Accord but no subject Accord will be blocked if there is a convergent derivation involving subject Accord but no object Accord in the same competition set. The relevant competition set would again be all convergent derivations differing only on case and agreement features. Thus, if OA children were failing to compute (all) the members of these case/agreement competition sets, they ought to make “Accusativity errors.” But we know from the almost complete absence of ACC subjects in child German, Russian, Dutch, etc. that this does not happen. (In fact, I know of no evidence for the Accusative/Ergative parameter being initially misset in any language.) This suggests (extremely tentatively!) that explanation 1) above is more likely to be correct, i.e., the competitor set is being computed correctly but the AMP is sometimes picking the wrong winner (but the Accusativity constraint is apparently getting it right all the time). I will refrain from speculating further as to why this last contrast might obtain, for the reason noted in the epigraph to this chapter.

¹² Although her data are limited, Na’ama Friedmann also informs me that her own patient’s case production is intact. I hope to investigate this question for other aphasics with intact agreement in the future.

vations suggest (though they hardly prove) that it is appropriate to treat OF and OA phenomena in fundamentally different ways.¹³

There is, however, a way to conceive of the constraints on the distribution of syntactic tense features as also involving competitions among convergent derivations. It is a view that comes out of Grodzinsky and Reinhart’s (1993) work on binding and the related literature on so-called delay of Principle B effects in child language (see Chien & Wexler 1990, Grimshaw & Rosen 1990, etc.). Their idea is roughly that, given a choice between encoding some aspect of the meaning of a sentence directly in the syntactic features (e.g., by the use of coindexing, which could trigger the use of an anaphor) versus by some extra-syntactic means (e.g., happening to assign a pronoun the same referent as a higher nominal expression), the syntactic encoding must be used if the resultant meanings are identical. Children are claimed to have some difficulty in performing the comparison of representations required. T. Hoekstra and Hyams (1995) have analogized the obligatory tense requirement of matrix declaratives to this kind of principle. (Their particular implementation involved a competition between binding a temporal operator with syntactic tense features versus binding it from the discourse; see also Rizzi 1995.) The general point is that, as I argued in §6.2.3, nonfinite clause types clearly can acquire specific temporal reference without syntactic tense features; let us leave aside the specific mechanism by which this can be done. We have set up a situation where a particular meaning involving some temporal reference might be expressed either by a nonfinite clause (perhaps getting that reference via an adverbial restriction implicit in the discourse) or by a clause with a syntactic tense feature. Since both are possible clause types, both represent the outcome of a convergent derivation. There then needs to be a choice as to which way to express the desired meaning, and it is here that I and other researchers suggest that children and adults differ. Of course, the comparison involved here is quite different from that involved in the AMP, since by definition the competitors differ on presence/absence of tense features, which are interpretable. Thus, the alternatives could not be part of one competition set as I defined it for the AMP.

We are led to conclude by giving two opposing answers, at different levels, to the question with which we began this section. In my view, OF and OA phenomena cannot be reduced to a sin-

¹³ This could be taken as an argument against Wexler’s (1996) proposal to unify OF and OA phenomena via [-interpretable] D (cf. §5.4). However, it should be noted that his approach and mine rely on quite different conceptions of what agreement is in the syntax. Wexler’s unification crucially depends on the existence of separate D-feature requirements associated with T and AgrS, most naturally fitting with the view of AgrS as an independent functional head that has properties over and above (copies of) the subject’s phi-features. My approach treats agreement features as features whose presence or absence has no consequences beyond their need to be checked, and thus fits most naturally with viewing them as piggy-backing on some contentful head. This obviously makes a big difference to how similar OF and OA appear.

gle difference between child and adult linguistic competence, because they reflect computations across different sorts of representations and at different levels of the grammar. However, at a more abstract level they could well represent the same *kind* of difference between the two systems, in a way that would unify them also with the delay of Principle B effects alluded to just above. All three ways in which children differ from adults share a common property. They involve producing one of a set of possible utterances that represent outputs of convergent derivations, derivations that have the right meaning for what the child intends to say, but that happen to be dispreferred (in different ways) relative to alternatives with a slightly different formal make-up. The differences in detail allow for the fact that the three phenomena seem to show different time courses (in particular, Principle B “violations” are found much later than OIs, which in turn generally persist later than case errors). Their similarity in terms of competition is exactly what one would expect on a view where the computational system proper is innate and universal, and what the child must learn are 1) the forms used to spell out the results of that computation, and 2) partly nonuniversal principles that rank the possible ways of using the outputs of the computation to express what one wants to express.

References

- Abdulkarim, Janya & Thomas Roeper (1996). Ellipsis as a mirror of case and economy of representation in child grammars. Paper presented at the VIIIth International Congress for the Study of Child Language, Bogazici University, Istanbul, Turkey.
- Abney, Steven Paul (1987). The English noun phrase in its sentential aspect. Ph.D. dissertation, MIT.
- Akmajian, Adrian (1984). Sentence types and the form-function fit. *Natural Language and Linguistic Theory* 2, 1–23.
- Akmajian, Adrian, Susan M. Steele & Thomas Wasow (1979). The category AUX in universal grammar. *Linguistic Inquiry* 10(1), 1–64.
- Aldridge, Michelle (1989). The acquisition of INFL. Bloomington: IULC.
- Andrews, Avery D. (1982). The representation of case in Modern Icelandic. In Joan Bresnan (ed.), *The mental representation of grammatical relations*, Cambridge, MA: MIT Press, 427–503.
- — — (1990a). Case structures and control in Modern Icelandic. In Maling & Zaenen 1990, 187–234.
- — — (1990b). The VP-complement analysis in Modern Icelandic. In Maling & Zaenen 1990, 165–185. [Revision of a paper originally published in *NELS* 6, 1976, 1–21.]
- Aronson, Howard Isaac (1982). *Georgian: A reading grammar*. Columbus: Slavica.
- Avrutin, Sergey (1997). EVENTS as units of discourse representation in root infinitives. Paper presented at the Workshop on the Interpretation of Root Infinitives and Bare Nouns in Child Language, MIT.
- Babyonyshev, Maria (1993). Acquisition of the Russian case system. In Colin Phillips (ed.), *Papers on case & agreement II, MIT Working Papers in Linguistics* 19, 1–43.
- — — (1996). Structural connections in syntax and processing: Studies in Russian and Japanese. Ph.D. dissertation, MIT.
- Baker, Mark, Kyle Johnson & Ian Roberts (1989). Passive arguments raised. *Linguistic Inquiry* 20(2), 219–251.
- Bailyn, John F. (1995). Configurational Case assignment in Russian syntax. *The Linguistic Review* 12, 315–360.
- Baltin, Mark R. (1995). Floating quantifiers, PRO, and predication. *Linguistic Inquiry* 26(2), 199–248.
- Barnes, Michael P. (1986). Subject, nominative and oblique case in Faroese. *Scripta Islandica* 37, 13–46.
- Bar-Shalom, Eva, William Snyder & Jason Boro (1996). Evidence for the optional infinitive stage in Russian. *University of Connecticut Working Papers in Linguistics* 6, 1–11.
- Behrens, Heike (1993). Temporal reference in German child language: Form and function of early verb use. Doctoral dissertation, University of Amsterdam.
- Belletti, Adriana (1988). The case of unaccusatives. *Linguistic Inquiry* 19(1), 1–34.
- Belletti, Adriana & Luigi Rizzi (1988). Psych-verbs and θ -theory. *Natural Language and Linguistic Theory* 6, 291–352.
- Bittner, Maria & Ken Hale (1996). The structural determination of Case and agreement. *Linguistic Inquiry* 27(1), 1–68.
- — — (to appear). Ergativity: Towards a theory of a heterogeneous class. *Linguistic Inquiry*.
- Blake, Barry J. (1994). *Case*. Cambridge: Cambridge University Press.
- Bloom, L. (1970). *Language development: Form and function in emerging grammars*. Cambridge, MA: MIT Press.
- Bloom, P. (1990). Subjectless sentences in child language. *Linguistic Inquiry* 21, 491–504.
- Bobaljik, Jonathan David (1993). On ergativity and ergative unergatives. In Colin Phillips (ed.), *Papers on case and agreement II, MIT Working Papers in Linguistics* 19, 45–88.
- — — (1995). Morphosyntax: The syntax of verbal inflection. Ph.D. dissertation, MIT.
- Bobaljik, Jonathan & Dianne Jonas (1996). Subject positions and the roles of TP. *Linguistic Inquiry* 27(2), 195–236.
- Boezewinkel, Simone (1995). Van *MIJ* DOEN tot *HAAR* ZUSJE HAD TWEE VRIENDINNETJES TE SPELEN: Een onderzoek naar de verwerving van pronomina in de Nederlandse kindertaal. Masters thesis, University of Utrecht.
- Bonet, E. (1991). Morphology after syntax: Pronominal clitics in Romance languages. Ph.D. dissertation, MIT.
- Borer, Hagit & Bernhard Rohrbacher (1996). Features and projections: Arguments for the full competence hypothesis. Paper presented at the Boston University Conference on Language Development.
- Borsley, Robert D. (1994). In defense of coordinate structures. *Linguistic Analysis* 24(3–4), 218–246.
- Boser, K., B. Lust, L. Santelmann & J. Whitman (1992). The syntax of CP and V-2 in Early Child German (ECG): The strong continuity hypothesis. In *Proceedings of the North East Linguistic Society* 22, 51–65.
- Bošković, Željko (1995). Principles of economy in nonfinite complementation. Ph.D. dissertation, University of Connecticut.
- Bouchard, Denis (1984). *On the content of empty categories*. Dordrecht: Foris.
- Branigan, Philip (1992). Subjects and complementizers. Ph.D. dissertation, MIT.
- Bresnan, Joan (1994). Locative inversion and the architecture of Universal Grammar. *Language* 70(1), 72–131.
- Broadwell, George Aaron (1988). Reflexive movement in Choctaw. *Proceedings of NELS 18*, vol. 1, 53–64.
- — — (1990). Extending the binding theory: A Muskogean case study. Ph.D. dissertation, UCLA.
- — — (1992). Is Choctaw a pronominal argument language? In *Proceedings of the 1992 Mid-America Linguistics Conference and Conference on Siouan-Caddoan Languages*, 389–401.
- Broadwell, George Aaron & Jack Martin (1994). The clitic/agreement split: Asymmetries in Choctaw person marking. *Berkeley Linguistic Society Proceedings*.
- Bromberg, Hilary Sara & Kenneth Wexler (1995). Null subjects in child *wh*-questions. In Schütze et al. 1995, 221–247.
- Brown, R. (1973). *A first language: The early stages*. Cambridge, MA: Harvard University Press.

- Budwig, Nancy (1989). The linguistic marking of agentivity and control in child language. *Journal of Child Language* 16, 263–284.
- — — (1995). *A developmental-functionalist approach to child language*. Mahwah, NJ: Lawrence Erlbaum.
- Bullock, M., L. G. Jones & T. G. Bever (1964). The development from vocal to verbal behavior in children. *Monographs of the Society for Research in Child Development*, serial no. 92, vol. 29, no. 1.
- Burzio, Luigi (1986). *Italian syntax: A Government-Binding approach*. Dordrecht: D. Reidel.
- Cahana-Amitay, Dalia (1997). Syntactic aspects of the production of verbal inflection in aphasia. Ph.D. dissertation, Boston University.
- Calabrese, A. (1996). Some remarks on the Latin case system and its development in Romance. Ms., Harvard University.
- Cardinaletti, A. & M. Starke (1993). On dependent pronouns and pronoun movement. Paper presented at GLOW, Lund, Sweden.
- Chiat, S. (1981). Context-specificity and generalization in the acquisition of pronominal distinctions. *Journal of Child Language* 8, 75–91.
- Chien, Yu-Chin & Kenneth Wexler (1990). Children's knowledge of locality conditions in binding as evidence for the modularity of syntax and pragmatics. *Language Acquisition* 1(3), 225–295.
- Cho, Dong-In (1992). Multiple accusative constructions and verb movement. In *Papers from the Fourth Student Conference in Linguistics, MIT Working Papers in Linguistics* 16, 11–25.
- Cho, In-Ja (1993). A reconsideration of case assignment in inalienable possession constructions in Korean. In Kuno et al. 1993, 252–261.
- Cho, Young-mee Yu & Peter Sells (1995). A lexical account of inflectional suffixes in Korean. *Journal of East Asian Linguistics* 4, 119–174.
- Choe, Hyon Sook (1987). Syntactic adjunction, A-chain and the ECP—Multiple identical case construction in Korean. In *Proceedings of NELS 17*, Volume 1, 100–120.
- — — (1988). Restructuring parameters and complex predicates: A transformational approach. Ph.D. dissertation, MIT.
- — — (1995). Focus and topic movement in Korean and licensing. In K. É. Kiss (ed.), *Discourse configurational languages*, New York: Oxford University Press, 269–334.
- Chomsky, Noam (1955). *The logical structure of linguistic theory*. [Published by University of Chicago Press, 1985.]
- — — (1957). *Syntactic structures*. The Hague: Mouton.
- — — (1980). On binding. *Linguistic Inquiry* 11, 1–46.
- — — (1981). *Lectures on government and binding*. Dordrecht: Foris.
- — — (1986). *Knowledge of language: Its nature, origin, and use*. New York: Praeger.
- — — (1993). A minimalist program for linguistic theory. In Kenneth Hale & Samuel Jay Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, Cambridge, MA: MIT Press, 1–52.
- — — (1995). *The minimalist program*. Cambridge, MA: MIT Press.
- Chomsky, Noam & Howard Lasnik (1993). The theory of principles and parameters. In Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld & Theo Vennemann (eds.), *Syntax: An international handbook of contemporary research*, Berlin and New York: Walter de Gruyter, 506–569.
- Chung, Sandra & James McCloskey (1987). Government, barriers, and small clauses in Modern Irish. *Linguistic Inquiry* 18(2), 173–237.
- Clahsen, Harald (1982). *Spracherwerb in der Kindheit. Eine Untersuchung zur Entwicklung der Syntax bei Kleinkindern*. Tübingen: Gunter Narr Verlag.
- Clahsen, Harald, Sonja Eisenbeiss, and Martina Penke (1994a). Underspecification and lexical learning in early child grammars. *Essex Research Reports in Linguistics*: 1–36.
- — — (1994b). Underspecified phrase-structure positions and lexical learning in early child grammars. Paper presented at the Workshop on Generative Studies of the Acquisition of Case and Agreement, March 18–20. [Draft, February 1994]
- — — (1996). Lexical learning in early syntactic development. In Harald Clahsen (ed.), *Generative perspectives on language acquisition: Empirical findings, theoretical considerations and crosslinguistic comparisons*, Amsterdam: John Benjamins, 129–159.
- Clahsen, Harald, Sonja Eisenbeiss & Anne Vainikka (1994). The seeds of structure: A syntactic analysis of the acquisition of case marking. In Teun Hoekstra and Bonnie D. Schwartz (eds.), *Language acquisition studies in generative grammar: Papers in honor of Kenneth Wexler from the 1991 GLOW workshops*, Amsterdam: John Benjamins, 85–118.
- Clahsen, Harald, Monika Rothweiler, Andreas Woest & Gary F. Marcus (1992). Regular and irregular inflection in the acquisition of German noun plurals. *Cognition* 45, 225–255.
- Cole, P., W. Harbert, G. Hermon & S. N. Sridhar (1980). On the acquisition of subjecthood. *Language* 56, 719–743.
- Cole, Peter & Janice L. Jake (1978). Accusative subjects in Imbabura Quechua. *Studies in the Linguistic Sciences* 8(1), 72–96.
- Comrie, B. (1978). Ergativity. In W. P. Lehmann (ed.), *Syntactic typology*, Austin: University of Texas Press, 329–394.
- Cowper, Elizabeth A. (1988). What is a subject? Non-nominative subjects in Icelandic. *Proceedings of NELS* 18, 94–108.
- Curtiss, Susan, William Katz & Paula Tallal (1992). Delay versus deviance in the language acquisition of language-impaired children. *Journal of Speech and Hearing Research* 35, 373–383.
- Damoiseau, R. (1982). *Etudes de syntaxe comparée*. Port-au-Prince: Université d'Etat d'Haïti.
- Davies, William D. (1981). Choctaw clause structure. Ph.D. dissertation, University of California, San Diego.
- — — (1984). Antipassive: Choctaw evidence for a universal characterization. In David M. Perlmutter & Carol G. Rosen (eds.), *Studies in Relational Grammar*, vol. 2, Chicago: University of Chicago Press, 331–376.
- — — (1986). *Choctaw verb agreement and universal grammar*. Dordrecht: Reidel.
- Déchaine, Rose-Marie (1991). Bare sentences. In S. Moore & A. Wyner (eds.), *Proceedings of SALT I*.
- Déprez, Viviane & Amy Pierce (1993). Negation and functional projections in early grammar. *Linguistic Inquiry* 24(1), 25–67.
- Dixon, Robert M. W. (1994). *Ergativity*. Cambridge: Cambridge University Press.

- Duffield, N. (1993). On Case-checking and NPI licensing in Hiberno-English. Ms., McGill University.
- Einarsson, Stefán (1945). *Icelandic: Grammar, texts, glossary*. Baltimore: Johns Hopkins Press.
- Eisenbeiss, Sonja (1994). Raising to Spec and adjunction scrambling in German child language. Paper presented at the Workshop on the Acquisition of Clause-Internal Rules: Scrambling and Cliticization, University of Berne.
- Eisenbeiss, Sonja & Martina Penke (1996). Children checking checking theory: A comparison of Case-Filter and feature-checking approaches based on German child language. Paper presented at What Children Have To Say About Linguistic Theory, OTS, Utrecht University.
- Emonds, Joseph E. (1976). *A transformational approach to English syntax: Root, structure-preserving, and local transformations*. New York: Academic Press.
- — — (1985). *A unified theory of syntactic categories*. Dordrecht: Foris.
- — — (1986). Grammatically deviant prestige constructions. In M. Brame et al. (eds.), *A Festschrift for Sol Saporta*, Seattle: Noit Amrofer, 93–129.
- Falk, Yehuda N. (1996). Case typology and case theory. Ms., Hebrew University of Jerusalem.
- Ferdinand, Astrid (1996). *The development of functional categories: The acquisition of the subject in French*. The Hague: Holland Institute of Generative Linguistics.
- Finer, Daniel (1984). The formal grammar of switch-reference. Ph.D. dissertation, University of Massachusetts at Amherst.
- Fletcher, Paul (1985). *A child's learning of English*. Oxford: Basil Blackwell.
- Frampton, John (1995). Expletive insertion. Paper presented at the Berlin Workshop on the Role of Economy Principles in Linguistic Theory.
- Francis, W. N. & H. Kučera (1982). *Frequency analysis of English usage: Lexicon and grammar*. Boston: Houghton Mifflin.
- Freidin, Robert & Wayne Harbert (1983). On the fine structure of the binding theory: Principle A and reciprocals. In Peter Sells & Charles Jones (eds.), *Proceedings of ALNE 13/ NELS 13*, Amherst, MA: GLSA, 63–72.
- Freidin, Robert & Rex A. Sprouse (1991). Lexical case phenomena. In Robert Freidin (ed.), *Principles and parameters in comparative grammar*, Cambridge, MA: MIT Press, 392–416.
- Friedmann, Na'ama & Yosef Grodzinsky (1997). Tense and agreement in agrammatic production: Pruning the syntactic tree. *Brain and Language* 56, 397–425.
- Gair, James W. & Kashi Wali (1988). On distinguishing AGR from agr: Evidence from South Asia. In Diane Brentari, Gary Larson & Lynn MacLeod (eds.), *CLS 24: Papers from the 24th Annual Regional Meeting of the Chicago Linguistic Society, Part Two: Parasession on Agreement in Grammatical Theory*, 87–104.
- Gazdar, Gerald, Geoffrey K. Pullum & Ivan A. Sag (1982). Auxiliaries and related phenomena in a restrictive theory of grammar. *Language* 58(3), 591–638.
- Gee, James Paul (1977). Comments on the paper by Akmajian. In Peter W. Culicover, Thomas Wasow & Adrian Akmajian (eds.), *Formal syntax*, New York: Academic Press, 461–481.
- Gerds, D. B. (1987). Surface case and grammatical relations in Korean: The evidence from quantifier float. *Studies in Language* 11, 181–197.
- — — (1991). Outline of a relational theory of case. In Paul McFetridge (ed.), *Simon Fraser University Working Papers in Linguistics* 1, 25–51.
- Gerds, D. B. & Cheong Youn (1988). Korean psych constructions: Advancement or retreat? In *Papers from the 24th Annual Regional Meeting of the Chicago Linguistic Society, Part One: The General Session*, 155–175.
- Ginneken, J. van (1917). *De roman van een kleuter*. Nijmegen: Malmberg.
- Grebe, Paul, Helmut Gipper, Max Mangold, Wolfgang Mentrup & Christian Winkler (1973). *Duden, Band 4: Grammatik der deutschen Gegenwartssprache*. Mannheim: Bibliographisches Institut.
- Green, Georgia M. (1984). Why agreement must be stipulated for *there*-insertion. In *Proceedings of the First Eastern States Conference on Linguistics*, 27–34.
- Grimshaw, Jane & Sara Thomas Rosen (1990). Knowledge and obedience: The developmental status of the binding theory. *Linguistic Inquiry* 21(2), 187–222.
- Grodzinsky, Yosef & Tanya Reinhart (1993). The innateness of binding and coreference. *Linguistic Inquiry* 24(1), 69–101.
- Gruber, J. S. (1967). Topicalization in child language. *Foundations of Language* 3, 37–65.
- Guilfoyle, Eithne (1984). The acquisition of tense and the emergence of lexical subjects in child grammars of English. *The McGill Working Papers in Linguistics* 2(1), 20–30.
- Guilfoyle, E. & M. Noonan (1992). Functional categories and language acquisition. *Canadian Journal of Linguistics* 37, 241–272.
- Haegeman, L. (1986). INFL, COMP and Nominative case assignment in Flemish infinitivals. In H. van Riemsdijk & P. Muysken (eds.), *Features and projections*, Dordrecht: Foris, 123–137.
- — — (1995). Root infinitives, tense, and truncated structures in Dutch. *Language Acquisition* 4, 205–255.
- Haider, Hubert (1984). Topic, focus and V-second. *Groninger Arbeiten zur Germanistischen Linguistik* 21, 72–120.
- Haider, Hubert, Susan Olsen & Sten Vikner (1995). Introduction. In Hubert Haider, Susan Olsen & Sten Vikner (eds.), *Studies in comparative Germanic syntax*, Dordrecht: Kluwer, 1–45.
- Halle, Morris & Alec Marantz (1993). Distributed morphology and the pieces of inflection. In K. L. Hale & S. J. Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, Cambridge, MA: MIT Press, 111–167.
- — — (1994). Some key features of distributed morphology. In Andrew Carnie, Heidi Harley & Tony Bures (eds.), *Papers on phonology and morphology, MIT Working Papers in Linguistics* 21, 275–288.
- Hamann, Cornelia, Luigi Rizzi & Uli H. Frauenfelder (1996). On the acquisition of subject and object clitics in French. In Harald Clahsen (ed.), *Generative perspectives on language acquisition: Empirical findings, theoretical considerations and crosslinguistic comparisons*, Amsterdam: John Benjamins, 309–334.
- Hantson, André (1992). Case assignment, (absolute) free adjuncts and related constructions. Unpublished ms.
- Harbert, Wayne (1989). Case attraction and the hierarchization of case. In Ken deJong & Yongkyoon No (eds.), *ESCOL '89: Proceedings of the Sixth Eastern States Conference on Linguistics*, 138–149.
- Harbert, Wayne E. & Almeida J. Toribio (1993). The syntax of nominative objects. Ms., Cornell University.
- Harley, Heidi Britton (1995). Subjects, events and licensing. Ph.D. dissertation, MIT.

- Harris, James (1997). Why *n'ho* is pronounced [li] in Barceloní Catalan: Morphological impoverishment, merger, fusion, and fission. In Benjamin Bruening, Yoonjung Kang & Martha McGinnis (eds.), *PF: Papers at the interface, MIT Working Papers in Linguistics* 30, 451–479.
- Harris, Tony & Ken Wexler (1996). The optional infinitive stage in child English: Evidence from negation. In Harald Clahsen (ed.), *Generative perspectives on language acquisition: Empirical findings, theoretical considerations and crosslinguistic comparisons*, Amsterdam: John Benjamins, 1–42.
- Hart, B. (1991). Input frequency and children's first words. *First Language* 11, 289–300.
- Henry, Alison (1992). Infinitives in a *for-to* dialect. *Natural Language and Linguistic Theory* 10, 279–310.
- — — (1995). *Belfast English and Standard English: Dialect variation and parameter setting*. New York: Oxford.
- Hermon, Gabriella (1985). *Syntactic modularity*. Dordrecht: Foris.
- Heycock, Caroline (1995). The internal structure of small clauses: New evidence from inversion. In Jill N. Beckman (ed.), *Proceedings of the North East Linguistic Society* 25, vol. 1, 223–238.
- Higginbotham, James (1983). The logic of perceptual reports: An extensional alternative to situation semantics. *The Journal of Philosophy* 80(2), 100–127.
- Hoekstra, Jarich (1996). Transitive pronouns and gender syncretism in Fering-Öömrang (North Frisian). *North-Western European Language Evolution* 27, 45–66.
- Hoekstra, Teun & Nina Hyams (1995). The syntax and interpretation of dropped categories in child language: A unified account. In José Camacho, Lina Choueiri & Maki Watanabe (eds.), *The Proceedings of the Fourteenth West Coast Conference on Formal Linguistics*, Stanford: CSLI, 123–136.
- Hoekstra, Teun, Nina Hyams & Misha Becker (1996). The underspecification of number and the licensing of root infinitives. Paper presented at the Boston University Conference on Language Development.
- Hoekstra, Teun & René Mulder (1990). Unergatives as copular verbs: Locational and existential predication. *The Linguistic Review* 7, 1–79.
- Holmberg, Anders (1994). Morphological parameters in syntax: The case of Faroese. In Report 35, Department of General Linguistics, University of Umeå, 21–62.
- Holmberg, Anders & Christer Platzack (1995). *The role of inflection in Scandinavian syntax*. New York: Oxford.
- Hong, Ki-Sun (1990). Subject-to-object raising in Korean. In K. Dziwirek, P. Farrell & E. Mejías-Bikandi (eds.), *Grammatical relations: A cross-theoretical perspective*, Stanford, CA: CSLI, 215–225.
- — — (1992). Argument selection and case marking in Korean. Ph.D. dissertation, Stanford University.
- Horn, G. M. (1975). On the nonsentential nature of the POSS-ing construction. *Linguistic Analysis* 1, 333–388.
- Hornstein, Norbert & David Lightfoot (1987). Predication and PRO. *Language* 63(1), 23–52.
- Horvath, J. (1995). Structural focus, structural case, and the notion of feature-assignment. In K. É. Kiss (ed.), *Discourse configurational languages*, New York: Oxford University Press, 28–64.
- Hudson, Richard (1995). Does English really have case? *Journal of Linguistics* 31, 375–392.
- Huettner, A. (1989). Adjunct infinitives in English. Ph.D. dissertation, University of Massachusetts.
- Huxley, Renira (1970). The development of the correct use of subject personal pronouns in two children. In Giovanni B. Flores d'Arcais & Willem J. M. Levelt (eds.), *Advances in psycholinguistics: Research papers presented at the Bressanone Conference on Psycholinguistics, summer courses of the University of Padova, July 1969*, Amsterdam: North-Holland, 141–165.
- Hyams, Nina (1992). The genesis of clausal structure. In Jürgen M. Meisel (ed.), *The acquisition of verb placement: Functional categories and V2 phenomena in language acquisition*, Dordrecht: Kluwer, 371–400.
- — — (1996). The underspecification of functional categories in early grammar. In Harald Clahsen (ed.), *Generative perspectives on language acquisition: Empirical findings, theoretical considerations and crosslinguistic comparisons*, Amsterdam: John Benjamins, 91–127.
- Hyams, Nina & Kenneth Wexler (1993). On the grammatical basis of null subjects in child language. *Linguistic Inquiry* 24, 421–459.
- Iatridou, Sabine (1988/1993). On nominative case assignment and a few related things. In Colin Phillips (ed.), *Papers on case & agreement II, MIT Working Papers in Linguistics* 19, 175–196.
- Ingham, Richard (1992). The optional subject phenomenon in young children's English: A case study. *Journal of Child Language* 19, 133–151.
- Ingram, David & William Thompson (1996). Early syntactic acquisition in German: Evidence for the modal hypothesis. *Language* 72(1), 97–120.
- Ingria, R. (1981). Sentential complementation in modern Greek. Ph.D. dissertation, MIT.
- Jaeggli, O. & N. Hyams (1987). Morphological uniformity and the setting of the null subject parameter. In J. Blevins & J. Carter (eds.), *Proceedings of NELS 18*, 238–253.
- Jespersen, Otto (1909–1949). *A modern English grammar on historical principles*. London: George Allen & Unwin.
- Johnson, Kyle (1988). Clausal gerunds, the ECP, and government. *Linguistic Inquiry* 19(4), 583–609.
- — — (1996). In search of the English middle field. Ms., University of Massachusetts, Amherst.
- Jonas, Dianne (1992). Checking theory and nominative case in Icelandic. In Susumu Kuno & Höskuldur Thráinsson (eds.), *Harvard Working Papers in Linguistics* 1, 175–195.
- — — (1995a). Clause structure and verbal syntax in Scandinavian and English. Ph.D. dissertation, Harvard University.
- — — (1995b). On the acquisition of verb syntax in child Faroese. In Schütze et al. 1995, 265–280.
- Jonas, Dianne & Jonathan David Bobaljik (1993). Specs for subjects: The role of AgrSP in Icelandic. In Jonathan David Bobaljik & Colin Phillips (eds.), *Papers on case and agreement: I, MIT Working Papers in Linguistics* 18, 59–98.
- Kaper, Willem (1976). Pronominal case-errors. *Journal of Child Language* 3, 439–441.
- Karmiloff-Smith, Annette (1985). Language and cognitive processes from a developmental perspective. *Language and Cognitive Processes* 1(1), 61–85.
- Kayne, Richard S. (1975). *French syntax*. Cambridge, MA: MIT Press.

- — — (1985). Principles of particle constructions. In J. Guéron, H.-G. Obenauer & J.-Y. Pollock (eds.), *Grammatical representations*, Dordrecht: Foris, 101–140.
- — — (1989). Notes on English agreement. *CIEFL Bulletin* 1, 41–67.
- Kim, Yong-Bum (1987). A GPSG approach to Korean honorifics. In Kuno et al. 1987, 229–238.
- Kim, Young-joo (1989). Inalienable possession as a semantic relationship underlying predication: The case of multiple-accusative constructions. In Kuno et al. 1989, 445–467.
- — — (1990). The syntax and semantics of Korean case: The interaction between lexical and syntactic levels of representation. Ph.D. dissertation, Harvard University.
- Kitahara, Hisatsugu (1993). Raising quantifiers without quantifier raising. Ms., Harvard University.
- Klima, Edward S. (1964). Relatedness between grammatical systems. *Language* 40(1), 1–20.
- Klima, E. & U. Bellugi (1966). Syntactic regularities in the speech of children. In J. Lyons & R. Wales (eds.), *Psycholinguistic papers*, Edinburgh: Edinburgh University Press, 183–207.
- Kondrashova, Natalia (1994). Agreement and dative subjects in Russian. *Proceedings of FASL 2*.
- Koster, Jan (1984). On binding and control. *Linguistic Inquiry* 15, 417–460.
- Krämer, Irene (1993). The licensing of subjects in early child language. In Colin Phillips (ed.), *Papers on case & agreement II, MIT Working Papers in Linguistics* 19, 197–212.
- Kubo, Miori (1993). Are subject small clauses really small clauses? In Yukio Otsu (ed.), *Mita Working Papers in Psycholinguistics* 3, 93–115.
- Kuno, S., J. Whitman, Y.-S. Kang, I.-H. Lee & S.-Y. Bak (eds.) (1987). *Harvard Studies in Korean Linguistics* II. Department of Linguistics, Harvard University.
- Kuno, S., J. Whitman, Y.-S. Kang, I.-H. Lee, S.-Y. Bak & Y.-j Kim (eds.) (1989). *Harvard Studies in Korean Linguistics* III. Department of Linguistics, Harvard University.
- Kuno, S., J. Whitman, Y.-S. Kang, I.-H. Lee, J. Maling & Y.-j Kim (eds.) (1991). *Harvard Studies in Korean Linguistics* IV. Department of Linguistics, Harvard University.
- — — (eds.) (1993). *Harvard Studies in Korean Linguistics* V. Department of Linguistics, Harvard University.
- Labov, William (1969). Contraction, deletion, and inherent variability of the English copula. *Language* 45, 715–762.
- Lapointe, Steven G. (1980). A lexical analysis of the English auxiliary verb system. In Teun Hoekstra, Harry van der Hulst & Michael Moortgat (eds.), *Lexical grammar*, Dordrecht: Foris, 215–254.
- Lasnik, Howard & Mamoru Saito (1992). *Move α : Conditions on its application and output*. Cambridge, MA: MIT Press.
- Lasser, Ingeborg (1997). The interpretation of root infinitive constructions in adult and child German. Paper presented at the Workshop on the Interpretation of Root Infinitives and Bare Nouns in Child Language, MIT.
- Laurençot, Elizabeth (1994). On infinitives, agreement, and the null case hypothesis. Ms., University of Connecticut.
- Lee, Chungmin (1989). (In)definites, case markers, classifiers and quantifiers in Korean. In Kuno et al. 1989, 469–487.
- Lee, Jeong-Shik (1991). Case minimality: Case alternation in the Korean ECM constructions. In Kuno et al. 1993, 317–328.
- Lee, L. (1966). Developmental sentence types: A method for comparing normal and deviant syntactic development. *Journal of Speech and Hearing Disorders* 31, 311–330.
- Lefebvre, Claire & Pieter Muysken (1988). *Mixed categories: Nominalizations in Quechua*. Dordrecht: Kluwer.
- Leonard, Laurence B. (1989). Language learnability and specific language impairment in children. *Applied Psycholinguistics* 10, 179–292.
- Leopold, Werner F. (1939). *Speech development of a bilingual child: A linguist's record. Vol. 1: Vocabulary growth in the first two years*. New York: AMS Press.
- — — (1949). *Speech development of a bilingual child: A linguist's record. Vol. 3: Grammar and general problems in the first two years*. New York: AMS Press.
- Levin, Lori S. & Jane Simpson (1981). Quirky case and lexical representations of Icelandic verbs. In Roberta A. Hendrick, Carrie S. Masek & Mary Frances Miller (eds.), *Papers from the seventeenth regional meeting, Chicago Linguistic Society*, 185–196.
- Lightfoot, David (1989). The child's trigger experience: Degree-0 learnability. *Behavioral and Brain Sciences* 12, 321–375.
- Linker, Wendy (1987). On the coordinating status of the switch-reference markers *-chah* and *-nah* in Choctaw. In Pamela Munro (ed.), *Muskogean linguistics. UCLA Occasional Papers in Linguistics* 6, 96–110.
- Loeb, D. F. & L. B. Leonard (1991). Subject case marking and verb morphology in normally developing and specifically language-impaired children. *Journal of Speech and Hearing Research* 34, 340–346.
- MacWhinney, Brian (1978). The acquisition of morphophonology. *Monographs of the Society for Research in Child Development*, serial no. 174, vol. 43, nos. 1–2.
- MacWhinney, B. & C. Snow (1985). The child language data exchange system. *Journal of Child Language* 12, 271–296.
- — — (1990). The Child Language Data Exchange System: An update. *Journal of Child Language* 17, 457–472.
- Mahajan, Anoop Kumar (1990). The A/A-bar distinction and movement theory. Ph.D. dissertation, MIT.
- Maling, Joan (1991). Whether to agree or not: The case of the part-NP. In Kuno et al. 1991, 339–352.
- Maling, Joan & Soowon Kim (1992). Case assignment in the inalienable possession construction in Korean. *Journal of East Asian Linguistics* 1, 37–68.
- Maling, Joan & Sigríður Sigurjónsdóttir (1996). The new “passive” in Icelandic. Paper presented at the Boston University Conference on Language Development.
- Maling, Joan & Rex A. Sprouse (1995). Structural case, specifier-head relations, and the case of predicate NPs. In Hubert Haider, Susan Olsen & Sten Vikner (eds.), *Studies in comparative Germanic syntax*, Dordrecht: Kluwer, 167–186.
- Maling, Joan & Annie Zaenen (eds.) (1990). *Modern Icelandic syntax. Syntax and Semantics* 24. San Diego, CA: Academic Press.
- Marantz, Alec (1989). Relations and configurations in Georgian. Ms., University of North Carolina, Chapel Hill.
- — — (1991). Case and licensing. In Germán F. Westphal, Benjamin Ao & Hee-Rahk Chae (eds.), *ESCOL '91: Proceedings of the Eighth Eastern States Conference on Linguistics*, 234–253.

- — — (1996). 'Cat' as a phrasal idiom: Consequences of late insertion in Distributed Morphology. Ms., MIT.
- Massam, Diane (1985). Case theory and the projection principle. Ph.D. dissertation, MIT.
- Massam, Diane & Yves Roberge (1989). Recipe context null objects in English. *Linguistic Inquiry* 20(1), 134–139.
- McCawley, James D. (1983). What's with *with*? *Language* 59(2), 271–287.
- McLendon, Sally (1978). Ergativity, case, and transitivity in Eastern Pomo. *International Journal of American Linguistics* 44(1), 1–9.
- McCloskey, James (1985). Case, movement and raising in Modern Irish. In Jeffrey Goldberg, Susannah McKaye & Michael T. Wescoat (eds.), *Proceedings of the West Coast Conference on Formal Linguistics*, vol. 4, Stanford, CA: Stanford Linguistics Association, 190–205.
- McCreight, Katherine L. (1988). Multiple case assignments. Ph.D. dissertation, MIT.
- Menyuk, P. (1964). Comparison of grammar of children with functionally deviant and normal speech. *Journal of Speech and Hearing Research* 7, 109–121.
- Mills, Anne E. (1985). The acquisition of German. In Dan Isaac Slobin (ed.), *The crosslinguistic study of language acquisition: Volume 1: The data*, Hillsdale, New Jersey: Lawrence Erlbaum, 141–254.
- Miyagawa, Shigeru (1989). *Structure and case marking in Japanese*. San Diego: Academic Press.
- Moro, Andrea (1991). The raising of predicates: Copula, expletives and existence. In Lisa L. S. Cheng and Hamida Demirdache (eds.), *More papers on WH-movement. MIT Working Papers in Linguistics* 15, 119–181.
- Nash, Léa (1995). Portée argumentale et marquage casuel dans les langues SOV et dans les langues ergatives: L'exemple du géorgien. Ph.D. dissertation, Université de Paris VIII.
- Nash-Haran, L. (1992). La catégorie AGR et l'accord en Géorgien. *Recherches Linguistiques* 21, 65–79.
- Neidle, Carol (1982). Case agreement in Russian. In Joan Bresnan (ed.), *The mental representation of grammatical relations*, Cambridge, MA: MIT Press, 391–426.
- Noyer, Robert Rolf (1992). Features, positions and affixes in autonomous morphological structure. Ph.D. dissertation, MIT.
- O'Grady, W. (1991). *Categories and case: The sentence structure of Korean*. Amsterdam: John Benjamins.
- Park, Myung-Kwan (1991). Experiencer movement and anaphor binding in causative psych-verbs in Korean. In Kuno et al. 1991, 381–393.
- Partee, B. H. (1977). John is easy to please. In A. Zampolli (ed.), *Linguistic structures processing*, Amsterdam: North-Holland, 281–312.
- Pensalfini, R. (1995). Pronoun case errors, both syntactic and morphological. In Schütze et al. 1995, 305–324.
- Pesetsky, David M. (1982). Paths and categories. Ph.D. dissertation, MIT.
- — — (1992). Zero syntax II: An essay on infinitives. Ms., MIT.
- Phillips, Colin (1995). Syntax at age two: Cross-linguistic differences. In Schütze et al., 325–382.
- — — (1997). Disagreements between adults and children. In M. Uribe-Etxebarria & A. Mendikoetxea (eds.), *Theoretical issues on the morphology-syntax interface*, San Sebastian, Spain: ASJU.
- Picallo, M. Carme (1984). The Infl node and the null subject parameter. *Linguistic Inquiry* 15, 75–102.
- Pierce, Amy E. (1989). On the emergence of syntax: A crosslinguistic study. Ph.D. dissertation, MIT.
- — — (1992). *Language acquisition and syntactic theory: A comparative analysis of French and English child grammars*. Dordrecht: Kluwer.
- Pillinger, O. S. (1980). The accusative and infinitive in Latin: A refractory complement clause. *Journal of Linguistics* 16, 55–83.
- Pinker, Steven (1984). *Language learnability and language development*. Cambridge: Harvard University Press.
- Poeppl, D. & K. Wexler (1993). The full competence hypothesis of clause structure in early German. *Language* 69, 1–33.
- Pollock, J.-Y. (1989). Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20, 365–424.
- Portner, Paul Howard (1992). Situation theory and the semantics of propositional expressions. Ph.D. dissertation, University of Massachusetts.
- — — (1996). The semantics of mood, complementation, and conversational force. Ms. [To appear in *Natural Language Semantics*.]
- Powers, Susan (1995a). The acquisition of case in Dutch. In M. Verrips & F. Wijnen (eds.), *Proceedings from the Dutch-German Colloquium on Language Acquisition. Amsterdam Series in Child Language Development*, vol. 3, no. 66, 159–180.
- — — (1995b). The acquisition of pronouns in Dutch and English: The case for continuity. In Dawn MacLaughlin & Susan McEwen (eds.), *Proceedings of the 19th Annual Boston University Conference on Language Development*, Somerville, MA: Cascadilla, 439–450.
- Pullum, Geoffrey K. (1982). Syncategorematicity and English infinitival *to*. *Glossa* 16(2), 181–215.
- — — (1991). English nominal gerund phrases as noun phrases with verb phrase heads. *Linguistics*.
- Pullum, Geoffrey & Deirdre Wilson (1977). Autonomous syntax and the analysis of auxiliaries. *Language* 53(4), 741–788.
- Quicoli, A. Carlos (1996). Inflection and parametric variation: Portuguese vs. Spanish. In Robert Freidin (ed.), *Current Issues in comparative grammar*, Dordrecht: Kluwer, 46–80.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik (1985). *A comprehensive grammar of the English language*. London: Longman.
- Radford, Andrew (1990). *Syntactic theory and the acquisition of English syntax: The nature of early child grammars of English*. Oxford: Basil Blackwell.
- — — (1992). The acquisition of the morphosyntax of finite verbs in English. In Jürgen M. Meisel (ed.), *The acquisition of verb placement: Functional categories and V2 phenomena in language acquisition*, Dordrecht: Kluwer, 23–62.
- — — (1994). Tense and agreement variability in child grammars of English. In B. Lust, M. Suñer & J. Whitman (eds.), *Syntactic theory and first language acquisition: Cross-linguistic perspectives*, vol. 1, Hillsdale, NJ: Lawrence Erlbaum, 135–157.
- — — (1995). Children—architects or brickies? In Dawn MacLaughlin & Susan McEwen (eds.), *Proceedings of the 19th Annual Boston University Conference on Language Development*, Somerville, MA: Cascadilla, 1–19.

- Rapoport, Tova R. (1987). Copular, nominal, and small clauses: A study of Israeli Hebrew. Ph.D. dissertation, MIT.
- Raposo, Eduardo (1987). Case theory and Infl-to-Comp: The inflected infinitive in European Portuguese. *Linguistic Inquiry* 18, 85–109.
- — — (1989). Prepositional infinitival constructions in European Portuguese. In Osvaldo Jaeggli & Kenneth J. Safir (eds.), *The null subject parameter*, Dordrecht: Kluwer, 277–305.
- Reinhart, Tanya & Eric Reuland (1993). Reflexivity. *Linguistic Inquiry* 24(4), 657–720.
- Renzi, L. (ed.) (1988). *Grande grammatica Italiana de consultazione, vol I*. Bologna: Il Mulino.
- Reuland, Eric J. (1981). Empty subjects, case and agreement and the grammar of Dutch. In Frank Heny (ed.), *Binding and Filtering*, Cambridge, MA: MIT Press, 159–190.
- — — (1983). Governing *-ing*. *Linguistic Inquiry* 14, 101–136.
- — — (1988). Relating morphological and syntactic structure. In Martin Everaert, Arnold Evers, Riny Huybregts and Mieke Trommelen (eds.), *Morphology and modularity: In honour of Henk Schultink*, Dordrecht: Foris, 303–438.
- — — (1996). And what did they say? Some comments and further thoughts. Commentary presented at What Children Have To Say About Linguistic Theory, OTS, Utrecht University.
- Rice, Mabel L. & Kenneth Wexler (1995). Extended Optional Infinitive (EOI) account of Specific Language Impairment. In D. MacLaughlin & S. McEwen (eds.), *Proceedings of the 19th Annual Boston University Conference on Language Development*, Somerville, MA: Cascadilla, 451–462.
- — — (1996). A phenotype of Specific Language Impairment: Extended Optional Infinitives. In Mabel L. Rice (ed.), *Toward a genetics of language*, Mahwah, New Jersey: Lawrence Erlbaum, 215–237.
- Rice, Mabel L., Kenneth Wexler & Patricia L. Cleave (1995). Specific Language Impairment as a period of Extended Optional Infinitive. *Journal of Speech and Hearing Research* 38, 850–863.
- Riemsdijk, H. C. van (1978). *A case study in syntactic markedness: The binding nature of prepositional phrases*. Lisse: The Peter de Ridder Press.
- Rispoli, M. (1994). Pronoun case overextensions and paradigm building. *Journal of Child Language* 21, 157–172.
- — — (1995). Mechanisms of pronoun case error: Biased retrieval, not syntactic incompetence. Ms., Northern Arizona University.
- — — (1996). Pronoun case errors: Revealing paradigm building processes through the examination of individual differences. Ms., Arizona State University.
- Rizzi, Luigi (1982). *Issues in Italian syntax*. Dordrecht: Foris.
- — — (1994a). Early null subjects and root null subjects. In Teun Hoekstra & Bonnie D. Schwartz (eds.), *Language acquisition studies in generative grammar: Papers in honor of Kenneth Wexler from the 1991 GLOW workshops*, Amsterdam: John Benjamins, 151–176.
- — — (1994b). Some notes on linguistic theory and language development: The case of root infinitives. *Language Acquisition* 3, 371–393.
- — — (1995). The fine structure of the left periphery. Ms., Université de Genève.
- — — (1996). Remarks on early null subjects. Talk presented at MIT.
- Roberts, Taylor (1996). Evidence for the optional tense hypothesis: Tense in subordinate clauses in the acquisition of English. Paper presented at WECOL.
- Roeper, Thomas & Jill de Villiers (1992). Ordered decisions in the acquisition of Wh-questions. In Jürgen Weissenborn, Helen Goodluck & Thomas Roeper (eds.), *Theoretical issues in language acquisition: Continuity and change in development*, Hillsdale, NJ: Lawrence Erlbaum, 191–236.
- Roeper, T. & B. Rohrbacher (1994). Null subjects in early child English and the theory of economy of projection. Ms., UMass. Amherst/U. Penn.
- Ronjat, J. (1913). *Le développement du langage observé chez un enfant bilingue*. Paris: Champion.
- Rouveret, A. (1980). Sur la notion de proposition finie: Gouvernement et inversion. *Recherches Linguistiques* 9, Vincennes, 76–140.
- Sachs, Jacqueline (1983). Talking about the there and then: The emergence of displaced reference in parent-child discourse. In Keith E. Nelson (ed.), *Children's language, vol. 4*, Hillsdale, NJ: Lawrence Erlbaum, 1–28.
- Sadakane, Kumi & Masatoshi Koizumi (1995). On the nature of the “dative” particle *ni* in Japanese. *Linguistics* 33, 5–33.
- Safir, K. (1983). On small clauses as constituents. *Linguistic Inquiry* 14, 730–735.
- Sallustius, C. C. (1938). *De Coniuratione et Bello Catilinae*. Leiden: E. J. Brill.
- Sano, Tetsuya & Nina Hyams (1994). Agreement, finiteness, and the development of null arguments. In Mercè González (ed.), *NELS 24: Proceedings of the North East Linguistic Society, vol. 2*, Amherst, MA: GLSA, 543–558.
- Sauerland, Uli (1996). The late insertion of Germanic inflection. Ms., MIT.
- Schein, Barry (1982). Non-finite complements in Russian. In Alec Marantz & Tim Stowell (eds.), *MIT Working Papers in Linguistics* 4, 217–243.
- Scholten, Christina Geertruida Maria (1988). Principles of universal grammar and the auxiliary verb phenomenon. Ph.D. dissertation, University of Maryland.
- Schönenberger, Manuela, Amy Pierce, Ken Wexler & Frank Wijnen (1995). Accounts of root infinitives and the interpretation of root infinitives. *Geneva Generative Papers* 3(2), 47–70.
- Schütze, Carson T. (1993a). The many quirks of Icelandic accusative. In Carrie Dyck (ed.), *Proceedings of the 1993 Annual Conference of the Canadian Linguistic Association*, Toronto: Linguistic Graduate Course Union, 601–616.
- — — (1993b). Towards a Minimalist account of quirky case and licensing in Icelandic. In Colin Phillips (ed.), *Papers on case and agreement: II. MIT Working Papers in Linguistics* 19, 321–375.
- — — (1994). Case, verb morphology & argument structure in Choctaw: A Minimalist account. In Jill N. Beckman (ed.), *Proceedings of NELS 25*, vol. 1, Amherst, MA: GLSA, 441–455.
- — — (1995a). Children's subject case errors: Evidence for case-related functional projections. In Leslie Gabriele, Debra Hardison & Robert Westmoreland (eds.), *FLSM VI: Proceedings of the Sixth Annual Meeting of the Formal Linguistics Society of Mid-America*, Volume One, Bloomington, IN: IULC, 155–166.
- — — (1995b). A Minimalist account of Choctaw verbal morphology as quirky case. In Janet M. Fuller, Ho Han & David Parkinson (eds.), *ESCOL '94: Proceedings of the Eleventh Eastern States Conference on Linguistics*, Ithaca, NY: DMLL Publications, 294–305.
- — — (1995c). A quirky-case account of switch reference and agreement interactions in Choctaw. Paper presented at the Muskogean-Oklahoma Linguistics Conference, 58th Linguistic Institute, University of New Mexico.

- — — (1996a). *The empirical base of linguistics: Grammaticality judgments and linguistic methodology*. Chicago: University of Chicago Press.
- — — (1996b). Evidence for case-related functional projections in early German. In José Camacho, Lina Choueiri & Maki Watanabe (eds.), *The Proceedings of the Fourteenth West Coast Conference on Formal Linguistics*, Stanford: CSLI, 447–461.
- — — (1996c). Korean “case stacking” isn’t: Unifying noncase uses of case particles. In Kiyomi Kusumoto (ed.), *Proceedings of the North East Linguistic Society* 26, Amherst, MA: GLSA, 351–365.
- Schütze, Carson T., Jennifer Ganger & Kevin Broihier (eds.) (1995). *Papers on language processing and acquisition, MIT Working Papers in Linguistics* 26.
- Schütze, Carson T. & Kenneth Wexler (1996a). Subject case licensing and English root infinitives. In Andy Stringfellow, Dalia Cahana-Amitay, Elizabeth Hughes & Andrea Zukowski (eds.), *Proceedings of the 20th Annual Boston University Conference on Language Development*, Somerville, Mass.: Cascadilla, vol. 2, 670–681.
- — — (1996b). What case acquisition data have to say about the components of INFL. Paper presented at What Children Have To Say About Linguistic Theory, OTS, Utrecht University.
- Sells, P. (1995). Korean and Japanese morphology from a lexical perspective. *Linguistic Inquiry* 26, 277–325.
- Siegel, Muffy E. A. (1987). Compositionality, case, and the scope of auxiliaries. *Linguistics and Philosophy* 10, 53–75.
- Sigurðsson, Halldór Ármann (1989). Verbal syntax and case in Icelandic. Ph.D. dissertation, University of Lund. [Reprinted 1992, Reykjavík: Institute of Linguistics, University of Iceland.]
- — — (1991). Icelandic case-marked PRO and the licensing of lexical arguments. *Natural Language and Linguistic Theory* 9(2), 327–363.
- — — (1992). The case of quirky subjects. *Working Papers in Scandinavian Syntax* 49, 1–26.
- — — (1993). Agreement as head visible feature government. *Studia Linguistica* 47, 32–56.
- — — (1996). Icelandic finite verb agreement. *Working Papers in Scandinavian Syntax* 57, 1–46.
- Sobin, Nicholas (to appear). Agreement, default rules, & grammatical viruses. *Linguistic Inquiry*.
- Sohn, Ho-min (1994). *Korean*. London: Routledge.
- Sportiche, Dominique (1983). Structural invariance and symmetry in syntax. Ph.D. dissertation, MIT.
- — — (1992). Clitic constructions. Ms., UCLA.
- Stowell, Timothy (1981). Origins of phrase structure. Ph.D. dissertation, MIT.
- — — (1982). The tense of infinitives. *Linguistic Inquiry* 13(3), 561–570.
- — — (1991/1996). Empty heads in abbreviated English. Ms., UCLA. (Paper presented at GLOW 1991.)
- Stromswold, Karin (1996). Does the VP-internal subject stage really exist? Paper presented at the Boston University Conference on Language Development.
- Stump, Gregory T. (1985). *The semantic variability of absolute constructions*. Dordrecht: D. Reidel.
- Suh, Sungki (1992). The distribution of topic- & nominative-marked phrases in Korean: The universality of IP structure. In *Papers from the Fourth Student Conference in Linguistics, MIT Working Papers in Linguistics* 16, 207–221.
- Suppes, P. (1974). The semantics of children’s language. *American Psychologist* 29, 103–114.
- Tallal, Paula, Rachel Stark & David Mellits (1985). Identification of language-impaired children on the basis of rapid perception and production skills. *Neuropsychologia* 23, 527–534.
- Tanz, Christine (1974). Cognitive principles underlying children’s errors in pronominal case-marking. *Journal of Child Language* 1, 271–276.
- Taraldsen, Knut Tarald (1994a). Agreement, case and the notion of specifier. Talk presented at MIT, June 23.
- — — (1994b). Reflexives, pronouns and subject/verb agreement in Icelandic and Faroese. *Working Papers in Scandinavian Syntax* 54, 43–58.
- — — (1995a). On agreement and nominative objects in Icelandic. In Hubert Haider, Susan Olsen & Sten Vikner (eds.), *Studies in comparative Germanic syntax*, Dordrecht: Kluwer, 307–327.
- — — (1995b). On a type of case/agreement complementarity. Paper presented at WCCFL 14, University of Southern California.
- Thráinsson, Höskuldur (1979). *On complementation in Icelandic*. New York: Garland.
- — — (1993). On the structure of infinitival complements. In Höskuldur Thráinsson, Samuel D. Epstein & Susumu Kuno (eds.), *Harvard Working Papers in Linguistics* 3, 181–213.
- Tracy, Rosemarie (1986). The acquisition of case morphology in German. *Linguistics* 24, 47–78.
- Trávníček, F. (1949). *Mluvnice spisovné cečtiny. vol 2*. Prague: Melantrich.
- Ulrich, Charles Howard (1986). Choctaw morphophonology. Ph.D. dissertation, UCLA.
- Ura, Hiroyuki (1996). Multiple feature-checking: A theory of grammatical function splitting. Ph.D. dissertation, MIT.
- Urushibara, Saeko (1991). *Ey/Eykey*: A postposition or a case marker? In Kuno et al. 1991, 421–431.
- Vainikka, A. (1994). Case in the development of English syntax. *Language Acquisition* 3, 257–325.
- Valian, V. (1991). Syntactic subjects in the early speech of American and Italian children. *Cognition* 40, 21–81.
- Van Valin, Robert D., Jr. (1990). Semantic parameters of split intransitivity. *Language* 66(2), 221–260.
- Varlokosta, Spyridoula & Norbert Hornstein (1993). Control in Modern Greek. In *Proceedings of the North East Linguistic Society* 23, 507–521.
- Varlokosta, Spyridoula, Anne Vainikka & Bernhard Rohrbacher (1995). Root infinitives without infinitives. In Andy Stringfellow, Dalia Cahana-Amitay, Elizabeth Hughes & Andrea Zukowski (eds.), *Proceedings of the 20th Annual Boston University Conference on Language Development*, Somerville, Mass.: Cascadilla, vol. 2, 816–827.
- Visser, F. Th. (1963). *An historical syntax of the English language*. Leiden: E. J. Brill.
- Wagner, Klaus (1985). How much do children say in a day? *Journal of Child Language* 12, 475–487.

- Wang, Q., D. Lillo-Martin, C. T. Best & A. Levitt (1992). Null subject vs. null object: Some evidence from the acquisition of Chinese and English. *Language Acquisition* 2, 221–254.
- Watanabe, Akira (1993). Agr-based case theory and its interaction with the A-bar system. Ph.D. dissertation, MIT.
- Wechsler, Stephen & Yae-Sheik Lee (1996). The domain of direct case assignment. *Natural Language and Linguistic Theory* 14, 629–664.
- Weverink, M. (1989). The subject in relation to inflection in child language. M.A. thesis, University of Utrecht.
- Wexler, Kenneth (1992). Optional infinitives, head movement and the economy of derivation in child grammar. Occasional paper #45, Center for Cognitive Science, MIT.
- — — (1994). Optional infinitives, head movement, and the economy of derivations. In David Lightfoot & Norbert Hornstein (eds.), *Verb movement*, Cambridge: Cambridge University Press, 305–350.
- — — (1995). Feature-interpretability and optionality in early child grammar. Paper presented at the Workshop on Optionality, Utrecht.
- — — (1996). The development of inflection in a biologically based theory of language acquisition. In Mabel L. Rice (ed.), *Toward a genetics of language*, Mahwah, New Jersey: Lawrence Erlbaum, 113–144.
- Whitman, John (1994). In defense of the strong continuity account of the acquisition of verb-second. In Barbara Lust, Margarita Suárez & John Whitman (eds.), *Syntactic theory and first language acquisition, vol. 1: Heads, projections, and learnability*, Hillsdale, NJ: Erlbaum, 273–287.
- Whitney, A. H. (1956). *Finnish*. London: Hodder and Stoughton.
- Wijnen, Frank (1997). The temporal interpretation of root infinitivals: The effect of eventivity. Paper presented at the Workshop on the Interpretation of Root Infinitivals and Bare Nouns in Child Language, MIT.
- Williams, Edwin S. (1983). Against small clauses. *Linguistic Inquiry* 14(2), 287–308.
- Wyngaerd, Guido J. Vanden (1994). *PRO-legomena: Distribution and reference of infinitival subjects*. Berlin: Mouton de Gruyter.
- Yip, Moira, Joan Maling & Ray Jackendoff (1987). Case in tiers. *Language* 63(2), 217–250.
- Yoon, James (1986). Some queries concerning the syntax of multiple subject constructions in Korean. *Studies in the Linguistic Sciences* 16, 215–236.
- — — (1996). Ambiguity of government and the Chain Condition. *Natural Language and Linguistic Theory* 14(1), 105–162.
- Yoon, James & Jeongme Yoon (1991). Chain condition, ambiguity of government and derivational grammars. In Tim Sherer (ed.), *Proceedings of the North East Linguistic Society* 21, 415–429.
- Yoon, Jeong-Me (1989). ECM and multiple subject constructions in Korean. In Kuno et al. 1989, 369–381.
- Yoon, Jong-Yurl (1989). On the multiple ‘ka’ and ‘lul’ constructions in Korean. In Kuno et al. 1989, 383–394.
- — — (1990). Korean syntax and generalized X-bar theory. Ph.D. dissertation, University of Texas at Austin.
- Yun, Sung-Kyu (1991). Topic-oriented honorifics *si* in Korean. In Kuno et al. 1991, 563–575.
- Zaenen, A., J. Maling & H. Thráinsson (1985). Case and grammatical functions: The Icelandic passive. *Natural Language and Linguistic Theory* 3(4), 441–483. [Reprinted in Maling & Zaenen 1990, 95–136.]
- Zwart, C. Jan-Wouter (1991). Expletive raising and expletive replacement in Dutch. In Germán F. Westphal, Benjamin Ao & Hee-Rahk Chae (eds.), *ESCOL '91: Proceedings of the Eighth Eastern States Conference on Linguistics*, 393–404.