SYNTAX AND SEMANTICS

Small Clauses

28

Edited by

Anna Cardinaletti

Maria Teresa Guasti

ACADEMIC PRESS

SYNTAX AND SEMANTICS

VOLUME 28

EDITORIAL BOARD

General Editor

Advisory Editors

A list of titles in this series appears at the end of this book.

SYNTAX and SEMANTICS

VOLUME 28

Small Clauses

Edited by

Anna Cardinaletti

Seminario di Linguistica
Università di Venezia
30124 Venezia, Italy

Maria Teresa Guasti

DIPSCO
H San Raffaele
20132 Milano, Italy

ACADEMIC PRESS
San Diego New York Boston
London Sydney Tokyo Toronto

This book is printed on acid-free paper. ♾

Academic Press, Inc.
A Division of Harcourt Brace & Company
525 B Street, Suite 1900, San Diego, California 92101-4495

United Kingdom Edition published by
Academic Press Limited
24-28 Oval Road, London NW1 7DX

International Standard Serial Number: 0092-4563

International Standard Book Number: 0-12-613528-2

PRINTED IN THE UNITED STATES OF AMERICA
95 96 97 98 99 00 QW 9 8 7 6 5 4 3 2 1

CONTENTS

CONTRIBUTORS

Numbers in parentheses indicate the pages on which the authors' contributions begin.

Anna Cardinaletti (1), Seminario di Linguistica, Università di Venezia, 30124 Venezia, Italy

Heles Contreras (135), Department of Linguistics, University of Washington, Seattle, Washington, 98195

Maria Teresa Guasti (1), DIPSCO, H San Raffaele, 20132 Milano, Italy

Jacqueline Guéron (77), Département d'Anglais, Université de Paris X - Nanterre, 92001 Nanterre, Paris, France

Teun Hoekstra (77), Department of Linguistics, Leiden University, 2334 EV Leiden, The Netherlands

Andrea Moro (109), DIPSCO, H San Raffaele, 20132 Milano, Italy

T. R. Rapoport (153), Department of Foreign Literatures and Linguistics, Ben-Gurion University of the Negev, Beer-Sheva 84105, Israel

Eduardo Raposo (179), Department of Spanish and Portuguese, University of California at Santa Barbara, Santa Barbara, California, 93106

Susan Rothstein (27), Department of English, Bar-Ilan University, 52–900 Ramat-Gan, Israel

Barry Schein (49), Department of Linguistics, University of Southern California, Los Angeles, California, 90089

Dominique Sportiche (287), Department of Linguistics, University of California at Los Angeles, Los Angeles, California, 90024

Michal Starke (237), Département de Linguistique, Université de Genève, 1211 Genève 4, Switzerland

Tim Stowell (271), Department of Linguistics, University of California at Los Angeles, Los Angeles, California, 90024

Knut Tarald Taraldsen (207), University of Tromsø, N-9037 Tromsø, Norway

Juan Uriagereka (179), Linguistics Department, University of Maryland, College Park, Maryland, 20742

This page intentionally left blank

PREFACE

This volume is a collection of eleven papers on different issues concerning small clauses. It discusses the syntax of various types of small clauses, as well as the pros and cons of the hypothesis that small clauses exist. The contributions share most theoretical assumptions—the syntax of small clauses addressed here is within the principles and parameters framework (Chomsky, 1981, and further developments).

The term *small clauses* is generally used in opposition to the term *full clauses* to convey the idea that the former are morphologically poorer than the latter. Small clauses are intriguing grammatical entities, since in many respects they are similar to full clauses, whereas in many other respects they behave differently. Many linguists have tried to give a formal representation to these similarities and asymmetries, and the literature on the subject is considerable.

Syntax and Semantics 28 is an original contribution to this debate. It aims at offering a cross-linguistic perspective on small clauses, it addresses a range of general syntactic questions from the perspective of small clauses, and it considers some relation between the theory of small clauses and the study of language acquisition.

Cross-linguistic comparison opens up the possibility of shedding new light on old problems and of deepening our knowledge of what is variable across languages and what should be viewed as universal. The empirical domain on which the papers are based consists of data from Danish, Dutch, English, Finnish, French, German, Hebrew, Hungarian, Icelandic, Irish, Italian, Norwegian, Portuguese, Russian, Slovakian, Spanish, and Swedish languages.

Recent linguistic analyses have concentrated on syntactic constraints and on the import of structural properties to the interpretation at the level of

full clauses. Their impact at the level of small clauses still remains to be evaluated. The study of full clauses has provided new tools for examining the internal structure of grammatical entities. In this context, the following questions are addressed in this volume: What is the internal structure of small clauses? Are they simply the projection of a lexical head or do they contain functional projections? Are these functional projections the same as those found in full clauses?

Different types of small clauses can be distinguished on the basis of the lexical category of their predicate: whether nominal, adjectival, prepositional, or verbal. Do these different types of small clauses have the same internal structure and behave in the same way?

In addition, many old questions are still waiting for a satisfactory answer: What is the relation between small clauses and copular constructions? What are the conditions necessary to establish a predicate relation and how do these conditions apply in small clauses?

In recent years, the notion of small clauses has been used to explain various facets of language acquisition. In this connection, the following questions arise: What is the status of small clauses in child grammar? If small clauses are used by children, are they used in the same way as in adult language?

This volume is meant to offer a survey of the various problems raised by small clauses from the perspective of recent developments in the principles and parameters model. It will be of valuable use both to those well-acquainted with small clauses, since it addresses many old questions from a recent perspective and adds new issues to the discussion, and to those less familiar with these constructions, since it offers a broad range of relevant topics.

SMALL CLAUSES: SOME CONTROVERSIES AND ISSUES OF ACQUISITION

ANNA CARDINALETTI*
MARIA TERESA GUASTI[†, ‡]

**Seminario di Linguistica*
Università di Venezia
I-30124 Venezia, Italy

[†]*Département de Linguistique Générale*
Université de Genève
CH-1211 Genève 4, Switzerland

1. INTRODUCTION

In this introduction we first provide an overview of the main theoretical and empirical issues raised by small clauses, examining in particular how they have been approached by the contributors to this volume. On more than one occasion, this overview will reveal that one and the same question has been answered in different ways by the authors. The existence of contrasting opinions indicates that the debate on small clauses is quite alive, and we hope that the following pages can be a useful contribution to it.

In section 3 of the introduction, the important question of language acquisition is addressed. We focus on the recent discussion on the small clause status of sentences produced in the earliest stages of language acquisition. By this, it is mainly meant that children do not master functional categories. We argue that the small clause analysis of children's utterances cannot be maintained in its original formulation, though an updated version can account for some children's data. Children do produce clauses containing functional projections, as argued in many works on language acquisition. What they lack is a full mastery of the temporal properties of clauses.

[‡]Present address: DIPSCO,
H San Raffaele, 20132
Milano, Italy.

Syntax and Semantics, Volume 28
Small Clauses

2. THE DEBATE AND THE CONTRIBUTIONS OF THE VOLUME

The term SMALL CLAUSE, introduced in Williams (1975), refers to a subset of the constructions expressing a subject–predicate relation (see Stowell, this Volume). Unlike full clauses, the predicate in a small clause is not an inflected verb but can be a non-inflected verb (infinitive, gerund, past participle), an adjective, a preposition, or a noun. The term conveys the idea that small clauses are morphologically less complex than full clauses. Different implementations have been proposed in order to capture this idea.

This section is meant to review the problems raised by small clauses and to examine how the contributors to this volume have dealt with them.

2.1. Approaches to Small Clauses

The structural analysis of constructions such as:

(1) . . . V NP XP_{pred}

has been approached from two points of view: whether the sequence NP XP forms a constituent or not, and whether the matrix verb and the XP predicate forms a complex predicate or not. Conceptually, these two points of view are orthogonal. As we will see below, a combination of the two is found in several analyses.

The debate on the constituency of the NP XP sequence is not original to generative grammar but goes back to previous linguistic research. Traditional grammarians have generally treated the sequence as not forming a constituent, with the notable exception of Otto Jespersen (e.g., Jespersen, 1940).

The proposal that the sequence [NP XP] is a clausal constituent at all levels of representation is taken up in the generative tradition by Stowell (1983). This has been referred to as the SMALL CLAUSE THEORY.

The opposite view, advocated in different formats in Bresnan (1978), Schein (this Volume), and Williams (1983), holds that there are no small clauses, and the sequence NP XP does not form a syntactic unit. Both NP and XP are arguments of the verb, among which a relation of predication is established. This view can be called the PREDICATION THEORY.

According to a third view, there is no constituent formed by the NP and the XP, but the NP is an argument of the complex predicate formed by the main verb and the XP. This analysis was first proposed by Chomsky (1955/75).

As mentioned above, the constituency view and the complex predicate theory are not mutually exclusive. Rizzi (1986) and Stowell (1991), for instance, combine the two in the following terms: the sequence NP XP

forms a D-structure constituent, but XP undergoes a process of reanalysis/restructuring with the main verb at S-structure or LF, the level of application being subject to language variation. The two mentioned proposals differ slightly in that the former admits the presence of a constituent even after reanalysis; whereas in the latter, the constituent formed by NP and XP is eliminated after restructuring.

The four types of analysis are summarized in (2), quoting one representative for each.

(2)

		Complex predicate formation	
		+	−
Constituent formation	+	Stowell (1983)	Stowell (1991)
	−	Chomsky (1955/75)	Williams (1983)

The issue concerning the structure of small clauses is considered in the chapters by Schein, Rapoport, and, to some degree, Contreras. These authors hold that the "subject" of the predication and the predicate do not form a constituent (though, for Schein, they must be included in the same constituent in a configuration of mutual c-command).

Rapoport and Contreras, but not Schein, combine this with an analysis in terms of complex predicators. According to Rapoport, NP always receives a θ-role from a complex predicate, itself formed by the verb and its modifier, the XP predicate. Contreras proposes a complex-predicate analysis only for nominal and prepositional small clauses (while adopting a small clause analysis without complex predicates for adjectival and verbal small clauses).

The other contributions all assume the existence of a small clause constituent. Stowell discusses a number of extensions that small clause theory has undergone since its original formulation (VP-internal subjects and double object constructions). Rothstein and Starke also present various arguments in favor of the existence of such a constituent, some of which have never been discussed before.

Among the proponents of a small clause constituent, Starke also argues for complex predicate formation, which obtains, in his view, through incorporation of the particle introducing the small clause into the matrix verb.

2.2. The Notion of Predication

The main feature of a small clause is the fact that predication is obtained in the absence of a verbal inflected form. Chomsky (1981) has expressed

this in more formal terms by saying that small clauses are an instance of predication in which the predicate is not linked to INFL (the structure of full clauses being instead NP INFL VP). The following two are among the questions addressed by the authors: (1) What are the conditions necessary to establish a predicate relation, and how do these conditions apply in small clauses? (2) If copular sentences are the inflected counterparts of small clauses, what is the relation between small clauses and copular constructions?

2.2.1. Conditions on Predication

Schein considers predication as an instance of θ-role assignment by a maximal projection. Predication is obtained in the same way both in full clauses, where VP assigns a θ-role to the subject, and in small clauses, where the predicate can be an AP, a PP, or an NP, and assigns a θ-role to the object of the verb, θ-uniqueness not being operative.

This contrasts with the view defended by Rothstein, who analyzes predication as a primitive saturation relation which holds inside the constituent "clause" between an open syntactic constituent and a closed constituent. It applies both in full clauses and in small clauses in the same way.

Guéron and Hoekstra propose that predication is an INCLUSION RELATION and always involves a node AGR, understood as an inclusion operator (though the possibility that AGR be rephrased as a predicate head—as in Bowers, 1993—is discussed by the two authors). The predicate is connected to its subject via agreement. By virtue of their inherent agreement features, verbs and adjectives are always predicates.

Moro's contribution diverges from the above approaches in regarding both θ-role assignment and agreement as neither necessary nor sufficient to establish a predication relation. To do this, he focuses on nominal small clauses, showing that agreement is not necessarily present in this type of small clause and that the subject of predication does not necessarily receive a θ-role from the head of the predicate. Although he does not provide a positive definition of predication, he concludes that what matters is the relative order of subject and predicate: the former must precede the latter.

Stowell, commenting against Williams (1983), argues that predication is always a strictly local relation, sometimes mediated by empty categories.

Although different implementations of the notion of predication are presented, all approaches share the view that this fundamental relation is uniformly established in full and small clauses. In other words, the nature of the predicate does not seem to give rise to significant differences in this respect.

This result is also (trivially) obtained in Starke's approach, who in essence assimilates small clauses and full clauses: small clauses being the projection of a verb, an empty BE (and not the projection of the head of the XP predicate), both types of clauses contain a verbal head, now viewed as the necessary condition to establish a predication relation.

2.2.2. Copular Sentences

Two main questions are addressed with regard to the relation between small clauses and copular sentences: the proper analysis of identity sentences, and the role of the copula.

The controversy on the existence of identity sentences, stemming from Russell (1919), is represented here in two diametrically opposed views. On the one hand, Moro presupposes his (1993) hypothesis that identity sentences do not exist, and they must be analyzed as inverse copular constructions: the NP predicate raises to the preverbal subject position, and the subject of predication follows the verb, remaining inside the small clause. On the other hand, Rapoport and Rothstein recognize the existence of equative constructions, in which both NPs are referential. Rothstein assigns different structures to predicational and identity sentences: In Hebrew, the former are small clauses, optionally found in the complement position of INFL. Identity sentences cannot be small clauses and are instead structures in which INFL selects a NP.

Rothstein discusses the interesting restriction that the copula is in general obligatory in identity sentences. In other words, identity small clauses are not possible, neither in Hebrew matrix small clauses nor in English complements to epistemic verbs. The role of the copula must be understood, in Rothstein's proposal, in terms of the predication relation. Whereas in predicational sentences, the inherently predicative constituent is saturated by the subject NP, in identity sentences, neither of the two NPs can count as a predicate. The role of the copula is therefore to project an I′ constituent, which provides the predication relation. This analysis is extended to English complements to epistemic verbs, which allow a predicative small clause, but not an equative construction: equative constructions require the presence of the copula *be*. As in the above Hebrew cases, Infl is inserted to create a predication relation, and *be* is inserted to support the Infl features. Since identity sentences cannot be small clauses, *be* does not take a small clause in this case, but a complement NP, as originally proposed by Stowell (1978).

2.3. The Typology of Small Clauses

Different types of small clauses can be distinguished on the basis of the category and semantic properties of the predicate. In this context, the

following questions arise: (1) Do different small clauses have the same internal structure and behave in the same way? (2) Do different small clauses have the same distribution?

2.3.1. The Lexical Category of the Predicate

A distinction is made on the basis of the lexical category of the predicate of the small clause, whether nominal, adjectival, prepositional, or verbal.

Contreras groups the four possible types into two subtypes, distinguishing between [+V] and [−V] predicates. Adjectival and verbal small clauses pattern together, against nominal and prepositional small clauses, in having a subject. The distinction is made on the basis of a number of grammatical processes, such as binding facts, reconstruction, subcategorization, and particle verbs.

Accordingly, the structure of small clauses is different in the two cases. In the case of [+V] small clauses, a constituent is present; whereas in the case of [−V] small clauses, the predicate is nothing else than a further complement to the matrix verb, to which the verb assigns a "Property" θ-role. The two predicates, the verb and the nominal or prepositional predicate, form a complex predicate. A fairly complex structure is thus credited to the verbal projection, modeled on the Larsonian structure of double object constructions (Larson, 1988). Being generated as a sister of the predicate, the verb moves to a higher V-position, producing the linear order verb–NP–XP_{pred}.

Contreras's proposal for nominal small clauses has structural features very similar to Rapoport's analysis of the same type of small clause. Although not explicitly stated by Rapoport, she assigns a Larsonian structure to the VP containing the nominal predicate. This originates as a sister of the verb and is interpreted as a modifier of the verbal predicate (rather than as a complement, as in Contreras's analysis), giving rise to a complex predicate.

Rapoport also discusses at length the proper semantic characterization of the restrictions on the nominal predicate, arriving at the conclusion that the relevant notion is not definiteness, nor referentiality, but specificity: the nominal predicate must be non-specific. (Since referential NPs are specific, the ungrammaticality of identity sentences as small clauses, see above, can be considered as a subcase of this general constraint.) This semantic restriction follows from the above hypothesis that the predicate originates as the sister of the verb, a position restricted to non-specific elements.

In their discussion of verbal small clauses, Guéron and Hoekstra claim that small clauses lack a Tense operator. In this respect, they are similar to

verbal complements of *be* and *have,* namely progressive *-ing* and past participles, and to gerunds, though these are not strictly speaking small clauses. Since Tense is required to make a linguistic entity complete, they propose that small clause predicates enter a T(ense)-chain whose foot is the matrix verb. Similarly, *-ing* forms and past participles enter the T-chain containing the auxiliary.

Although a certain resemblance exists between small clauses and participles, the two constructions cannot be fully assimilated. This point is discussed by Taraldsen. The participle phrase following the verb *få* in Norwegian displays certain small clause–like properties; in particular, it can contain an overt subject. The participial phrase could therefore be analyzed as a small clause complement to the verb *få,* which seems to have a causative meaning. Taraldsen shows, however, that this verb does not have a thematic structure and must be considered instead as an aspectual variant of the auxiliary *ha* 'have.' It follows that the projection of the participle is not a small clause, at least in the sense that it does not receive a θ-role from the verb. However, it is a complete extended projection which has a very rich internal structure and a set of functional categories similar to those found in the finite portion of the clause, much along the analysis of past participles suggested by Kayne (1993).

2.3.2. The Grammatical Function of Small Clauses

Small clauses may have different grammatical functions: complement, subject, or adjunct. Adjuncts can furthermore be distinguished into subject- and object-related. As for resultative small clauses, which can only refer to the object, there exists a debate as to their complement or adjunct nature. Resultatives are analyzed as complement small clauses in the chapters by Guéron and Hoekstra, Schein, and Stowell (cf. also Kayne, 1984; Merlo, 1989). Stowell suggests that an extension of the Larsonian VP-shell theory may account for the properties of resultatives.

Subject- and object-related adjuncts are assigned different locations in the syntactic representation: according to Schein, they are respectively outside and inside the VP; Guéron and Hoekstra regard them as adjoined respectively to AgrSP and AgrOP.

The distinction between complement and object-related adjunct small clauses is structurally obliterated in the chapter by Schein, where no small clause constituent is admitted.

Adjectival and prepositional small clauses do not undergo any restriction with respect to their grammatical function. They can occur as argument, adjunct, or resultative.

Nominal and verbal small clauses, on the other hand, are not found in all functions. Nominal small clauses cannot be used as adjuncts, nor as resultatives. Verbal small clauses have similar restrictions. Infinitives can be used neither in adjuncts nor in resultatives; past participles can be used as adjuncts but not as complements to epistemic verbs or as resultatives. See the next section for a possible account of some of these restrictions.

2.3.3. The Nature of the Small Clause Predicate

Semantic distinctions such as stage-level vs. individual-level predicate play a relevant role in establishing the distribution of different types of small clauses.

Whereas adjectives can be both stage-level and individual-level, nominal predicates always denote individual-level properties. According to Guéron and Hoekstra, this may explain the restriction noted above in section 2.3.2. against nominal resultatives. Since resultatives need to contain a stage-level predicate, nominals are simply semantically incompatible in this context.

Although individual-level predicates are harder to use in adjunct small clauses than stage-level predicates, Guéron and Hoekstra point out that they are not completely excluded. However, the interpretation is partially different in the two cases. While the property denoted by stage-level predicates is interpreted as obtaining at the same reference time as the matrix clause event, individual-level predicates require a modal interpretation of causality or concession. This happens with both adjectives and present participles used as adjuncts.

Raposo and Uriagereka discuss at length how to define the notions of stage- and individual-level predicate. They suggest that the difference between the two is not lexico-semantic, but must be stated in terms of the informational structure of the clause: individual-level predicates are 'about' the subject, a sort of subcase of topicalization, whereas stage-level predicates have an 'aboutness' relation with the event they introduce. Small clauses are particularly relevant in this discussion, since they allow one to show that other possible definitions of these notions are not correct. Raposo and Uriagereka also suggest that an individual-level small clause must be governed by a Tense-operator, whereas no such requirement is operative in the case of small clauses containing a stage-level predicate. This explains, among other things, why individual-level small clauses are impossible inside NPs, whereas this restriction does not hold for stage-level predicates.

2.4. The Internal Structure of Small Clauses

Among the proponents of a small clause constituent, differences exist concerning the internal structure of the small clause. As opposed to full clauses, it was originally proposed that small clauses do not contain any

functional projection. They only include the lexical projection of the predicate, the subject of the predicate occupying the specifier of this projection (Stowell, 1983) or being adjoined to it (Manzini, 1983).

A richer internal structure, containing functional projections, have been attributed to small clauses starting with Hornstein and Lightfoot (1987), Kitagawa (1985), and Mouchaweh (1984).

At the same time, a greater understanding has been achieved of the structure of full clauses. Pollock's (1989) seminal work on the syntax of full clauses and further developments of this by now very familiar line of research have provided new tools to investigate the syntax of small clauses. Various authors have argued that at least some types of small clauses are not just the projection of a lexical head, but that they include some functional projections (cf. Cardinaletti and Guasti, 1992; Chomsky, 1989; Cinque, 1991; Raposo and Uriagereka, 1990; among others). However, the full impact for the analysis of small clauses still remains to be evaluated.

The proposals contained in this volume are quite heterogeneous, ranging from a total distinction of the structure of full and small clauses to a total assimilation of the two.

On the one hand, Moro and Rothstein repropose Manzini's (1983) adjunction structure: small clauses contain the projection of the lexical head and the subject of predication, adjoined to this projection. Rothstein underlines that small clauses are not the projection of a head, but a juxtaposition of two maximal projections.

On the other hand, it emerges from all the other chapters that small clauses do not simply consist of a lexical projection, but may include a more or less elaborated functional structure.

Contreras gives arguments to the effect that the subject of (adjectival and verbal) small clauses asymmetrically c-commands the predicate: the subject can in fact bind an anaphor, a pronoun interpreted as bound variable, or a negative polarity item contained in the predicate. This means that the subject is structurally higher than the predicate, which can be obtained if the subject moves to the specifier position of a functional projection dominating the predicate. Contreras does not commit himself to the label of this projection, though he quotes two possible analyses, either Aspect or Agr.

In Guéron and Hoekstra's chapter, the claim is defended that the difference between full and small clauses is a difference in the functional projections found in the two types of clause; in particular small clauses lack the Tense-operator and the Tense projection found in full clauses. Small clauses, however, always contain an Agr projection, since predication requires such a structural correlate.

Stowell suggests that whether a small clause is a pure lexical projection or contains functional projections may depend on the entity it denotes. Small clauses to propositional attitude verbs may be of the latter type since

they denote propositions, whereas small clauses to perception verbs are of the former type since they denote situations. Thus, syntax can offer the means to distinguish semantic objects.

Although enriched with functional projections, the standard view that small clauses are structurally reduced with respect to full clauses, lacking some or many of the functional heads present in the latter, is thus reproduced in these contributions.

There are two exceptions. Starke makes the claim that the structure of small clauses is essentially the same as that of full clauses, the difference lying in the content of functional categories rather than in their presence or absence. A very similar claim is made by Sportiche. Starke's main piece of evidence is represented by small-clause particles such as English *as,* which can be attributed the same functional status as the complementizer *that* in full clauses. If small clauses have a complementizer, then they must contain the whole sentential structure, under the hypothesis that there cannot be holes in the structure.

3. THE STRUCTURE OF SMALL CLAUSES AND LANGUAGE ACQUISITION

3.1. The Problem: Radford's Small Clause Hypothesis

In this section, we discuss some aspects of the relation between the theory of small clauses and issues in studies on language acquisition.

As seen above, small clauses were initially viewed as structures including just the lexical projection of the predicate, with the subject staying in the Specifier of this lexical projection (Stowell, 1983; see Manzini, 1983, for a variant of this view). According to the category of the predicate, we can have different types of small clauses, as in (3).

(3) a. *I saw* [$_{VP}$ *John run*].
b. *I consider* [$_{AP}$ *John intelligent*].
c. *I found* [$_{PP}$ *John in the garden*].
d. *I consider* [$_{NP}$ *John my best friend*].

Small clauses in English are generally found in governed contexts and never occur as independent clauses. Thus, the sentences in (4) are judged ungrammatical in adult English.

(4) a.*[$_{VP}$ *John run*].
b.*[$_{AP}$ *John intelligent*].
c.*[$_{PP}$ *John in the garden*].
d.*[$_{NP}$ *John my best friend*].

Sentences such as (4), however, are produced by young children. Radford (1990) reports a number of examples of the type illustrated in (5) (children's ages in months).

(5) a. *Baby eat cookies.* (Allison, 22)
b. *Mommy busy. Baby busy.* (Kathrin, 21)
c. *Mouse in window. It in bag.* (Hayley, 22)
d. *That bushy.* (Claire, 24)

Following Stowell's (1983) approach to small clauses, Radford analyzes children's sentences such as those in (5) as small clauses, i.e. as projection of lexical categories, as in (6).

(6) a. [$_{VP}$ *Baby eat cookies*].
b. [$_{AP}$ *Mommy busy*]. [$_{AP}$ *Baby busy*].
c. [$_{PP}$ *Mouse in window*]. [$_{PP}$ *It in bag*].
d. [$_{NP}$ *That bushy*].

The example in (6a) is a case where INFL is missing, as indicated by the lack of agreement between the verb and the subject. The examples in (6b) through (6d) are cases where the inflected copula *be* is missing. Based on these facts, Radford argues that children's clauses are initially small clauses (see also Lebeaux, 1988; Platzack, 1992) and that children's grammar does not initially include functional categories. This view is called the SMALL CLAUSE HYPOTHESIS.

Other researchers in the field of language acquisition have argued against the small clause hypothesis. Studying in particular children's verbal utterances from different languages, several authors have provided evidence that clauses in early child language cannot be pure instantiation of lexical projections but contain (some or all) functional projections from the very beginning (for French, see Deprez and Pierce, 1992; for German, see Meisel, 1990; Poeppel and Wexler, 1993; Verrips and Weissenborn, 1992; Weissenborn, 1990; for Italian, see Guasti, 1993/94; Hyams, 1986; see also Meisel, 1993, for a survey of these and related issues). This evidence consists of distributional facts as well as a correct use of agreement.

It is worthy noticing that Radford's hypothesis is based on a particular view of small clauses, dating back to Stowell (1983) but called into question by several of the contributions to this volume and in the discussion that follows. Developments in linguistic theory have led authors to credit a more articulated structure to small clauses, which includes (at least some) functional projections. This research has consequences for the theory of language acquisition that remain to be evaluated. As a first step, we wish to illustrate some of the arguments adduced to prove that small clauses do not just contain lexical projections and return to the issue of language acquisition later.

3.2. The Structure of Small Clauses

3.2.1. Morphological Evidence from Adjectival Small Clauses

In Stowell's (1983) article and in research which ensued from it, small clauses are assumed to lack INFL. Contrary to full clauses, they do not display any piece of verbal inflectional morphology such as tense, aspect, or person. Under the view that morphology has syntactic reflexes (Baker, 1988), this assumption appeared motivated at the time.

However, this conclusion must be partly revised, if one extends the investigation to languages other than English. Looking at languages like Italian and French, for instance, the adjectival predicate of a small clause manifests agreement with the subject of predication, as in (7).

(7) a. *Considero queste ragazze soddisfatte del loro lavoro.*
b. *Je considère ces filles satisfaites de leur travail.*
(I) consider these girls satisfied-FEM-PL of their job
'I consider these girls satisfied with their job.'

We take this evidence to show that adjectival small clauses contain some kind of inflectional projections. Our proposal is in line with the assumption of inflectional projections in small clauses, as in Belletti (1990), Cardinaletti and Guasti (1992), Contreras (this Volume), Guéron and Hoekstra (this Volume), Hornstein and Lightfoot (1987), Raposo and Uriagereka (1990, this Volume), among others. While the agreement of a full clause contains person and number features, that of a small clause has number and gender features. The crucial distinction between these two types of agreement is presence vs. absence of person features. These properties distinguish the agreement found in small clauses from that present in full clauses. Based on this, we propose that adjectival small clauses contain at least an AGRP with the number and gender morphology sitting under the AGR head.

3.2.2. Distributional Facts in Adjectival Small Clauses

3.2.2.1. Floating quantifiers. The hypothesis that adjectival small clauses contain a functional projection is also supported by distributional facts. Consider the sentences in (8).

(8) a. *Ritengo [quelle ragazze tutte soddisfatte del loro lavoro].*
(I) consider those girls all satisfied with their job
b. *Ritengo [quelle ragazze entrambe soddisfatte del loro lavoro].*
(I) consider those girls both satisfied with their job

In works dealing with the structure of full clauses, it has been assumed that the distribution of floating quantifiers (FQ), such as *tutti* 'all' and

entrambi 'both,' coincides by and large with that of lower adverbs, marking the VP-internal position of the subject.

This line of reasoning can be applied to the adjectival small clauses in (8) (cf. also Belletti, 1990). In line with current views, we assume that subjects are generated in the Specifier position of lexical projections. In (8), the FQs *tutte* and *entrambe* mark the AP-internal position of the subject, specAP, and the subject *quelle ragazze* has moved to SpecAGRP. The structures of (8a) and (8b) are given in (9).

(9) a. *Ritengo* [$_{\text{AGRP}}$ *quelle ragazze* [$_{\text{AP}}$ *tutte soddisfatte del loro lavoro*]].
b. *Ritengo* [$_{\text{AGRP}}$ *quelle ragazze* [$_{\text{AP}}$ *entrambe soddisfatte del loro lavoro*]].

3.2.2.2. Negation. Do small clauses contain other functional projections, such as NegP and TP?

As for NegP, the question can be answered on the basis of the distribution of negation in small clauses. Cardinaletti and Guasti (1993) have shown that sentence negation cannot be found in adjectival small clauses. From that, they conclude that NegP is not included in the small clause structure. Negative adverbs, which can be present in small clauses, are adjoined to the AP.

In Italian, the negation *non* is the head of NegP (cf. Belletti, 1990). In full clauses, *non* can cooccur with negative adverbs such as *mai* 'never,' as in (10); this is not possible in the small clauses in (11).

(10) a. *Penso che Gianni non sia mai contento.*
(I) think that Gianni not is-SUBJ never happy
'I think that Gianni is never happy.'
b.**Penso che Gianni sia mai contento.*
(I) think that Gianni is-SUBJ never happy

(11) a.**Ritengo Gianni non mai contento.*
(I) consider Gianni not very happy
b.**Ritengo Gianni mai non contento.*
c.**Ritengo Gianni non contento mai.*

Sentences (11) improve if either *non* or *mai* is dropped, as in (12), suggesting that *non* and negative adverbs are mutually exclusive in small clauses.

(12) a.?*Ritengo Gianni mai contento.*
(I) consider Gianni never happy
b. *Ritengo Gianni non contento.*
(I) consider Gianni not happy

From these and other facts having to do with scope, Cardinaletti and Guasti (1993) conclude that Italian *non* in small clauses does not have the same status as its homophone in full clauses, but rather it is similar to negative adverbs such as Italian *mai*. Whereas *non* in full clauses is the head of NegP, in small clauses it is an adverbial element adjoined to the lexical projection AP contained in the small clause, as in (13), the representation of (12a).[1]

(13) ?*Ritengo* [*Gianni* [*mai* [*contento*]]].

3.2.2.3. Tense projection. No tense morphology is manifested in a small clause, in contrast to a full clause. This may suggest that no TP is present in small clauses. Some evidence supporting this hypothesis comes from the behavior of temporal adverbials. Assuming that adverbials are adjoined to the category they modify (see Sportiche, 1988) and that temporal adverbials are licensed by a tense projection (Marantz, 1984), we expect that whenever such a projection is missing, temporal modification should be impossible. If a TP is present in small clauses, as is generally assumed, but absent in small clauses, as we are suggesting, the contrast in (14) follows straightforwardly.

(14) a. *Oggi ritengo che Gianni era malato, ieri.*
today (I) believe that Gianni was sick yesterday
b.**Oggi ritengo Gianni malato, ieri.*
today (I) consider Gianni sick yesterday

Two conflicting temporal adverbs, *oggi* 'today' and *ieri* 'yesterday,' presuppose the presence of two TP projections. The ungrammaticality of (14b) suggests that a TP projection is absent in small clauses. One may object that this argument is not decisive: the contrast displayed above could result from the presence of an anaphoric tense in small clauses (Enç, 1987). This objection can be answered by looking at the problem from a larger perspective. Zanuttini (1991) posits a close relation between sentence negation and tense. Whenever sentence negation is found, a tense projection must be assumed. As we have shown above, sentence negation is not attested in small clauses. Therefore, it is safe to conclude that no TP is present either.

3.2.3. Additional Remarks

Although adjectival small clauses contain some functional projections, e.g., AgrP, they do not contain other projections found in full clauses, such as NegP and TP.

However, this is not yet a sufficient analysis of the internal structure of small clauses. Distributional facts seem to indicate that there is more than

one functional projection in small clauses. Consider example (15), pointed out to us by Guglielmo Cinque (personal communication).

(15) *Considero* [*quegli studenti probabilmente già tutti completamente convinti*]
(I) consider those students probably already all completely convinced

Here, the floating quantifier *tutti* 'all' is not in SpecAP: the adverb *completamente* 'completely' intervenes between it and the adjective. Since the adverb *completamente* cannot be adjoined to the intermediate A′-position, a common assumption, *tutti* must occur in the specifier of a higher projection. Moreover, the presence of the adverbs *probabilmente* 'probably' and *già* 'already' between the subject and the floating quantifier entails that other structural space must be hypothesized in the upper part of the small clause.

Whatever the location of adverbs, i.e. whether they are adjoined to maximal projections or they occur in the spec of functional projections (cf. Cinque, 1994), the conclusion cannot be avoided that there are further functional projections inside the small clause. Adopting the adjunction solution for simplicity, one arrives at the representation in (16), where at least one further projection is necessary.

(16) *Considero* [$_{FP}$ *quegli studenti* [$_{AGRP}$ *probabilmente* [$_{AGRP}$ *già* [$_{AGRP}$ *tutti* [$_{AP}$ *completamente* [$_{AP}$ *t convinti*]]]]]].

It is evident that the study of the number of functional projections present in small clauses and how they must be labeled is only at its inception. We will not pursue this task here, but we hope that these few remarks have made clear how much work remains to be done.[2] Comparative research will be of fundamental importance, as it has been and still is for the study of the structure of full clauses.

For our purposes here, it suffices to conclude that adjectival small clauses do include functional projections.

3.2.4. Other Types of Small Clauses

The conclusion reached above that adjectival small clauses contain functional projections can be extended to verbal small clauses. Guasti (1993), on the basis of distributional facts, shows that verbal small clauses after perception verbs contain an AGRP. In (17), the subject *Mary* cannot be in SpecVP since an adverb, *completely,* intervenes between it and the verb. Thus, it must be the case that the subject has raised from SpecVP, where it is base-generated, to the specifier of a higher functional projection, an AGRP.

(17) *John saw* [$_{AGRP}$ *Mary*$_i$ [*completely* [$_{VP}$ t_i *destroy her car*]]].

Similarly, distributional evidence shows that nominal and prepositional small clauses include functional structure. As in the examples of adjectival small clauses discussed above [see (8)], in (18) the floating quantifier *entrambi* 'both' and *tutti* 'all,' respectively, are stranded by the subject, which ends up in a higher position.

(18) a. *Ritengo* [*Gianni e Maria* [*entrambi* [*miei cari amici*]]].
(I) consider Gianni and Maria both my dear friends
b. *Ho trovato* [*i bambini* [*tutti* [*nel giardino*]]].
(I) have found the children all in-the garden

If these cases can be accounted for in the same way as above, functional projections must be admitted in these types of small clauses as well.

As for negation, the same heuristic procedure used in section 3.2.2.2. can be extended to nominal small clauses, as in (19), confirming that these small clauses do not contain NegP.

(19) **Ritengo Gianni non/mai il mio migliore amico.*
(I) consider Gianni not/never the my best friend

A difference arises here, however. Whereas in adjectival small clauses negation can be expressed through an adverbial element, in nominal small clauses negation is totally banned.[3]

Finally, the argument illustrated above in section 3.2.2.3. with adjectival predicates that TP is not present in small clauses can be reproduced for nominal small clauses. The ungrammaticality of (20) can be explained in the same way as that of (14b), supporting the hypothesis that TP is absent here, too.

(20) **Oggi ritengo Gianni un ottimo medico negli ultimi anni.*
today (I) consider Gianni a very-good doctor in-the last years

In summary, the evidence from linguistic theory points toward the conclusion that small clauses are not pure instantiations of lexical categories, but contain functional projections. Although some exceptions and variations exist, this view is shared by several contemporary studies and by many contributors to this volume.

3.3. The New View from Small Clauses and Language Acquisition

The conclusion that small clauses contain functional projections has consequences for studies in language acquisition. If correct, it deprives Radford's small clause hypothesis of content: since small clauses contain

functional projections, claiming that children speak through small clauses would amount to recognize that children have mastery of some functional categories.[4]

We have already mentioned that studies of children's production have shown that the small clause hypothesis is not correct for verbal clauses. Most of the research in the language acquisition field has investigated verbal utterances. Cross-linguistic studies of the acquisition of structures such as (5b–d) are yet to be completed. Thus one may still maintain that Radford's small clause hypothesis is correct for non-verbal utterances, although some data from early Italian seem to go in the opposite direction. The constructions in (21) are adjectival small clauses lacking the copula *be* (data from Cipriani, Chilosi, Bottari, and Pfanner, 1993). As shown by the glosses, agreement is used in these utterances.

(21) a. *Bimba quetta.* (= *È una bimba questa*)
child-FEM this-FEM is a child-FEM this-FEM
'This is a child.' (Martina)

b. *Lavagna tutta scrivota.* (= *La lavagna è tutta scritta*)
blackboard-FEM all-FEM written-FEM
'The blackboard is all written.' (Raffaello)

If the presence of agreement is a signal that a functional projection is present, as we assumed before in section 3.2.1., then we must conclude that these children's constructions contain an AGRP. If this hypothesis can be supported by quantitative evidence, then we have a piece of evidence that one type of children's non-verbal small clause is not deprived of functional structure. The confirmation of this hypothesis is left for further research.

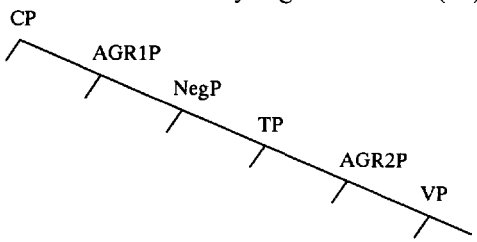
Still, it may be that some version of the small clause hypothesis is correct. Whether non-verbal small clauses contain just a lexical projection or also (some) functional projections, it is a fact that in adult language they cannot be used as main clauses, whereas they can in children's language. Put differently, one needs to establish why small clauses have a more liberal distribution in child grammar than in adult grammar. Some hints toward the explanation of this asymmetry come from the phenomenon of optional infinitives, i.e. infinitives used in main clauses.

3.4. Truncated Structure and Tense Anchoring

Wexler (1993) has shown that there is a period in linguistic development during which children use infinitives as main verbs, despite the fact that they know the difference between a finite and an infinitive verb. The same phenomenon has been studied by others (see Boser, Lust, Santelmann, and

Withman, 1992; Guasti, 1993/94; Haegeman, 1994; Rizzi, 1993). Most of these studies have accounted for the presence of an optional infinitive stage by proposing that tense is somewhat deficient or is not present. Rizzi (1993) proposes that optional infinitives are truncated structures. He assumes that a full clause is hierarchically organized as in (22), with CP being the root.[5]

(22)



In adult language, a clause must start from the CP and take all the projections below it. We suggest that this requirement may be traced back to the necessity of anchoring the event or state expressed by the verb to tense. Following Guéron and Hoekstra (this Volume), we assume that SpecCP contains a tense operator (TO) that binds a tense variable located in TP. The verb, a predicate, is related to tense by providing it with the e(vent)-role; i.e. the verb provides the lexical content which is constructed as an e-role. These three elements form a T-chain, as in (23).

(23) TO TNS V

Children in the optional infinitive stage are not sensitive to tense values, i.e. for them "there is no substantive tense variable . . . ; whence no need for a binder" (Rizzi, 1993:17). If children can dispense with a tense operator and do not have tense variables, they do not need to start a clause from the CP level and may choose any other category as the root, thus producing truncated structures in which the event expressed by the verb does not need to be anchored to tense.

If children select AGR2P as the starting point, then one gets optional infinitives, i.e. structures in which a tense variable is not present, as argued in Rizzi (1993).[6]

Whether or not the implementation in terms of truncated structures is a viable solution, the crucial point for us is that optional infinitives contain neither a tense variable nor a tense operator. The legitimacy of these structures in children's language is due to the fact that children can disregard the anchoring conditions for the event denoted by the verbal predicate.[7]

One may already have noticed that optional infinitives resemble verbal small clauses: they both contain a functional projection and they both lack TP. Thus we can conclude that although not all children's clauses are small clauses, as argued convincingly in the works cited previously, at least some

are (e.g., the optional infinitives) (see also Rizzi, 1993), though not of the type assumed by Radford (1990).

3.5. Small Clauses in Adult and Child Language

We can now turn to the problem of the different distribution of small clauses in child and adult language. In adult language, small clauses occur generally in governed contexts, whereas in child language they can be used as main sentences. This difference can be accounted for by considering again the temporal properties of small clauses.

As assumed above, the defining property of small clauses is the lack of tense specification. However, small clauses need to be connected to a tense domain, as argued by Guéron and Hoekstra (this Volume), i.e. the event denoted by the small clause predicate needs to be anchored to a reference time. In governed contexts, the small clause predicate is connected to the tense of the main clause by extending the T-chain associated with the governing verb, as in (24).

(24) *John considers Mary intelligent*
TO TNS V A

In this sentence, the adjectival predicate is connected to the T-chain containing the TP and the TO of the main clause. The same proposal can be extended to prepositional and nominal small clauses. The requirement that the small clause be connected to a referential tense accounts for the fact that in the adult language small clauses must appear in governed contexts where the tense of the main clause is accessible.[8]

Let us now turn to child language. Basing ourselves on works on optional infinitives or verbal small clauses, we assume that in children's grammar, the event denoted by any predicate (be it verbal, adjectival, prepositional, or nominal) does not need to be anchored by tense, since children are not sensitive to tense values. Therefore, the paradigm in (4), repeated in (25), is expected to be found in child language [see (5) above].

(25) a. [*John run*].
b. [*John intelligent*].
c. [*John in the garden*].
d. [*John my best friend*].

In summary, children's small clauses may be structurally similar to adults' small clauses, i.e. they may contain functional projections. If this is correct, children at no stage produce structures which are pure lexical projections, and Radford's (1990) small clause hypothesis cannot be maintained in its original formulation.

A modified version of Radford's view can be retained: optionally, children can use small clauses as if they were independent clauses. This use is not attested in adult language, where small clauses are only found in governed contexts. Elaborating on work by Rizzi (1993), Wexler (1993), and Guéron and Hoekstra (this Volume), we have argued that this difference has to be attributed to the absence of a tense-anchoring requirement in children's grammar. In our view, the small clause hypothesis says that children use constructions structurally identical to those found in adult language (i.e. small clauses), but distributionally different.

REFERENCES

Aarts, B. (1992). *Small clauses in English: The nonverbal types.* Mouton de Gruyter, Berlin.

Baker, M. (1988). *Incorporation: A theory of grammatical function changing.* University of Chicago Press, Chicago.

Belletti, A. (1990). *Generalized verb movement.* Rosenberg & Sellier, Turin.

Boser, K., B. Lust, L. Santelmann, and J. Withman. (1992). The syntax of CP and V-2 in early child German (ECG): The strong continuity hypothesis. *North Eastern Linguistic Society Proceedings* 22, 51–65.

Bowers, J. (1993). The syntax of predication. *Linguistic Inquiry* 24, 591–656.

Bresnan, J. (1978). A realistic transformational grammar, in M. Halle, J. Bresnan, and G. Miller (eds.), *Linguistic Theory and Psychological Reality,* 1–59. MIT Press, Cambridge, Mass.

Cardinaletti, A., and M. T. Guasti. (1992). Epistemic small clauses and null subjects, in G. F. Westphal, B. Ao and H.-R. Chae (eds.), *Proceedings of VII Eastern States Conference of Linguistics 1991,* 23–33. Ohio State University Press, Columbus.

Cardinaletti, A., and M. T. Guasti. (1993). Negation in small clauses. *Probus* 5, 39–61.

Chomsky, N. (1955/75). *The logical structure of linguistic theory.* University of Chicago Press, Chicago.

Chomsky, N. (1981). *Lectures on government and binding.* Foris, Dordrecht.

Chomsky, N. (1989). Some notes on the economy of derivation and representation. *MIT Working Papers in Linguistics* 10. Cambridge, Mass.

Cinque, G. (1991). *The pseudo-relative and ACC-ing constructions after verbs of perception.* Unpublished manuscript, University of Venice.

Cinque, G. (1994). *Sulla sintassi del participio passato nelle lingue romanze.* Paper presented at the Incontro di grammatica generativa, Padua, February 1994.

Cipriani, P., A. M. Chilosi, P. Bottari, and L. Pfanner. (1993). *L'acquisizione della morfosintassi: Fasi e processi.* Unipress, Padova.

Deprez, V., and A. Pierce. (1992). Negation and functional projections in early grammar. *Linguistic Inquiry* 23, 25–67.

Enç, M. (1987). Anchoring conditions for Tense. *Linguistic Inquiry* 18, 633–657.
Friedemann, M. A. (1993/94). The underlying position of external arguments in French. *Language Acquisition.* 3.3, 209–255.
Guasti, M. T. (1993). *Causative and perception verbs: A comparative study.* Rosenberg & Sellier, Turin.
Guasti, M. T. (1993/94). Verb syntax in Italian child grammar. *Language Acquisition* 3, 1–40.
Haegeman, L. (1994). *Root infinitives, tense and truncated structures.* Unpublished manuscript, University of Geneva.
Hornstein, N., and D. Lightfoot. (1987). Predication and PRO. *Language* 63, 23–52.
Hyams, N. (1986). *Language acquisition and the theory of parameters.* Reidel, Dordrecht.
Jespersen, O. (1940). *A modern English grammar on historical principles,* Part V, *Syntax,* vol. 4. Munksgaard, Copenhagen.
Kayne, R. S. (1984). Principles of particle constructions, in J. Guéron, H.-G. Obenauer, and J.-Y. Pollock (eds.), *Grammatical representation,* 101–140. Foris, Dordrecht.
Kayne, R. S. (1993). *Toward a modular theory of auxiliary selection. Studia Linguistica* 47. 1, 3–31.
Kitagawa, Y. (1985). Small but clausal. *Chicago Linguistic Society* 21, 210–220.
Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry,* 19, 335–391.
Lebeaux, D. (1988). *Language Acquisition and the Form of Grammar.* Ph.D. dissertation, University of Massachusetts, Amherst.
Manzini, M. R. (1983). *Restructuring and reanalysis.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Marantz, A. (1984). *On the nature of grammatical relations.* MIT Press, Cambridge, Mass.
Meisel, M. J. (1990). *Infl-ection: Subjects and subject–verb agreement in early child language. Evidence from simultaneous acquisition of two first languages: German and French.* Unpublished manuscript, University of Hamburg.
Meisel, M. J. (ed.) (1993). *The acquisition of placement.* Kluwer, Dordrecht.
Merlo, P. (1989). Risultative in italiano e in inglese. *Rivista di grammatica generativa* 14, 29–53.
Moro, A. (1993). *I predicati nominali e la struttura della frase.* Unipress, Padova.
Mouchaweh, L. (1984). En faveur des 'small clause.' *Recherches Linguistiques de Vincennes* 12, 92–124.
Pierce, A. (1989). *On the emergence of syntax: A cross-linguistic study.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Platzack, C. (1992). Functional categories and early Swedish. In J. M. Meisel (ed.), *The Acquisition of Placement,* 63–82. Kluwer, Dordrecht.
Poeppel, D., and K. Wexler. (1993). The full competence hypothesis of clausal 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.

Radford, A. (1990). *Syntactic theory and the acquisition of English syntax: The nature of early child grammar of English.* Blackwell, London.

Raposo, E., and J. Uriagereka. (1990). Long-distance case assignment. *Linguistic Inquiry* 21, 505–537.

Rizzi, L. (1986). Null objects in Italian and the theory of *pro*. *Linguistic Inquiry* 17, 501–557.

Rizzi, L. (1993). The case of root infinitives. *Geneva Generative Papers* 1.2, 16–25.

Russell, B. (1919). *The philosophy of mathematics.* Allen & Unwin, London.

Sportiche, D. (1988). A theory of floating quantifiers and its corollary for constituent structure. *Linguistic Inquiry* 19, 33–60.

Stowell, T. (1978). What was there before there was *there*. *Chicago Linguistic Society* 14, 475–481.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.

Stowell, T. (1991). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters of comparative grammar,* 182–218. MIT Press, Cambridge, Mass.

Verrips, M., and J. Weissenborn (1992). Routes to verb placement in early German and French: The independence of finiteness and agreement, in J. M. Meisel (ed.), *The acquisition of verb placement,* 283–331. Kluwer, Dordrecht.

Weissenborn, J. (1990). Functional categories and verb movement: The acquisition of German syntax reconsidered. *Spracherwerb und Grammatik: Linguistische Untersuchungen zum Erwerb von Syntax und Morphologie. Linguistische Berichte, Sonderheft* 3, 190–224.

Wexler, K. (1993). Optional infinitives, head movement and the economy of derivations in child grammar, in N. Hornstein and D. Lightfoot (eds.), *Verb Movement,* 305–349. Cambridge University Press, Cambridge.

Williams, E. (1975). Small clauses in English, in J. P. Kimball, (ed.), *Syntax and Semantics,* vol. 4, 249–273. Academic Press, Orlando.

Williams, E. (1983). Against small clauses. *Linguistic Inquiry* 14, 287–308.

Zanuttini, R. (1991). *Syntactic properties of sentential negation.* Ph.D. dissertation, University of Pennsylvania.

NOTES

[1]For simplicity, we ignore here word orders such as the following, in which the negative adverb precedes a modifier of the adjective:

(i) *Ritengo* [*Gianni* [*mai* [*veramente contento del suo lavoro*]]].
(I) consider Gianni never really satisfied of-the his job

We come back to this in section 3.2.3.

[2]If Starke (this Volume) is correct in claiming that particles such as *as* in *I regard John as intelligent* are small clause complementizers, small clauses have the same complete functional structure as full clauses. The task will then be partially different: to determine how the "content" of functional projections differs in the two types of clauses.

[3]This contrast may be due to the different categorial nature of the predicate: [+V] in adjectival small clauses and [−V] in nominal small clauses (see Contreras, this Volume). Note, however, that something more may be at stake, since negation can be used in nominals (see Cardinaletti and Guasti, 1993):

(i) *la non ammissione di quei candidati*
the non admission of those candidates

The ban against negation in nominal small clauses thus seems to depend on some intrinsic property of their predicates.

[4]Assuming that at D-structure, subjects are generated inside the lexical projection of the head, one could assume that early children's clauses are D-structure representations (see Pierce, 1989; Friedemann, 1993/94). These structures would not be clausal in the sense that they are Subject + Predicate structures (Radford, 1990). As argued by Moro (1993), the notion of predication cannot be defined within a VP; otherwise we would have two different VPs for active and passive sentences. This entails that to encode the subject–predicate relation, one must postulate more structure than a bare VP (see also Bowers, 1993).

[5]The two agreement projections in (22) correspond to agreement with the subject and agreement with the object, respectively.

[6]The hypothesis that optional infinitives include (at least) one inflectional projection is motivated by the fact that infinitives contain an infinitival suffix, e.g. in Romance as well as in Germanic languages with the exception of English.

[7]The reason this requirement is not operative in child grammar is the lack of mastery of the referential properties of the tense system (cf. Guasti, 1993/94).

[8]Two types of exceptions exist. On the one hand, small clauses used as main clauses exist in some languages, such as Hebrew (see Rothstein, this Volume). On the basis of distributional facts and the presence of an inflected negation in negative small clauses, it is unavoidable to assume that an empty INFL is present (Ur Shlonsky, personal communication). On the other, as pointed out by Aarts (1992:38f.), even in English, small clauses can be used as independent clauses in special contexts, e.g. in echo contexts, or as announcements:

(i) *John mad? You are joking!*

(ii) *Doors open 20.30.*

For these special uses, we conjecture that the predicate of the small clause is anchored to a reference time through an empty operator which unselectively binds the event variable expressed by the small clause predicate.

This page intentionally left blank

I

SMALL CLAUSES AND PREDICATION

This page intentionally left blank

SMALL CLAUSES AND COPULAR CONSTRUCTIONS

SUSAN ROTHSTEIN

Department of English
Bar-Ilan University
Ramat-Gan, Israel

1. INTRODUCTION

This chapter examines the relation between small clauses and copular constructions and the role played by the verb *be*. There are two sets of data that I will pay particular attention to. The first is the well-known fact that the distinction between predicational and identity sentences has a syntactic reflex in complements of verbs like *consider*. *Be* is obligatory in both identify and predicational matrix copular sentences, but where a clause may potentially be "small," it remains obligatory in a proposition of identity. The data are shown in (1) and (2).

(1) a. *The winner *(is) a good runner.*
    b. *The winner *(is) Mary.*

(2) a. *I consider the winner (to be) a good runner.*
    b. *I consider the winner *(to be) Mary.*

The second fact is that there is an analogous paradigm in Hebrew, which allows matrix small clauses in what is understood as the present tense. As exemplified in (3), Hebrew allows predicational sentences to be truly small or bare of inflection, though an Infl node is possible, while sentences expressing identity must obligatorily include Infl (data from Doron, 1983).

Syntax and Semantics, Volume 28
Small Clauses

(3) a. *Dani* (*hu*) *nexmad*$_{AP}$.
Dani MASC.SG nice
'Dani is nice.'
b. *Dani* (*hu*) *rofe*$_{NP}$.
Dani MASC.SG doctor
'Dani is a doctor.'
c. *Dani* (*hu*) *al ha-gag*$_{PP}$.
Dani MASC.SG on the-roof
'Dani is on the roof.'
d. *Dani* *(*hu*) *mar yosef*$_{NP}$.
Dani MASC.SG Mr. Yosef
'Dani is Mr. Yosef.'

As well as the fact that they are matrix, the other difference between these small clauses and the English examples is that the copula is not verbal, but is realized in Infl. There are four forms of the copula, masculine and feminine singular and plural, and it is traditionally called the pronominal copula (or Pron) since the forms are phonologically identical to the four third-person pronouns.

The syntactic and semantic difference between statements of identity and other copular constructions has led some to suggest (Russell, 1919; Halliday, 1967) that there are two verbs *be*, one of which denotes a two-place identity relation which, in GB terms, is a θ-assigner, marking both its subject and its complement; while the other is "purely grammatical" and is a sign of predication. The thematic relevance of the *be* of identity explains the fact that it cannot be deleted in (2b). Recent work in generative grammar (Rapoport, 1987; Heggie, 1988; Longobardi, 1989) has argued against that position, claiming that there is only one verb *be* which assigns no θ-roles, and explaining the differences between (2a) and (2b) in syntactic terms. What I will show here is that the Hebrew data throw light on what the correct analysis of the English constructions is. I argue against distinguishing a thematic *be* of identity from the *be* of predication and show that the Hebrew pronominal copular construction gives us clues as to what an adequate analysis of *be* may be.

The structure of the paper is as follows. I begin with some less familiar and new arguments for assigning small clause structure to the complement of ECM verbs such as *consider*. I then turn to the Hebrew data, explain the distribution of the pronominal copula in terms of the predicational structure of the clause, and review the identity/predication distinction in the light of recent work by Greenberg (1994). Section 4 gives an account of the English data and an analysis of the verb *be*, arguing that predicate and identity sentences have different structures, but maintaining the intuition that *be* is thematically vacuous.

The aim of this paper is to bring out certain properties of predicative copular constructions and—what concerns me more here—of equative constructions. While the data and several of the ideas in this paper are familiar, I think that the literature has overlooked some essential differences between equative and predicative copular constructions, and my intention here is to remedy this.

2. THE CLAUSAL STRUCTURE OF ECM COMPLEMENTS

It has often been argued (e.g., Stowell, 1983, 1991; Rapoport, 1987; Hoekstra, 1992; Rothstein, 1993, 1994) that the complement of *consider*-type verbs is a small clause, as in (4).

(4) *I consider* [*that problem difficult*].

Stowell argues that these small clauses are 'super-maximal' projections of the head of the predicate expression, arguing that all categories project a subject position. He labels the small clause in (4) AP'. While I do not accept all of his analysis, I think this is probably the most illuminating label possible, though for different reasons. It represents the fact that the AP *difficult* is itself a maximal projection, but that at the same time the small clause itself is not a projection of anything else. This is discussed in detail in Rothstein (1983, 1994), where it is argued that in instances of primary predication, the predicate and its subject form a constituent. However, the fact that there are small clause constituents is to be distinguished from the question of how they are to be labeled, and so in this chapter I shall simply call them SC, or SMALL CLAUSE. What interests me here is not the labeling of the small clause, but the evidence that subject and predicate do in fact form a constituent.

One of the facts that led to the hypothesis that the complement in (4) is a small clause is its near synonymy with the inflected complement in (5a). Other examples are given in (5b–c).

(5) a. *I consider that problem* (*to be*) *difficult.*
b. *Mary found* War and Peace (*to be*) *an interesting book.*
c. *Bill believes his girlfriend* (*to be*) *a genius.*

The structure of the complements contrasts with what I have called (Rothstein, 1983, 1994) SECONDARY PREDICATES, where the predicate is predicated of an argument which is independently θ-marked, and where the subject and predicate do not form a constituent. In (6a) the predicate is an adjunct, and in (6b) it is selected by the matrix verb.

(6) a. *Mary* [*drank* [*her coffee*]$_{NP}$ [*very strong*]$_{AP}$]$_{VP}$.
b. *The Labour party* [*elected* [*Rabin*]$_{NP}$ [*its leader*]$_{NP}$]$_{VP}$.

In (4) the small clause constituent is θ-marked as the object of *consider*. The subject of *difficult* is licensed thematically, since the AP assigns it an external θ-role. In contrast, in (6) *her coffee* is licensed by being the internal θ-argument of the verb *drinks*, and the predicate *very strong* is an optional adjunct, predicated of an argument of another lexical head, and not forming a constituent with it. (6b) has the same structure, though it is arguable that the predicate *its leader* is selected by *elected*. The structural difference between (4) and (6) has been blurred precisely because verbs like *consider* are exceptional case markers and assign accusative case to NPs which they do not select. Various pieces of evidence can be brought for the structure in (4). Stowell (1991) argues that the interpretation of adverbs is a relevant consideration. Adverbs modify within the constituent in which they occur. Standardly, when following an object, they modify the verb which governs the object. However, in complements of *consider* they modify the predicate complement.

(7) a. *They told John repeatedly to leave.*
b. *They believed Mary repeatedly* (**sincerely*) *to have left.*
c. *They considered him sincerely upset.*
d. *They made him repeatedly write his name.*

In (7a) *repeatedly* can modify only *told*, while in (7b) it modifies only *to have left*. Since *sincerely* is not an appropriate semantic modifier for the downstairs verb, the sentence is ungrammatical. Although *sincerely* is appropriate semantically as a modifier for *believe*, the constituent which contains it is the infinitival clause and it does not have access to the matrix verb. The same explanation accounts for the available interpretation of (7c), where *sincerely* must modify *upset*. (7d) gives another instance of a small clause structure, the complements of perception verbs, where *repeatedly* modifies *write his name*. These contrast with (8), where the adverb modifies the matrix verb.

(8) a. *Mary brews coffee repeatedly too strong.*
b. *John sang the song repeatedly out of tune.*
c. *They elected him repeatedly president.*

A second piece of evidence comes from Kayne (1984), who points out that subjects of small clauses behave like subjects rather than objects in the type of extractions they permit. Extraction from the subject of a small clause, as in (9), is not possible.

(9) a.**Who*$_i$ *do you consider the sister of* t_i *very smart?*
b.**Who*$_i$ *did you make the sister of* t_i *leave?*

Again these contrast with the adjunct predicate structures, as in (10).

(10) a. *Who$_i$ did you tell the sister of t_i stories?*
b. *Who$_i$ did you meet the sister of t_i drunk?*
c. *Who$_i$ did you elect the sister of t_i president?*

Another indication that the complement in (4) is a small clause is the lack of entailment between (4) and a sentence where *consider* unambiguously takes a direct object, as in (11).

(11) *I considered the problem.*

If the NP adjacent to V in (4) were a direct object, then we would expect (11) to be entailed by it. But this is not so. Neither are the examples in (12) contradictory [in fact, in (12b), the first conjunct entails the second].

(12) a. *He considers that problem difficult, even though he's never considered the problem (itself) at all.*
b. *He believed the rumor false and didn't believe the rumor.*

Again this contrasts with the adjunct predicate example in (6), which does entail the sentence without the secondary predicate, with the result that the examples in (13) are contradictory.

(13) a. *#Mary drank her coffee strong though she never drank her coffee.*
b. *#They elected him president, though they never elected him at all.*

These entailment facts indicate that the NP following *consider* is not a direct object. Conjunction data also support this claim, as (14) shows.

(14) a.**I considered the problem and the solution wrong.*
b.**I believed the story and the rumor inaccurate.*

The only acceptable reading of (14a) takes *the problem* and *the solution* as a conjoined subject of the predicate *wrong*, and the same is true of (14b). What is not available is a reading where the predicate is predicated only of the second NP, that is, readings which are equivalent to (15).

(15) a. *I considered the problem, and I considered the solution wrong.*
b. *I believed the story, and I believed the rumor inaccurate.*

If *the solution wrong* is a small clause, then this is to be expected, since conjunction is conjoining two different constituents, and *consider* is being used with two different lexical entries simultaneously. However, without the small clause, the data are inexplicable, since if the matrix verb takes two direct objects, there should be nothing to stop the second one alone from taking a secondary predicate. (16) shows that with adjunct predicates this is possible. (16a) is equivalent to (16b).

(16) a. *Bill drinks coffee and tea iced.*
b. *Bill drinks coffee and he drinks tea iced.*
c. *They elected the Labour Party and Rabin Prime Minister.*

(17) shows that the order of the complements does not affect judgments, where (17c) is grammatical only on the reading where an elliptical predicate is predicated of the second conjunct.

(17) a. *Bill drinks tea iced and coffee.*
b. *They elected Rabin Prime Minister and the Labour Party.*
c. **John considers the solution wrong and the problem.*

This evidence all supports the conclusion that while adjunct predicates and their subjects do not form small clauses, ECM verbs such as *consider* have one reading on which they select for small clauses and appear in structures like (18).

(18) $[\ V\ [\ NP\ XP]_{SC}]_{VP}$

The small clause complements discussed here are directly related to copular constructions. If the clause were a matrix sentence, or embedded under a CP, the missing verb would be a form of *be*. Thus *I consider John a dangerous driver* is closely related, if not truth-conditionally equivalent, to *I consider that John is a dangerous driver.* As shown in (2a), small clauses have an alternate form, in which *to be* occurs. They are no longer 'small,' since they are projections of Infl, but they differ from other embedded clauses in that they are not dominated by CP. However, this alternative form with *to be* is the only one available when the complement is an expression of identity rather than a predicational copular. This was shown in (2), and further examples are given in (19–20).

(19) a. *Mary proved the theory (to be) wrong.*
b. *The police proved the tramp *(to be) Mr. Smith.*

(20) a. *I consider our strongest student (to be) a real genius.*
b. *I consider our strongest student *(to be) Bill.*

In search of an explanation of this phenomenon, we turn to the Hebrew data.

3. HEBREW MATRIX SMALL CLAUSES

As has been widely discussed (Rubinstein, 1968; Ben-David, 1971; Doron, 1983; Rapoport, 1987), Hebrew present tense copular constructions are peculiar in two ways. First, as we saw in (3), repeated as (21), 'matrix small clauses' are possible, consisting of a subject and bare

predicate (in past and future tenses they must include an appropriate form of the verb *h.y.y.*, translated as 'be').

(21) *Dani nexmad/rofe/ al ha-gag.*
Dani nice/ doctor/on the roof
'Dani is nice/a doctor/ on the roof.'

Second, matrix small clauses need not be small. They can include the so called "pronominal copula," which Doron (1983) calls Pron. I follow Doron in assuming that Pron is a spell-out of agreement features realized in Infl. The sentences in (22) are an alternative to (21).

(22) *Dani hu nexmad/ rofe / al ha-gag.*
Dani MASC.SG nice/ doctor/ on the roof
'Dani is nice/a doctor/ on the roof.'

Greenberg (1994) argues that though (21) and (22) are (usually) truth-conditionally equivalent, there is a difference in meaning between them. (22) is essentially generic, while (21) is not (see the discussion at the end of this section). This meaning difference affects truth conditions in other examples, and Greenberg cites Rubinstein and Ben-David as having noted this effect. However, what is important for us here is that both forms are grammatical, and in fact, in many cases pairs analogous to (21) and (22) are considered to be interchangeable (see e.g., Doron, 1983; Rapoport, 1987). As has been widely pointed out by all these authors, these examples contrast with identity sentences where the pronominal copula is obligatory, as in (23).

(23) *Dani *(hu) mar yosef.*
Dani MASC.SG Mr. Yosef
'Dani is Mr. Yosef.'

The important point for this paper is the parallel between the obligatoriness of the pronominal copula in Hebrew matrix identity sentences and the *be* in English identity *consider* complements.

There are thus two major differences between Hebrew and English. The predicative sentence, but not the identity sentence, can do without a realization of the copula, and, when the copula is realized, it is realized in Infl which does not select or govern a V. Doron (1983) relates both these facts about Hebrew to the defectiveness of the Hebrew tense system. She proposes that the tense system allows specification for [± tense] and [± past]. [−tense] is the specification for non-finite forms and [+tense] for finite forms. [+tense] automatically requires a specification for [± past], where [+past] indicates the past tense and [−past] indicates future tense. The present is neither [+past] nor [−past], and because of the dependency relation between [±tense] and [±past], this means it is not specified for

tense either. [+tense] would automatically require a specification for the past feature, which would be inappropriate, and [−tense] would incorrectly classify the present as non-finite. Doron claims that it is [±tense] which forces the projection of Infl. Thus, in the present, Infl is optional and matrix small clauses are possible. The most obvious reflection of this is that the present tense forms of verbs bear only agreement features, and are inflected only adjectivally, with four forms: masculine singular and plural and feminine singular and plural. Verbs have a morphological slot onto which Infl must be affixed, but when there is no lexical verbal predicate present, and no tense features forcing Infl to appear, agreement features can either be realized in Infl as the pronominal copula, or be deleted. However, as we saw in (23), the Infl node is not optional when a copular sentence is an expression of identity, and both its maximal projections are referential NPs (or DPs).

Various explanations for the distribution of Pron have been proposed. Doron (1983, 1986) proposes that Pron may, but need not, θ-mark the subject and post-copula NP. In predicational sentences Pron will be optional, since the predicate itself θ-marks its subject. In identity sentences, though, it will be obligatory, since the post-copula expression is referential and cannot θ-mark the subject. Both major constituents thus need to be θ-marked, and the pronominal copula fills this θ-marking function. Weaknesses of this approach are pointed out in Rothstein (1992). Theta-marking is by lexical heads, and the θ-marking properties of the head reflect the semantic function denoted by that head. It is thus conceptually wrong to allow Pron, which is a spell-out of formal agreement features in Infl and not a lexical head, to assign θ-roles. The effect of Doron's approach is to assign to Pron the semantic properties Russell assigns to the *be* of identity. And while it is plausible (but see Rapoport, 1987, for arguments against the prima facie plausibility) that a form of *be* does denote a two-place semantic relation, it is far less plausible to argue that a bunch of agreement features realized in Infl has this property. Further, because of the possibility of realizing Pron in predicative sentences as in (22), where it cannot denote the identity function, we would have to posit 'ambiguous Pron.' A third argument against this approach is that in a variety of identity sentences (24), Pron is not in fact obligatory.

(24) a. *Dani* (*hu*) *lo mar yosef.*
Dani not Mr. Yosef
'Dani is not Mr. Yosef.'

b. *Dani* (**hu*) *eyno mar yosef.*
Dani not MASC.SG Mr. Yosef
'Dani is not Mr. Yosef.'

c. *Ani (hu) mar yosef.*
I Mr. Yosef
'I am Mr. Yosef.'

In (24a–b), two different negative particles apparently replace Pron; in (24a) the particle is *lo,* which is uninflected, and in (24b) the particle is *eyn,* which when it is generated sentence-internally is inflected. (*eyn* occurs also in an uninflected form as sentence negation.) In (24c) the presence of the pronominal subject means that Pron is optional. If Pron is required as a θ-assigner, then in these sentences that function would have to be otherwise filled. While Infl is realized in (24b–c), it cannot be these features themselves which θ-mark, since they occur in every verbal sentence, where they can have no such function. In any case, the claim that Pron is inserted to save a structure from violating the θ-criterion is weakened by the fact that there are argument expressions, as in (25), which are licensed without being θ-marked, as argued in Heycock (1991) and Rothstein (1992, 1995).

(25) a. *The book is* $[_{Op_i}$ *[for you to read* t_i*]]*.
b. *The children are too sick [for Mary to go out tonight].*
c. *John seems as if he is very tired.* (Heycock, 1991)

In (25a) the subject *the book* is not assigned a θ-role by any element. The internal θ-role of *read* is assigned to the chain whose last element is the trace which it governs and whose head is the null operator in Spec of CP. In (25b), the CP *for Mary to go out tonight* is not a predicate, as can be seen from the fact that it has no gap in it, but neither is it θ-marked as it is c-selected by the functional degree head *too,* which cannot assign θ-roles. (This is argued at length in Rothstein, 1991.) (25c), where the non-θ-marked [NP, IP] is base generated as the subject of the raising verb, is taken from Heycock (1991), and analyzed as a topic in Rothstein (1995).

Another hypothesis is that the obligatoriness of Pron is due to the Case Filter. On this approach, we note that in identity sentences such as (23) there are two argument NPs which need to be Case marked, and suggest that Pron is inserted to assign them Case. This makes the wrong prediction for the predicational sentences. Here too, the subject NP needs to be assigned Case, and yet Pron is optional. One possibility is that Pron need not occur here since the subject NP is assigned Case through agreement with the predicate, but though this would account for the absence of Pron where the predicate is headed by an adjective which agrees in number and gender with the subject, it would not account for sentences with PP predicates where there is no agreement and no Pron; see, e.g., (3c).[1]

I argue that the correct way to view the role of Pron is not in terms of θ-roles or Case assignment, but in terms of predication relations. A clause,

small or otherwise, is defined as a constituent with a subject–predicate structure, where predication is not thematically defined, but is a primitive saturation relation between an open syntactic constituent (which, crucially, does not necessarily assign a θ-role) and a closed constituent (Rothstein, 1983, 1992, 1995). In a grammar in which the sentence was labeled S and dominated a NP and a VP, it was clear that the VP was the predicate of the clause. With a sentence analyzed as IP dominating an NP in Spec of IP and an I′ constituent, it is plausible to consider the I′ as the predicate. A theory such as Grimshaw's (1991) theory of extended projections, where a functional projection is analyzed as an extended projection of a lexical category, provides a framework in which I′ is an extension of a predicate VP. However, returning to the Hebrew data, we see that analyzing the small clauses as instances of predication structures makes the right predictions and provides evidence that I′ is a syntactic predicate constituent in its own right.

The small clauses in (21) are licensed because an AP is inherently a syntactic predicate. The small clause constituents have the structure [[NP] [XP]], where XP is a predicate and thus the clause is an instance of predication. The predication relation licenses both predicate and subject: the predicate is a monadic unsaturated constituent which requires, and finds, a subject, and the NP is an argument which can be, and is, licensed by saturating the open position in a predicate. Although syntactic predication does not necessarily correlate with θ-marking (see Rothstein, 1995; Moro, this Volume), it may do so, and in the matrix small clauses the predicate does θ-mark its subject. Thus small clauses are internally licensed by predication and have the bare structure in (26).

(26) $[[Dani]_{NP}\ [nexmad]_{AP}]_{SC}$

In contrast, in an identity sentence neither of the two lexical constituents is a predicate, and a Pron-less structure such as (27) is a string of two argument NPs between which no syntactic relation holds.

(27) *$[Dani]_{NP}$ $[mar\ yosef]_{NP}$
'Dani Mr. Yosef.'

However, Pron, a spell-out of agreement features in Infl, projects an I′ constituent. I′ is a syntactic predicate node, and the relation between I′ and Spec of IP is one of predication, as in any inflected sentence. An identity sentence will then have the structure in (28).

(28) $[Dani\ [hu\ [mar\ yosef]_{NP}]_{I'}]_{IP}$
'Dani is Mr. Yosef.'

The subject NP is licensed as the subject of I′, and the post-copula NP is licensed as the syntactic complement of Infl. In this case, there is no

θ-marking relation between the predicate and the subject. Pron is obligatory to identify the Infl node which, since the sentence is nominal, cannot be affixed onto a verbal head. I shall not discuss here the important question of how identity sentences are interpreted, but this analysis predicts that (28) does not simply assert the existence of a two-place relation holding between the denotations of two names.

We can now see why Pron is not necessary in the examples in (24). In (24a) the negative particle projects a Neg Phrase which can be predicated of the subject, and Infl is optional—but if realized, is filled by Pron. In (24b), where the negative particle must be inflected, Infl features are lowered and cliticize onto the *eyn,* which is marked for person, number, and gender, and there is nothing for Pron to realize. Independent evidence that I-lowering is possible in Hebrew in addition to raising V is given in Borer's (1992) paper explaining the behavior of the verbal copula in Hebrew. In our case, the evidence for lowering comes from the placement of adverbs: inflected *eyn* follows rather than precedes adverbs, whereas the pronominal copula precedes an adverb and cannot follow it [see (29)–(30)], indicating that *eyn* is not in Infl position and that Agr features lower to negation rather than *eyn* raising to Infl.

(29) a. *Dani (hu) be-emet ha-baxur še raiti.*
dani (MASC.SG) really the-guy that I-saw
'Dani is really the guy that I saw.'
b.**Dani be-emet hu ha-baxur še raiti.*

(30) a. *Dani be-emet eyn+o nexmad.*
dani really NEG+MASC.SG nice
'Dani really isn't nice.'
b.?*Dani eyn+o be-emet nexmad.*
dani NEG+MASC.SG really nice
'Dani isn't really nice.'

In (24c), repeated here, the subject pronoun *ani* licenses the Infl node.

(24c) *Ani (hu) mar yosef.*
I Mr. Yosef
'I am Mr. Yosef.'

I have assumed that Infl cannot just be abstract, but must be licensed by a relation with a set of features. The first licensing relation discussed is feature realization—it can contain a set of minimal agreement features which are lexically realized as Pron [or through affixation as in (24b) and also in the normal case not discussed here, where Infl governs V]. Another licensing relation is IDENTIFICATION, where Infl is coindexed with a full set of

agreement features in Spec of IP. In the version of (24c) where Pron is not realized, and where Infl is still obligatory, the node is licensed by coindexation with the set of features in [NP, IP]. This kind of licensing is possible only when there is a pronoun in subject position, since only then is there a full set of features to identify the position. However, a subject pronoun cannot be coindexed with Infl when it contains Pron, since they are not identical bundles of features: the subject is inflected for person, number, and gender, and Pron realizes only number and gender. If Infl both is licensed by coindexation with the subject pronoun and contains features to be lexically realized, then, in order to avoid the conflict, the agreement features are lowered out of Infl and are cliticized onto the post-copula argument NP, agreeing with it in number and gender. Thus in (24c), when Pron is realized, it does not end up in Infl, but as a clitic on the NP *mar yosef*. I assume, since a syntactic lowering process is in any case necessary (see above), that this is an S-structure process. When the [NP, IP] is not a pronoun, this rightward movement will be possible but will not be forced, since there will be no feature conflict between NP and Pron.

Various pieces of evidence support this account of (24c). First, cliticization classically involves coindexation with an argument. As Doron points out, a subject pronoun followed by the pronominal copula is impossible in a predicational sentence, and this is explained if Pron can cliticize only onto an argument which is its complement, and not onto a predicate expression (which, as we argue below, is not its complement, but the embedded predicate of a small clause). (31) contrasts with (22) and with (24c).

(31) **Ani hu rofe/nexmad.*
I MASC.SG doctor/nice

If Pron can agree with the post-copula element only when cliticization has taken place, then we correctly predict that in predicational sentences where Pron is possible, Pron will agree only with the subject and not with the post-copula predicate. The agreement facts in (32) (from Rapoport, 1987) contrast with (33) from Doron (1983), illustrating this.

(32) *Sara hi / *hu xamor.*
Sara (FEM) FEM.SG / MASC.SG donkey (MASC)
'Sara is a donkey.'

(33) *Ma še dekart katav hu/ hi hoxaxa le-kiyumo.*
what Descartes wrote MASC.SG / FEM.SG proof (FEM) to-his-existence
'What Descartes wrote was the proof of his existence.'

In (33), Pron can agree with either the subject or the post-copula NP. However, if Pron is masculine singular, agreeing with the subject, the

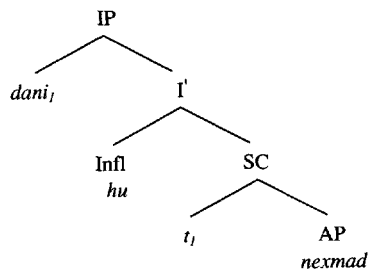
sentence can have either a predicational or an identity reading, but when Pron is feminine singular, the sentence can have only the identity reading. The agreement features originating in Infl have cliticized onto the second NP, and Spec–head agreement is not violated. The behavior of the negative particle *lo* in (34) further substantiates our analysis.

(34) a. *Sara hi lo xamor.*
Sara FEM.SG not donkey
'Sara is not a donkey.'
b.**Ma še dekart katav hi lo hoxaxa le-kiyumo.*
what Descartes wrote FEM.SG NEG proof (FEM) to-his-existence
'What Descartes wrote wasn't the proof of his existence.'

Normally, the negative marker appears between Pron and the post-copula XP as in (34a). But where cliticization has taken place, the negative marker can no longer be inserted. Of course (34b) is grammatical when the pronominal copula is the masculine singular form *hu*.[2]

Assuming that small clauses have the structure in (26) and identity sentences the structure in (28), then what is the structure of predicational sentences with Pron? Following Doron (1983), who argues that Infl in Hebrew is sentence initial, and Déchaine (1993), who argues that Infl (in her theory 'Tense') selects a small clause, I propose that a sentence like (35a) has the D-structure in (35b) and the S-structure in (35c), with the tree (35d).

(35) a. *Dani hu nexmad.*
b. $[Hu\ [dani\ nexmad]_{SC}]_{I'}$
c. $[Dani_i\ [hu\ [t_i\ nexmad]_{SC}]_{I'}]_{IP}$.
d.



Infl selects for a small clause. It projects an I′ node, which is syntactically an open predicate needing saturation, so the small clause subject raises to Spec of IP to saturate the I′ predicate. The small clause complement of Infl is licensed internally as an instance of predication. This means that the S-structure in (35c–d) cannot be appropriate for an identity sentence. In an S-structure like (36), the small clause is as unlicensed as the matrix clause in (27).

(36) *$[Dani_i\ [hu\ [t_i\ mar\ yosef]_{NP}]_{I'}]_{IP}$

I assume, therefore, that Infl can select an NP complement and does so in identity sentences. The S-structure (28) will thus be in the relevant respects identical to the D-structure.

It is difficult to find independent evidence for different structures in (28) and (35). However, the agreement facts cited above in (31)–(34) do support the tree structures. The fact that Pron may agree with the constituent following it only in identity sentences, as (32) and (33) show, correlates with the difference in syntactic structure: cliticization is possible only onto a lexical post-copula constituent which is directly the syntactic complement of Infl.

Before going on to examine the implications of this for the distribution of the copula *be* in small clauses in English, I want briefly to make some comments on the analysis presented here in light of recent work on the stage–individual level distinction, and in particular Greenberg (1994).

It has been noted in traditional grammars of Hebrew (Rubinstein 1968, Ben-David 1971) that the presence or absence of Pron in a predicational nominal sentence correlates with a semantic distinction. As mentioned in Déchaine (1993), it seems that this distinction can be described in terms of stage and individual level predicates. Ben-David (1971) discusses the meanings of (37).

(37) *Hašamaim (hem) kxolim.*
the sky (PL) 3.MASC.PL blue (PL).
'The sky is blue.'

When Pron is present, the sentence has the interpretation the sky in general has the property of being blue, whereas without the Pron the sentence asserts that the sky now is blue. Greenberg (1994) examines this in detail, arguing that the meaning difference is quite general. She shows further that there are also predicational sentences where Pron is obligatory, for example where the subject is generic, and offers an account of Pron which explains this by relating the individualness of predicates to genericity. Without going into the details of her explanation, an obvious proposal is to extend this account of Pron to account for identity sentences. The idea would be that "*x* is identical with *y*" is an individual-level property, which counts as generic, and thus we would expect Pron in an identity sentence as in other generic sentences. But this cannot be the explanation. There are identity sentence which do not express permanent or generic identifications. Greenberg (1994) offers (38), which she attributes to Edit Doron.

(38) *Hayom, haaxot hatoranit hi rina (aval maxar lo).*
today the-nurse the-duty 3.FEM.SG Rina (but tomorrow no)
'Today the duty nurse is Rina, (but tomorrow this is not so).'

The property of being identified with or identical to the duty nurse is stage-level and not individual-level, as the temporal adverbial shows, but nonetheless Pron is obligatory. This indicates that at least in these cases, the Infl node is required for reasons independent of the stage–individual level distinction. As I have argued, the explanation is to be found in the non-predicate status of the post-copula XP, and the consequent need to create a syntactic predicate at the I′ level. If Greenberg's account of sentences like (37) is right but cannot be extended to (38) and other identity sentences, then we have two different explanations for Pron in predicational and identity sentences. The different explanations correlate with the two different syntactic structures postulated in (28) and (35c).

4. ENGLISH SMALL CLAUSES AND PROPERTIES OF 'BE'

A study of the Hebrew data gives us insights into what is going on in the small clause complements of *consider* type verbs (see also Moro, 1993). Remember that, as in Hebrew, a small clause expression of identity was not possible; see (2), repeated as (39).

(39) a. *I consider the winner (to be) a good runner.*
b. *I consider the winner *(to be) Mary.*

Be is optional in small clauses where the second XP is a predicate, and obligatory in identity sentences, where both XP constituents are non-predicates. One implication of the Hebrew data is that the explanation in terms of two verbs *be,* in which the *be* of identity is distinguished from *be* of predication, is even more implausible. The functions of the so-called *be* of identity is taken over in Hebrew by the non-verbal pronominal copula which fills the Infl node, and as I discussed above, there are good reasons for wanting not to argue that Pron, a bunch of agreement features realized in Infl, denotes a semantic relation. The parallels between (39) and the Hebrew data are so obvious that we should be reluctant to give two radically different explanations of what is going on, especially given the other signs that there is really only one verb *be.* These include (Rapoport, 1987) that it is almost universally the case that the same verb is used in both identity and predication sentences—when a verb is used at all—and that in both kinds of sentences the verb behaves in the same quasi-auxiliary way with respect to phenomena such as movement, negative placement, and VP ellipsis.

The explanation given in section 3 for the obligatoriness of Pron can be straightforwardly used here too. In (39a), when *be,* or more properly *to be,*

does not appear, the complement consists of an argument and a predicate, and the structure is licensed because each element is part of the predication relation. (39b) consists of two referential constituents, neither of which can be predicated of the other, and both of which are thus unlicensed. *Be* projects VP, and is itself the complement of an Infl node *to* which projects an I′. Either of these constituents can project the syntactic predicate node necessary to make possible the predication relation necessary for licensing the clause. In small clauses where Infl never appears, such as those selected by causative and perception verbs, the complement always consists of a subject and an inherent syntactic predicate, and the problem of (39b) never arises (see Rothstein 1983, 1994).

The question is whether it is *be* or the Infl node which is crucial for generating the predicate node. There are two reasons to assume that it is the Infl node. First, as we have seen, in Hebrew it is the Infl node which performs this function. Second, if we assume that it is the Infl node, then we can explain the presence of *be*. Since Infl must be projected, and infinitival Infl—in fact any Infl—in English must contain a tense feature, it is necessary that the clause contain a verbal element for Infl to be affixed onto. (This is how Rapoport, 1987, sees the role of Infl in her proposal that there is a rule of '*be* support.') If it were *be* that was crucially inserted and created the predicate node, then we would have no explanation for why Infl was necessary, as (40) shows that it is.

(40) a. **I considered the winner to be a good runner.*
b. **I believed John be foolish.*

Note that in other small clauses like (41) we see that *be* does occur without Infl.

(41) *John made Bill be the person who went to complain.*

It is arguable, though, that in these kinds of constructions, *be* is in fact not a grammatical formative indicating predication, but what Williams (1984) calls "main verb *be*," where the subject is volitional. Certainly, the presence of *be* changes the meaning of the sentence, as the pair of examples in (42) shows.

(42) a. *John made Bill silly* (*by giving him a magic potion*).
b. *John made Bill be silly* (*by encouraging him to do silly tricks*).

If *be* here is a main verb, then we can hypothesize that the *be* of predication is selected by Infl, and that this is what prevents it from occurring without an Infl governing it in such examples.

Assuming, then, that Infl is inserted in small clause complements to create a predicate node and that *be* is selected to support the Infl, what is the correct analysis of *be*?

Recent work by Heggie (1988), Heycock (1991), and Moro (1990, 1993) has argued this and followed Stowell (1978) in proposing that *be* takes a small clause complement structure and assigns no θ-role to its subject. Copular constructions in general are raising structures, as in (43).

(43) *Bill*$_i$ [*is* [t_i *silly*]$_{SC}$]$_{VP}$.

Opinions differ as to what to do about equative constructions. Moro, following Longobardi (1989), argues true equative constructions do not exist. His account proposes that in what we call equative constructions an NP predicate has been raised to subject position, resulting in an inverse copular construction, as in (44), which predicates of John the property of being the organizer of the group.

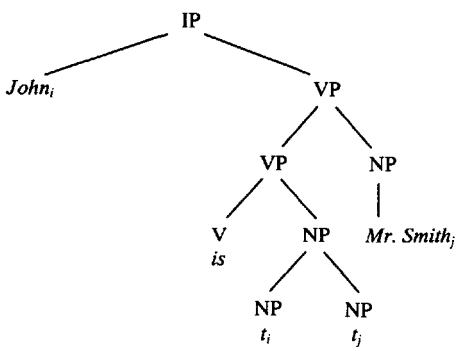
(44) *The organizer of the group*$_i$ [*is* [*John* t_i]$_{SC}$]$_{VP}$.

I do not have space here to argue against analyzing *the organizer of the group* as a raised predicate (arguments against the analysis are presented in Rothstein, 1994), but what is crucial here is that while Moro is correct in assuming that an NP like the subject of the sentence in (44) can be analyzed as a predicate, the second NP in "true" equatives cannot be. A sentence like *John is Mr. Smith* or *The duty nurse is Rina* are sentences with two referential NPs in them, as Doron and Rapoport show. For example, only referential expressions can occur with non-restrictive relative clauses; and in true equatives as in (45), both NPs can occur with them.

(45) *The duty nurse, who is very efficient, is Rina, who I am very fond of.*

This is not a statement that ascribes the property of being the nurse on duty to Rina, but one that identifies the referents of the two NPs as being the same individual. Heggie (1988), who recognizes the existence of true equative constructions, tries to argue that they too are derived from a D-structure where *be* takes a small clause. She recognizes the difficulty of licensing a small clause containing two referential expressions. Her analysis of an equative sentence gives it a D-structure as in (46).

(46)

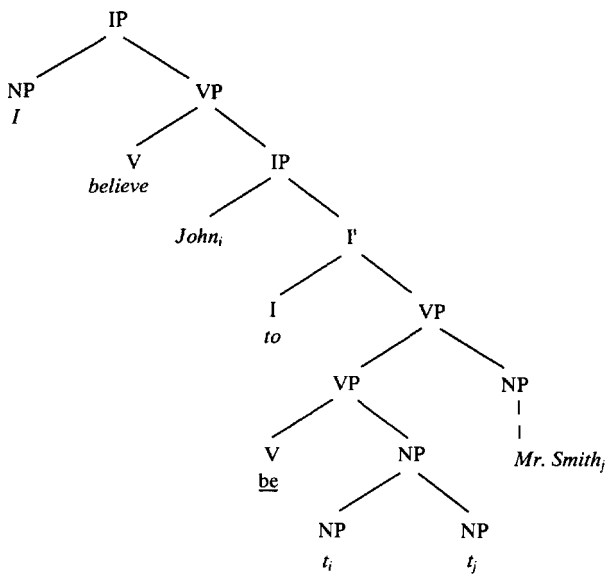


NP_i moves to subject position as in any raising construction, while the second NP extraposes to be adjoined to VP because, she claims, it is focused. The obligatoriness of *be* in the complement of *consider* she explains as follows. Assuming that the second NP must always be extraposed because it is focused, then in a small clause complement, the only VP available to adjoin it to is the matrix VP. But this means that the subject of the small clause does not c-command its predicate, and so (47) is ruled out.

(47) *I [[*believe* [*John*$_i$ t_j]$_{SC}$]$_{VP}$ *Mr. Smith*$_j$]$_{VP}$.

Heggie argues that inserting *be* in the small clause provides a lower VP for the focused NP to adjoin to, and a higher Spec of IP for the small clause subject to move to, so that the structure is saved, as in (48).

(48)



Various parts of the analysis could be questioned, such as whether the second NP is indeed focused, but that is not the central issue. Heggie suggests that the predication structure is saved because at S-structure NP_i c-commands NP_j. This leaves two points unanswered: is predication merely a c-command relation, or is there more to it; and how is the small clause complement of *believed* licensed, since the constituent consists of two referential constituents, neither of which can license the other? What I have been arguing all along in this paper is that predication is a relation between two syntactic constituents, one of which is an argument and the other of

which is an open predicate; and that the small clause in (48) cannot be licensed because its internal structure does not meet these requirements. Furthermore, the predication relation does not consist merely of a c-command relation, but of a c-command relation between the two constituents just described. It therefore follows that equative constructions cannot involve a small clause because there is no way for that small clause to be licensed. We return therefore to the idea in Stowell (1978) that instead of subcategorizing for a small clause, *be* can c-select an NP. This is what happens in equative constructions. (46) has the structure in (49).

(49) [*John* [*is* [*Mr. Smith*]$_{NP}$]$_{VP}$]$_{IP}$.

Be then turns out to be a raising verb very like *consider,* in that it selects either an NP or a small clause. When it selects a small clause, raising of the θ-marked small clause subject is obligatory, since *be* does not assign case; and it is possible, since it does not assign an external θ-role. However, in (49), where the *be* selects for an NP, no raising has taken place; yet, if the verb is the same as raising *be,* it cannot have assigned case to *Mr. Smith* or an external θ-role to *John,* either. That the [NP, IP] is not θ-marked seems the right conclusion, since *be* can take a pleonastic subject, indicating a non-θ-marked position, as in (50).

(50) *It is John! / It's the doorbell ringing!*

The fact that the postverbal NPs in (49) and (50) are not case-marked is not a violation of the Case Filter, since case is obligatory for arguments, and, as is argued in Rothstein (1995) and Heycock (1991), arguments are θ-marked or subjects of predicates. By this definition, the complement of *be* is not an argument and does not need to be assigned case. One might expect on this account that raising verbs would generally take NP complements with pleonastic or non-pleonastic subjects, and this is not the case [see (51a–b)]. I have no explanation for this, though I suspect it is part of a wider phenomenon since there are predicate phrases that cannot occur there either, as in (51c).

(51) a. **It seems/turns out John.*
b. **Mr. Smith seems/turns out John.*
c. **John seems in the garden/who we want to talk to.*

In conclusion, we have analyzed the structure of small clauses in Hebrew and in English in terms of syntactic predication relations, and this has led us to argue against positing a thematic verb *be* of identity. Instead we offered a syntactic explanation for the obligatoriness of the copula in identity sentences in terms of the necessity of creating a syntactic predication relation within the clause. *Be* was analyzed as a thematically vacuous verb

which is selected by Infl, and which, like tenseless Infl in Hebrew, c-selects an NP or a small clause (though Infl in Hebrew may also select a verbal element). Where Infl in Hebrew has a tense feature, it behaves in the relevant respects as it does in English, and must attach to a form of the verb *h.y.y.*, the verbal copula. We may hypothesize that there is a set of default subcategorization properties with which Infl is associated, namely [_ NP] or [_ SC]. Either *be,* a semantically empty verb, is associated with the same subcategorization frames; or, when Infl selects *be,* the selectional properties of the former are transferred onto the verb. When it attaches onto a thematic verb, the s-selection properties of the verb, represented in its θ-grid, dominate and determine the structure of the complement.

A final question is why, in English, Infl in complements of ECM verbs is optional if predication is independently possible, while in main clauses it is obligatory. One possibility suggested in Rothstein (1983) is that in English, tense and θ-marking are both methods for licensing clauses and that nontensed constituents are possible only in θ-marked positions. This has the advantage over another possible proposal, namely that embedded ECM clauses lack a tense feature because they are governed by the tense feature of the matrix clause. The former but not the latter proposal allows nontensed small clauses to be stacked, and this is what we find in (52).

(52) *I watched* [*John watch* [*Mary cross the road*]].

This does not of course explain why Hebrew, but not English, allows clauses which are licensed neither by θ-marking nor by tense; but that is far beyond the scope of this chapter.

ACKNOWLEDGMENTS

I should like to thank Iris Elisha, Fred Landman, and especially Yael Greenberg for many helpful conversations about this chapter and the issues it discusses, and the editors of this volume for helpful comments on the penultimate version.

REFERENCES

Ben-David, A. (1971). *Lashon mikra velashon chachamim.* Dvir, Tel-Aviv.

Borer, H. (1992). *The ups and downs of Hebrew verb movement.* Unpublished manuscript, University of Massachusetts, Amherst.

Déchaine, R. (1993). *Predicates across categories: Towards a category-neutral syntax.* Ph.D. dissertation, University of Massachusetts, Amherst.

Doron, E. (1983). *Verbless predicates in Hebrew,* Ph.D. dissertation, University of Texas, Austin.

Doron, E. (1986). The pronominal copula as agreement clitic, in H. Borer (ed.), *The Syntax of Pronominal Clitics. Syntax and Semantics 19,* 313–332. Academic Press, New York.

Greenberg, Y. (1994). *Hebrew nominal sentences and the nature of the stage–individual level distinction.* M.A. thesis, Bar-Ilan University.

Grimshaw, J. (1991). *Extended projections.* Unpublished manuscript, Brandeis University, Waltham, Mass.

Halliday, M. A. K. (1967). Notes on transitivity and theme in English (Part 1). *Journal of Linguistics* 3, 37–81.

Heggie, L. (1988). *The syntax of copular structures.* Ph.D. dissertation, University of Southern California, Los Angeles.

Heycock, C. (1991). *Layers of predication: The non-lexical structure of the clause.* Ph.D. dissertation, University of Pennsylvania, Philadelphia.

Hoekstra, T. (1992). Small clause theory. *Belgian Journal of Linguistics* 7, 125–151.

Kayne, R. (1984). *Connectedness and binary branching.* Foris, Dordrecht.

Longobardi, G. (1989). *Towards a 'principles-and-parameters' theory of copular constructions.* Unpublished manuscript, Università di Venezia.

Moro, A. (1990). *There-raising: Principles across levels.* Unpublished manuscript, Università di Venezia.

Moro, A. (1993). *I predicati nominali e la struttura della frase.* Unipress, Padova.

Rapoport, T. R. (1987). *Copular, nominal and small clauses: A Study of Israeli Hebrew.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Rothstein, S. (1983). *The syntactic forms of predication.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge (Indiana University Linguistics Club, 1985).

Rothstein, S. (1991). Syntactic licensing and subcategorization, in S. Rothstein, (ed.), *Perspectives on phrase structure: Heads and licensing. Syntax and Semantics 25,* 137–157. Academic Press, New York.

Rothstein, S. (1992). Predication and the structure of clauses. *Belgian Journal of Linguistics* 7, 153–169.

Rothstein, S. (1995). *Pleonastics and the licensing of pronouns. Linguistic Inquiry,* **26**, 3.

Rothstein, S. (1994). *Predicates and syntax.* Unpublished manuscript, Bar-Ilan University.

Rubinstein, E. (1968). *Hamishpat hashemani.* Kibbutz HaMeuchad.

Russell, B. (1919). *The philosophy of mathematics,* Allen & Unwin, London.

Stowell, T. (1978). What was there before there was there. *Chicago Linguistic Society* 14, 458–471.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.

Stowell, T. (1991), Small clause restructuring, in R. Freidin (ed.), *Principles and Parameters of Comparative Grammar,* 182–218. MIT Press, Cambridge, Mass.

Williams, E. (1984). There-insertion. *Linguistic Inquiry* 15, 131–153.

NOTES

[1]Rapoport (1987) proposes a hybrid explanation, namely that the identity relation can be assigned at D-structure between two argument NPs which are sisters only under the government of a functional head which 'mediates' the relation. She assumes that Infl is lexically realized as the pronominal copula at S-structure, since Infl is necessary for the assignment of Case and the identity relation. The arguments against a case-theoretic explanation of the obligatoriness of the copula apply to her theory too.

[2]However, surface matching of morphological agreement features still seems to play a role. If I declare that I (a woman) am the president, the word for which is masculine, then it is preferable that Pron be masculine, as we would predict. *ani,* the word for 'I,' is not morphologically marked for gender, and is used by both sexes.

(i) *Ani hu hanasi.*
I 3.MASC.SG the-president
'I am the president.'

However, if I address a woman, telling her that she is the president, and using the feminine form of 'you,' *at,* as opposed to the masculine form *ata,* then it is not possible to use the masculine Pron. The feminine Pron can be used, though the structure sounds odd and the sentence feels more as if it is a left dislocation construction. (ii) thus remains a problem for the theory.

(ii) *At hi/ *hu hanasi.*
you (FEM.SG) FEM.SG MASC.SG the-president
'You are the president.'

SMALL CLAUSES AND PREDICATION

Barry Schein

Department of Linguistics
University of Southern California
Los Angeles, California

1. INTRODUCTION

A principle of GB is that the configuration of government defines grammatical relations.[1] The properties of small clauses will be explained by the application of this principle to θ-theory, as in (1).

(1) For the configurations . . . $_{\gamma}$[. . . α . . . β . . .] . . . and . . . $_{\gamma}$[. . . β . . . α . . .] . . . , α, a θ-role assigner, assigns a θ-role to β only if both α and β are immediate constituents of γ for some γ.

For expository purposes, all cases of θ-role assignment where α is a maximal projection will be called predications, and I will refer to predicates which are not linked with INFL as small clauses.[2] I should make explicit, because of their importance for what follows, two standard assumptions:

(2) A θ-role assigner α assigns a unique θ-role.[3]

(3) a. For every X^0, where $X^0 \in \{[\pm N, \pm V], INFL\}$, there is an X^{max}, i.e., XP, which is the projection of X^0; and
b. a node X^{n+1} is the projection of a unique category. For example, $_{VP,PP}$[. . . V . . . P . . .] is ill-formed.

However they are to be explained, it is sufficient for my purposes that (2) and (3) are true, which seems uncontroversial. (3) is implicit in the X′ convention. Principle (1) is a statement of the fundamental insight of GB theory (Chomsky, 1981).

Syntax and Semantics, Volume 28
Small Clauses

(1)–(3) determine the structures of the embedded predicates in (4):

(4) a. *John considers him foolish.*
a′. *John ate the meat raw.*
a″. . . . $_{VP}$[V NP XP] . . .
b. *John seems foolish.*
b′. *The meat was eaten raw.*
b″. . . . $_{VP}$[V $_{NP}$[*e*] XP] . . .
c. *John tried to leave.*
c′. *John persuaded him to leave.*
c″. . . . $_{S'}$[INFL $_{NP}$[*e*] VP] . . .
d. *John ran the mile unencumbered.*
d′. $_{S}$[INFL NP VP XP]

Every predicate in (4) and its subject NP are immediate constituents of a category that is projected from some X^0.

This is all there is to the theory of small clauses; the rest of the chapter shows how the properties of small clauses are explained by a theory containing (1)–(3).

I will also consider extensions of the theory (1)–(3) that introduce principles that exclude the structures in (4). In particular, I will argue against the analysis of small clauses in LGB requiring that a predicate XP and its subject NP form a distinct constituent (5).

(5) . . . $_{\alpha}$[NP XP] . . .

In discussing these principles, it is convenient to refer to two classes of small clauses, illustrated in (6).

(6) a. *John considered him foolish.*
b. *John ate the meat raw.*

(6a) is an example of a θ-marked small clause, one in a subcategorized position assigned a θ-role by V. (6b) contains an adjunct small clause, that is, not θ-marked.

The first principle is the θ-criterion in (7), which I claim should be revised to (8), omitting the uniqueness condition (see n. 15; see also Chomsky, 1986):

(7) Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.

(8) Each argument bears a θ-role, and each θ-role is assigned to one and only one argument.

The structure assigned in (4a′) to adjunct small clauses violates the uniqueness condition stated in (7), since *meat* receives two θ-roles, from *eat* and

from *raw*. Thus (7) requires a constituent α in the case of adjunct small clauses in order to introduce another argument NP, preserving uniqueness, as in (9).

(9) *John ate the meat* $_{\alpha}$[NP *raw*].

The second principle concerns the nature of the θ-role assigned to a small clause and thus applies only to θ-marked small clauses, e.g., (6a). The second principle is given in (10).

(10) The assigned θ-role is *clause* or *proposition,* requiring a closed sentence.

By the second conjunct of the θ-criterion [(7) or (8)], the θ-role must be assigned to a single constituent. Therefore (6a) must have a structure with constituent α: *John considers* $_{\alpha}$[*him foolish*]. The third principle (due to Stowell, 1981, 1983) results in the constituent α for both adjunct and θ-marked small clauses. Stowell assumes a particular definition of subject that results in (11).

(11) The constituent α is a necessary condition for predication.[4]

2. ADJUNCT SMALL CLAUSES

The properties of adjunct small clauses follow from principle (1). (2) and (3) are not invoked in this section. They are crucial for θ-marked small clauses.

2.1. Adjuncts to the Subject

In the case of an adjunct small clause predicated of a subject, as in (12), principle (1) requires the structure in (13), where S is the category γ of which NP and XP are immediate constituents.

(12) *John ran the mile unencumbered.*

(13) $_{S}$[INFL NP VP XP]

Note in particular that principle (1) excludes the predication in (14):

(14) *[INFL NP $_{VP}$[V . . . XP]]

Because of the intervening VP, NP and XP fail to be immediate constituents of the same category. This consequence of (1) explains two rather different phenomena.

2.1.1. Case-marking Adjunct Small Clauses in Russian

Pesetsky (1982) observes that a Russian adjunct small clause that has instrumental Case can be predicated only of a direct object [compare (15) and (16)], assuming the unaccusative hypothesis (Perlmutter, 1978).[5]

(15) Instrumental Case
a. *Ja kupil mjaso zamoroženym.*
I bought meat frozen
b. *Mjaso bylo kupleno zamoroženym.*
meat was bought frozen
c. *Maša prišla* $_{NP}$[e] *veseloj.*
Masha arrived cheerful
d.**Marik ubil lošad' pjanym.*
Marik killed horse drunk
e.**Maša čitaet ugrjumoj.*
Masha read gloomy

(16) Nominative Case
a. *Marik ubil lošad' pjannyj.*
Marik killed horse drunk
b. *Maša čitaet ugrjumaja.*
Masha read gloomy
c. *Maša prišla* $_{NP}$[e] *veselaja.*
Masha arrived cheerful

This distribution follows from (1) and an auxiliary assumption, viz., that the instrumental Case is assigned to a predicate under government by V. If so, the instrumental adjunct is an immediate constituent of VP, where it can be predicated only of the direct object, according to (1). The auxiliary assumption is supported by the following considerations. In the paradigm in (17), the copula must be overt for the predicate to have instrumental Case, suggesting its assignment by V.

(17) a. *Ivan veren.*	a'. *Ivan byl veren.*	(short form)
b. *Ivan vernyj.*	b'. *Ivan byl vernyj.*	(nominative)
c.**Ivan vernym.*	c'. *Ivan byl vernym.*	(instrumental)
Ivan faithful	Ivan was faithful	

In the case of a θ-marked small clause, (18), the instrumental Case is obligatory:[6]

(18) a. *Ivan ščitaet ego bol'nym.* (instrumental)
b.**Ivan ščitaet ego bol'nogo.* (accusative)
'Ivan considers him ill.'

Thus the instrumental Case marking of a predicate parallels the accusative Case marking of a NP. In both cases, the canonical Case for θ-marking by V also appears on elements governed but not θ-marked by V.

The important consequence of the auxiliary assumption is that a predicate with instrumental Case must be in VP, where it is governed and assigned Case by V, as in (19).

(19) $_{VP}$[V . . . XP]
INSTR

It then follows from principle (1) that XP in (19) can be predicated only of a direct object, and not of a subject or prepositional object [cf. (12)].

2.1.2. Bound Variables in Adjunct Small Clauses

The second phenomenon, pointed out to me by Dominique Sportiche, concerns pronouns as bound variables. In (20), the pronoun *he* can be construed as a variable bound to the quantifier *everyone.* In (21), however, this is not possible.

(20) *Everyone left Mary angrier at herself than he thought.*

(21) **Mary left everyone angrier at herself than he thought.*

A bound variable interpretation is always possible if the quantifier c-commands the pronoun at s-structure.[7] Hence it must be the case that the quantifier in (21) does not c-command the pronoun at s-structure. That is, the only possible structure for (21) is the one imposed by principle (1), seen in (22).

(22) $_{S}$[Mary $_{VP}$[left everyone] angrier at herself than he thought]

Predication of the subject contrasts with control by the subject, (23) and (25), which have structures in which the quantifier c-commands the pronoun, (24) and (26).

(23) *Mary promised everyone to marry him.*

(24) $_{S}$[Mary $_{VP}$[promised everyone $_{S'}$[PRO to marry him]]]

(25) *Mary kicked everyone just to annoy him.*

(26) $_{S}$[Mary $_{VP}$[kicked everyone just $_{S'}$[PRO to annoy him]]]

2.1.3. Against θ-uniqueness

The explanation for the Russian Case-marking of adjunct small clauses and for the behavior of bound variables inside small clauses depends on the consequence of (1) that the predication in (27) is ungrammatical.

(27) *[NP_i $_{VP}$[V . . . XP_i]], where VP contains no trace of NP.

Thus, the adjunct assigned instrumental Case internal to the VP cannot be predicated of the subject. Similarly, an adjunct small clause cannot be predicated of the subject when the direct object c-commands and binds a variable inside it.

We may now consider a theory that would include the θ-criterion as it appears in (7). The uniqueness condition requires in the case of adjunct small clauses the appearance of another argument, hence the structure in (28).

(28) . . . $_{\alpha}$[PRO XP] . . .

The relation of PRO to its antecedent is not predication, which obtains between PRO and XP, but control. Control does not obey the configurational requirements of (1), cf. (29).

(29) $_{S}$[NP $_{VP}$[tried $_{S'}$[PRO to leave]]]

The intervening VP blocks both PRO and its S′ from being an immediate constituent with NP of some category. As with (29), it cannot be a property of control to exclude (30).

(30) $_{S}$[NP $_{VP}$[V . . . $_{\alpha}$[PRO XP]]], where VP contains no trace of NP.

If we were therefore to adopt θ-uniqueness (7), we could not derive the crucial property (27).

2.2. Adjuncts to Prepositional Objects

Williams (1980) observes that adjunct small clauses cannot be predicated of prepositional objects, as in (31).

(31) a. *John ate the meat raw.* *John shot him dead.*
b.**John ate at the meat raw.* **John shot at him dead.*

In Case-marking languages, the restriction on small clauses holds of oblique objects. This has been noted for (32) Russian in Pesetsky (1982) and for (33) Icelandic in Levin and Simpson (1981).[8]

(32) Russian
a. *Maša peredraznivala Sašu p'janym.*
Masha mimicked Sasha-ACC drunk-INSTR
b. *Maša tronula portret mokrym.*
Masha touched portrait-ACC damp-INSTR

c.**Maša podražala Saše p'janym.*
Masha imitated Sasha-DAT drunk-INSTR
d.**Maša kosnulas' portreta mokrym.*
Masha touched portrait-GEN damp-INSTR

(33) Icelandic
a. *Hann át matinn hráan.*
He ate the meat-ACC raw-ACC
b.**Hann rændi mig matnum hráum.*
He robbed me-ACC of the meat-DAT raw-DAT

I will take the restrictions in prepositional and Case-marking languages to be the same: at all levels relevant to principles (2) and (3), oblique Case and prepositions are represented as P.[9]

Williams assumes for his examples the structure in (34), which his proposed c-command condition will exclude, since the subject NP does not c-command its predicate:

(34) . . . $_{VP}$[V $_{PP}$[P NP] XP] . . .

Note that this effect of Williams' c-command condition is a consequence of (1) applying to the θ-role assignment to NP by XP. The violation of (1) in (34) is the symmetric opposite to the one encountered in the preceding section. (1) requires mutual c-command between subject and predicate. The violation in the preceding section is the case where the predicate fails to c-command its subject. Here the subject fails to c-command its predicate.

The assumption that (34) is the structure of the sentences (32)–(33) is necessary. We must exclude in particular the structure in (35), which violates none of the principles (1)–(3).

(35) . . . $_{VP}$[V $_{PP}$[P NP XP]] . . .

I will assume that the small clause adjunct modifies the verb and that modification relations, like θ-role assignment, require government. Thus, in (35), XP does not modify V, which would require V and XP to c-command each other as in (1). What excludes (35) is therefore that XP fails to stand in a proper adverbial relation, assuming that prepositions cannot be so modified.

Now consider a theory with θ-criterion (7) and the structure in (36) for adjunct small clauses.[10]

(36) . . . $_{VP}$[V $_{PP}$[P NP] $_{\alpha}$[PRO XP]] . . .

The inaccessibility of the prepositional object cannot be explained by conditions on θ-role assignment, since XP θ-marks PRO. A c-command

condition would have to be stipulated independently, and it of course could not apply to the interpretation of PRO with any generality, see (37).

(37) a. John $_{VP}$[pleaded $_{PP}$[with Bill] $_{S'}$[PRO to leave]]
b. $_{S'}$[PRO to be happy] $_{VP}$[would bore John]

2.3. Case Agreement between Adjunct Predicates and Their Subjects in Russian

Russian provides additional evidence for the structure of adjunct small clauses adopted here. Consider the paradigm in (38).

(38) a. *Ivan i Marija byli slaby.* (short form)
b. *Ivan i Marija byli slabymi.* (instrumental)
c. *Ivan i Marija$_i$ byli slabye$_i$.* (nominative)
'Ivan and Maria were weak.'

It appears that the adjective can be nominative, as in (38c), only via agreement with a nominative subject. If the subject, such as the PRO subject of a gerund or infinitival clause, does not bear Case, agreement cannot transmit nominative Case to the adjective, which is thereby blocked from appearing in the nominative, as in (39)–(41).

(39) a. *Ivan i Marija plačut, buduči slaby.* (short form)[11]
b. *Ivan i Marija plačut, buduči slabymi.* (instrumental)
c. **Ivan i Marija plačut, buduči slabye.* (nominative)
'Ivan and Maria cry, being weak.'

(40) a. *Vanja xočet byt' vernym partii.* (instrumental)
b. **Vanja xočet byt' vernyj partii.* (nominative)
'Vanya wants to be faithful to the party.'

(41) a. *Byt' slabym bylo vredno.* (instrumental)
b. **Byt' slabyj bylo vredno.* (nominative)
'To be weak was harmful.'

If the gerund is absolute,[12] which Yokoyama (1979) observes is possible with three lexical items in modern Russian, viz., *obo* 'both,' *každyj* 'each,' and *sam* '-self' (intensive), the nominative adjective can appear agreeing with the absolute subject, as in (42).

(42) a. *Ivan i Marija plačut, oba buduči slaby.* (short form)
b. *Ivan i Marija plačut, oba buduči slabymi.* (instrumental)
c. *Ivan i Marija plačut, oba$_i$ buduči slabye$_i$.* (nominative)
'Ivan and Maria cry, both being weak.'

In contrast to an adjective properly contained within a nonabsolute gerund, an adjunct small clause agrees with its subject, as in (43).

(43) *Ivan i Marija$_i$ plačut, slabye$_i$.* (nominative)
'Ivan and Maria cry, weak.'

This would not, however, be possible if we had assumed the structure in (44), as required by the uniqueness condition of θ-criterion (7), since PRO would again intervene as in (39) and block agreement.

(44) *Ivan i Marija plačut,* $_{\alpha}$[PRO$_i$ *slabye$_i$*].

3. Θ-MARKED SMALL CLAUSES

The properties of θ-marked small clauses follow from principles (1)–(3).

3.1. Control Verbs

Control verbs do not permit small clause complements.

(45) a.**John persuaded Bill happy.*
b.**John pleaded with Bill happy.*

(46) **John tried happy.*

Consider first (45). Two theta-roles associated with the verb, *persuade* or *plead,* are assigned within the VP, one to the object and one to the complement (small) clause. By (2), two θ-role assigners are required. Suppose they are V and P. Then, by (3), there are VP and PP and VP ≠ PP. The structures (47)–(49), which satisfy (2)–(3), will be shown to violate (1).[13]

(47) $_{VP}$[V $_{PP}$[P NP$_i$ XP$_i$]]

(48) $_{VP}$[V NP$_i$ $_{PP}$[P XP$_i$]]

(49) $_{VP}$[V $_{PP}$[P NP$_i$] XP$_i$]

Case 1. P assigns the θ-role to the complement clause or predicate, and V assigns the object NP θ-role. In (47), V and NP do not mutually c-command each other, and therefore V assigns its θ-role in violation of (1). In (48), the same is true of the θ-role assignment from XP to its subject, NP. In (49), every θ-role assignment, by V, P, and XP, violates (1).

Case 2. P assigns the object NP θ-role, and V assigns the θ-role to the clause-like complement. In (47), V cannot assign its θ-role to XP without violating (1). Every θ-role assignment in (48) would violate (1). In (49), XP cannot assign its subject θ-role to NP.

Consider now (46). Suppose the complement small clause θ-role is assigned by V.[14] The structures satisfying (2) and (3) violate (1).

(50) $_{S}$[NP $_{VP}$[V] XP]

(51) $_{S}$[NP $_{VP}$[V XP]]

V cannot assign its θ-role to XP in (50), and XP cannot assign its θ-role to NP in (51) (cf. section 2.1.).

The explanation in Chomsky (1981) for the fact that control verbs do not permit small clause complements is similar to the one above, with (10) taking the place of (2) and (3). The effect both of (10) and of (2) and (3) is to create a position such that a well-formed d-structure will not permit an NP to occupy this position and any other. The NP cannot be in two places at once.[15]

The structures for (45) satisfying (10) also violate (1).

(52) $_{VP}$[V $_{\alpha}$[NP XP]]

(53) $_{VP}$[V NP $_{\alpha}$[XP]]

V cannot assign its θ-role in (52), and XP cannot assign its θ-role in (53). The explanation is the same for (46).

(54) [NP $_{VP}$[V] $_{\alpha}$[XP]]

(55) [NP $_{VP}$[V $_{\alpha}$[XP]]]

V cannot assign its θ-role in (54), and XP cannot assign its θ-role in (55).

I discuss (10) in section 3, noting here that the decision to omit it is more tentative than the omission of θ-uniqueness (7). Here I will argue against the conjunction of (7) and (10). Thus, for anyone wishing to maintain (10), section 1 and what follows are arguments against (7).

Recall that admitting (7) requires in the case of adjunct small clauses the structure (56).

(56) . . . $_{\alpha}$[PRO XP] . . .

A question then is how to prevent the structures in (57), which contrast with those in (58) and (59).

(57) a. **John tried happy.*
**Jean croit heureux.*
Jean believes happy
[NP $_{VP}$[V $_{\alpha}$[PRO XP]]]
b. **John persuaded Bill happy.*
[NP $_{VP}$[V NP $_{\alpha}$[PRO XP]]]
c. **John pleaded with Bill happy.*
[NP $_{VP}$[V $_{PP}$[P NP] $_{\alpha}$[PRO XP]]]

(58) a. *John tried to be happy.*
Jean croit être heureux.
Jean believes to-be happy
[NP $_{VP}$[V $_{S'}$[PRO INFL VP]]]
b. *John persuaded Bill to be happy.*
[NP $_{VP}$[V NP $_{S'}$[PRO INFL VP]]]

(59) *John pleaded with Bill to be happy.*
[NP $_{VP}$[V $_{PP}$[P NP] $_{S'}$[PRO INFL VP]]]

The treatment in Chomsky (1981) is to distinguish the two types of small clauses categorically such that the θ-marked small clauses are transparent to external government and adjunct small clauses are opaque. The small clause complements in (57) are therefore transparent, and hence PRO is in a position governed by V, which is an impossible position for PRO according to the binding theory. In the case of an adjunct, the small clause is opaque and PRO is ungoverned as required.[16] It is stipulated that the two categories of small clauses occur only in positions of the appropriate type.[17]

The problem for this analysis lies in a phenomenon discussed by Jespersen (1924: 123).[18] He notes the widespread existence of the constructions in (60).

(60) a. English (Jespersen, 1924)
i. *The gentleman had drunke himself out of his five senses.* (Sh.)
ii. *A lover's eyes will gaze an eagle blind.* (Sh.)
iii. *He slept himself sober.*
iv. *Lily was nearly screaming herself into a fit.*
b. Danish (Jespersen, 1924)
i. *De drak Jeppe fuld.*
they drank Jeppe drunk
ii. *De drak Jeppe under bordet.*
they drank Jeppe under-the table
c. Icelandic (Levin and Simpson, 1981)
i. *Hann át sig máttlausan.*
he ate himself incapable

ii. *Hann hló sig máttlausan.*
he laughed himself incapable

d. Old Norse (Jespersen, 1924)
i. þeir biðja hana gráta Baldr ór helju.
they ask her to-weep Baldur out-of Hades

e. German (Jespersen, 1924)
i. *die Augen rot weinen*
the eyes red cry
'to cry one's eyes red'
ii. *die Füsse wund laufen*
the feet sore run
'to run one's feet sore'
iii. *Er schwatzt das Blaue vom Himmel herunter.*
he talks the blue from-the sky down
'He talks the blue out of the sky.'

f. Finnish
i. *Aiti makasi lapsensa kuoliaaksi.* (Jespersen, 1924)
'The mother slept her child dead-TRANSLATIVE.'
ii. *Han joi itsensä siaksi.* (Jespersen, 1924)
'He drank himself (into) a swine-TRANSLATIVE.'
iii. *Juha nauroi itsensä kipeäksi.* (Simpson, 1981)
'John laughed himself sick-TRANSLATIVE.'
iv. *Juha huusi itsensä kaheäksi.* (Simpson, 1981)
'John shouted himself hoarse-TRANSLATIVE.'
v. *Join viinikellarin tykjäksi.* (Simpson, 1981)
'(I) drank the wine cellar empty-TRANSLATIVE.'

The importance of this construction is that neither the small clause nor its accusative subject receives a θ-role from the matrix verb. The analysis under consideration excludes this possibility. Since the small clause, an adjunct, is not θ-marked, it is opaque, leaving the possible structures (61) and (62).[19]

(61) [V NP $_{\alpha}$[PRO XP]]

(62) [V $_{\alpha}$[NP XP]]

(61) is excluded by the θ-criterion; NP does not receive any θ-role. (62) violates the Case filter.[20] NP cannot be assigned Case across an opaque category, and we cannot assume an internal accusative. Note that the passive examples from English and German in (63) show that the accusative subject is governed (and presumably Case-marked) by the verb.

(63) a. i. *John was eaten out of house and home.*
ii. *John was laughed out of the meeting.*
iii. *John was drunk under the table.*

b. *Der Keller wurde leer gesoffen.*
The cellar was empty drunk
'The (wine) cellar was drunk empty.'
c. *Johann wurde unter den Tisch getrunken.*
Johann was under the table drunk
'Johann was drunk under the table.'

Moreover, the accusative Case marking obeys the usual conditions on NP movement. If the matrix verb has been detransitivized, the small clause subject cannot be assigned Case, as seen in (64)–(65).

(64) a. **John was shot himself dead.*
b.**Im Kino ist die Füsse wund getanzt.*
In-the cinema is the feet sore danced

(65) **John arrived himself beat.*

In the case of unaccusative verbs, (65), suppose they could be made to assign accusative Case as in (60) with other intransitive verbs. (65) is nevertheless impossible: *arrive* assigns its θ-role to the argument it governs, which is *himself,* depriving *John* of any θ-role.

The treatment of Jespersen's construction is straightforward in a theory omitting θ-uniqueness (7). Such a theory does not assign structure (56) to adjunct small clauses and therefore does not have to consider the distribution of opaque and transparent small clauses. The examples in (60) are treated like ordinary resultatives such as *shoot him dead,* distinguished only in that the verb does not assign a θ-role to its object. They have the structure in (66), where the NP receives a θ-role from the XP and Case under government by V.

(66) . . . $_{VP}$[V NP XP] . . .[21]

3.2. Raising and ECM Verbs

Principles (1)–(3) predict that clauses are more marked than small clauses as complements to raising verbs. Small clause and clausal complements are compared in (67) and (68).

(67) . . . $_{VP}$[V NP XP] . . .

(68) . . . $_{VP}$[V $_{S'}$[NP INFL VP]] . . .

Following (3), S′ in (68) is projected from INFL. In (67), NP and XP are not immediate constituents of a category distinct from VP, since there is no X^0 to project it.

The essential property of raising complements is that their subjects are (properly) governed by V. This property permits the NP in (67) and (68) to be an empty category and to be Case-marked by V, and it excludes the NP from being PRO, as in (69)–(70) (see Chomsky, 1981).

(69) a. John $_{VP}$[seems [e] foolish].
b. John $_{VP}$[is considered [e] foolish].
c. who John $_{VP}$[considers [e] foolish]
d. John $_{VP}$[considers him foolish]
e. *John $_{VP}$[seems PRO foolish].
f. *John $_{VP}$[considers PRO foolish].

(70) a. John $_{VP}$[seems $_{S}$[[e] to be foolish]].
b. John $_{VP}$[is considered $_{S}$[[e] to be foolish]].
c. Who John $_{VP}$[considers $_{S}$[[e] to be foolish]].
d. *John $_{VP}$[seems $_{S}$[PRO to be foolish]].
e. *John $_{VP}$[considers [PRO to be foolish]].

V (properly) governs NP just in case there is no intervening maximal projection, which is immediately satisfied in (67). Thus principles (1)–(3) give us the properties of small clause complements to raising verbs.

Raising from an infinitival complement requires an additional operation, S′-deletion (Chomsky, 1981). Government in (68) is barred by the intervening maximal projection S′. The deletion of S′ eliminates this barrier. The possibility of raising from an infinitival clause varies across languages. It is assumed that S′-deletion is a parameter.

It is apparent in Russian [(71)–(72)] that raising from a small clause is, as expected given the small clause structure (67), independent of the S′-deletion parameter.

(71) *On kažetsja bol'nym.* *Ivan ščitaet ego bol'nym.*
He seems ill Ivan considers him ill

(72) **On kažetsja byt' bol'nym.* **Ivan ščitaet ego byt' bolnym.*
He seems to be ill Ivan considers him to be ill

4. ON THE NOTION "CLAUSE"

I have shown in the preceding sections that a theory containing principles (1)–(3) should include neither (7) nor (11). The argument was centered on the analysis of adjunct small clauses, which were shown not to have the structure $_{\alpha}$[PRO XP].

The arguments of the preceding sections have no bearing on (10), which requires the constituent α in the case of θ-marked small clauses: *John* $_{VP}$[*considers* $_{\alpha}$[*him foolish*]]. I assumed, however, that there is no constituent α even in this case. The structure of θ-marked small clauses is just what is projected according to (1)–(3) [see (4)]. This section bears upon, although indirectly, the decision to omit (10).

As noted in section 3.1, principles (2) and (3) and principle (10) provide independent accounts of the fact that control verbs do not permit small clause complements. Although the accounts assume different structures for these complements, the explanation is essentially the same. As remarked, both accounts assign to small clause complements of control verbs d-structures in which a NP cannot be both a sister of XP and a sister of V, P, or VP. For both accounts, small clause complements to control verbs end up violating principle (1). On the level of explanation, a theory containing (10) as well as (2) and (3) is somewhat redundant.

4.1. Opacity and Small Clauses

4.1.1. Binding Theory

The structures shown in (73) are required by principle (1).

(73) a. $_{S}$[*John* $_{VP}$[*left Mary*$_i$ [*angry at herself*]$_i$]].
b.*$_{S}$[*John* $_{VP}$[*left Mary*$_i$ [*angry at himself*]$_i$]].
c. $_{S}$[*John*$_i$ $_{VP}$[*left Mary*] [*angry at himself*]$_i$].
d.*$_{S}$[*John*$_i$ $_{VP}$[*left Mary*] [*angry at herself*]$_i$].

In (73a) and (73b), the small clause is predicated of *Mary* and must therefore be a sister of the object. In (73c) and (73d), the small clause is predicated of the subject *John,* of which it is a sister. The familiar opacity effect in (73) can be obtained, without assuming a constituent α, if the subject of any predicate is taken to be a SUBJECT for binding theory (Chomsky, 1981). The governing category, in boldface in (73), is the least category containing the anaphor and an accessible SUBJECT.[22] The anaphors in the ungrammatical examples are not bound in their governing categories, violating the binding theory.[23] This analysis draws an analogy among the structures of (74), each of which is an opaque domain for anaphors contained in its predicate.[24]

(74) a. $_{S}$[INFL NP VP]
b. $_{VP}$[V NP XP]
c. $_{S}$[INFL NP VP XP]

Luigi Rizzi has pointed out to me some evidence for this view of opacity in small clauses. Consider the Italian examples in (75), in which a clitic on the main verb binds an anaphoric empty category in the small clause.

(75) a. *Giovanni riteneva Maria più affezionata a lui di quanto non fosse.*
'Giovanni considered Maria more affectionate to him than she was.'
b. *Giovanni gli riteneva Maria più affezionata di quanto non fosse.*
Giovanni him considered Maria more affectionate than she was.
c. [NP $_{VP}$[cl-V $_{\alpha}$[NP $_{AP}$[A [e]. . .]]]]

If clitic movement is subject to opacity (see Kayne, 1975), there can be no constituent α. Otherwise, α would be the governing category, and the empty category would be free in its governing category, violating the binding theory. Without α, the governing category is VP, within which the anaphoric empty category is bound.

4.1.2. Quantifier Scope

In support of this treatment of opacity, we may consider another phenomenon for which VP is an opaque domain just in case it contains a predicate and its subject.

4.1.2.1. Minimal scope for the subject of a non-finite complement. Postal (1974; see also Kayne, 1984) observes that a quantifier which is the subject of an infinitival complement to a *believe*-type verb must include the matrix verb in its scope. Postal's observation extends also to small clause complements, as in (76)–(77).

(76) a. *The FBI proved none of the students to be disloyal.*
b. *The FBI proved none of the students disloyal.*

(77) *The FBI proved that none of the students is disloyal.*

(76) admits only the reading paraphrased by (78a), in which the scope of the subject quantifier includes the verb *prove*.

(78) a. 'The FBI did not prove any of the students (to be) disloyal.'
b. [None x : student(x)] the FBI proved x (to be) disloyal

In (77) however, the quantifier is confined to the subordinate clause. It has the scope shown in (79).

(79) The FBI proved [[None x : student(x)] x is disloyal]

Manzini (1981) has made a similar observation for Italian. The scope of a negative quantifier is overtly marked by *non*. Confining a quantifier in subject position to the non-finite complement results in ungrammaticality, as in (80)–(83).

(80) a. *Giovanni non vide nessuno andarsene.*
'Giovanni did not see anyone leave.'
b.**Giovanni vide nessuno andarsene.*[25]
'Giovanni saw no one leave.' (Manzini, 1981)

(81) a. *Giovanni non vide Maria far niente.*
'Giovanni did not see Maria do anything.'
b. *Giovanni vide Maria non far niente.*
'Giovanni saw Maria not do anything.' (Manzini, 1981)

(82) a. *Giovanni non riteneva nessuno affezionato a lui.*
'Giovanni did not consider anyone affectionate to him.'
b.**Giovanni riteneva nessuno affezionato a lui.*[25]
'Giovanni considered no one affectionate to him.'

(83) a. *Giovanni non riteneva Maria affezionata a nessuno.*
'Giovanni did not consider Maria affectionate to anyone.'
b. *Giovanni riteneva Maria non affezionata a nessuno.*
'Giovanni considered Maria not affectionate to anyone.'

The matrix verbs in (80) and (82) must be included in the scope of a quantifier in the subject position of the complement.

4.1.2.2. Maximal scope for the subject of a non-finite complement. It will now be shown that a quantifier which is the subject of a small clause or an infinitival can include in its scope nothing outside the VP in which it is governed. Klima (1964) points out that examples such as (84) are ambiguous.

(84) *John forced Mary to marry no one.*

The available readings are paraphrased in (85).[26, 27]

(85) a. *John did not force Mary to marry anyone.*
[no x : one(x)] John forced Mary [PRO to marry x].
b. *John forced Mary to not marry anyone.*
John forced Mary [[no x : one(x)][PRO to marry x]]

Consider now the following sentences:

Small clauses:

(86) a. *John asked (Mary) to consider none of his friends.*
In all these years, John asked (Mary) to consider not a single one of his friends.

b. *John asked (Mary) to consider none of his friends eligible for a job.*
In all these years, John asked (Mary) to consider not a single one of his friends eligible for a job.
c. *John asked (Mary) to consider his friends eligible for none of the jobs.*

(87) a. *John asked (Mary) to see none of his friends.*
In all these years, John asked (Mary) to see not a single one of his friends.
b. *John asked (Mary) to see none of his friends drunk.*
In all these years, John asked (Mary) to see not a single one of his friends drunk.

Infinitival clauses:

(88) a. *The principal asked (Mary) to help the students pass none of the exams.*
In all these years, the principal asked (Mary) to help the students pass not a single exam.
b. *The principal asked (Mary) to help none of the students pass exams.*
In all these years, the principal asked (Mary) to help not a single student pass exams.

(89) a. *John asked (Mary) to consider his friends to be responsible for none of the assignments.*
In all these years, John asked (Mary) to consider his friends to be responsible for not a single assignment.
b. *John asked (Mary) to consider none of his friends to be responsible for an assignment.*
In all these years, John asked (Mary) to consider not a single one of his friends to be responsible for an assignment.

(86)–(89) exemplify three types of structures, shown in (90)–(92).

(90) [NP asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [none . . .]]]]

(91) a. [NP asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [none . . .] XP]]]
b. [NP asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [[none . . .] INFL VP]]]]

(92) a. [NP asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V NP [X [none . . .]]]]]
b. [NP asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [NP INFL [V [none . . .]]]]]]

(90) is the structure of (86a) and (87a). The (b) examples of (86)–(89) correspond to either (91a) or (91b). In these examples, the quantifier is the subject of a predicate. (86c), (88a), and (89a) fall under (92).

The crucial fact about these sentences is that the quantifier cannot have wide scope [see (85)] if the quantifier is a subject.

(93) [none x : . . .] [NP $_{VP_0}$[asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V x]]]]

(94) a. *[none x : . . .][NP $_{VP_0}$[asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V x XP]]]][28]
b. *[none x : . . .][NP $_{VP_0}$[asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [x INFL VP]]]]]

(95) a. [none x : . . .][NP $_{VP_0}$[asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V NP [X x]]]]]
b. [none x : . . .][NP $_{VP_0}$[asked (NP) $_{S_1}$[PRO to $_{VP_1}$[V [NP INFL [V x]]]]]]

I assume that the domain which is opaque to the subject in (94) is to be defined configurationally. Recall the other crucial property of the structures in (93)–(95). In section 4.1.2.1, it was shown that the quantifiers in (93)–(95) must include in their scope at least VP_1, from which it follows that the opaque domain for the subject quantifier in (94) cannot be any category α in structures such as (96).

(96) . . . $_{VP}$[V $_{\alpha}$[x XP]]
. . . $_{VP}$[V $_{\alpha}$[x INFL VP]]

The opaque domain for the subject quantifier is not smaller than VP_1 and not larger than S_1.[29]

The treatment of opacity discussed in section 4.1 considers the structures in (97) to all be "clauses."

(97) a. $_{S}$[INFL NP VP]
b. $_{VP}$[V NP XP]
$_{VP}$[V NP to VP]

Extending this treatment to (94), VP_1 is the opaque domain. The domain of any quantifier in the NP positions in (97) is exactly the "clause," which is the minimal category that contains a predicate, its subject, and the element projecting the category (according to principles (2) and (3)).[30] These elements also all have the property of permitting the predicate to assign a θ-role to the subject, either by assigning the subject Case or by identifying it as PRO.

The structures in (97) must be the same in so far as they are all "clauses." This leaves open the possibility that a "clause" can include a constituent α if α appears in all the structures of (97), e.g., (98).

(98) a. $_{S}$[INFL $_{\alpha}$[NP VP]]
b. $_{VP}$[V $_{\alpha}$[NP XP]]
$_{VP}$[V $_{\alpha}$[NP to VP]]

I know of nothing that bears upon the choice between (97) and (98). The evidence from quantification is, however, enough to show that the entire VP in (98b) and not a subconstituent α is the "clause" in the sense of being the opaque domain for a quantifier in subject position.[31]

5. CONCLUSION

The fundamental insight of GB is that all grammatical relations are relations between sisters. The subject is the sister to the VP, no longer the daughter of S. What phrase structure there is is purely a projection of grammatical relations between sisters. The point of this paper has been to examine the deductive consequences of this theory, unhindered by the likes of (11), which recognizes a subject by its parent category α, a condition that looks out of place in GB. The theory is further reduced to its essentials by relieving the θ-criterion of its uniqueness condition on arguments [see (8)]. In saying less, we then gain a proper treatment of adjunct and θ-marked small clauses and we discover that the "clauses" that the reduced theory then picks out are exactly those that correctly characterize opaque domains.

REFERENCES

Carlson, L. (1978). *Central problems in Finnish syntax.* Unpublished manuscript, MIT, Cambridge, Mass.

Chomsky, N. (1981). *Lectures on government and binding.* Foris, Dordrecht.

Chomsky, N. (1986). *Knowledge of language.* Praeger, New York.

Green, G. (1973). A syntactic syncretism in English and French, in B. B. Kachru, R. B. Lees, Y. Malkiel, A. Pietrangeli, and S. Saporta (eds.), *Issues in linguistics: Papers in honor of Henry and Renee Kahane,* 257–278. University of Illinois Press, Urbana.

Halliday, M. A. K. (1967). Notes on transitivity and theme in English (Part I). *Journal of Linguistics* 3, 37–81.

Higginbotham, J. (1979). Pronouns and bound variables. *Linguistic Inquiry* 11, 679–708.

Higginbotham, J. (1980). Anaphora and GB: Some preliminary remarks, in *North East Linguistic Society* 10, 223–236.

Jespersen, O. (1924). *The philosophy of grammar.* George Allen & Unwin, London.

Kayne, R. (1975). *French syntax: The transformational cycle.* MIT Press, Cambridge, Mass.

Kayne, R. (1984). Two notes on the NIC. In *Connectedness and binary branching,* 23–46. Foris, Dordrecht.

Klima, E. (1964). Negation in English, in J. A. Fodor and J. J. Katz (eds.), *The structure of language: Readings in the philosophy of language,* 246–323. Prentice-Hall, Englewood Cliffs, N.J.

Levin, L., and J. Simpson. (1981). Quirky case and the structure of Icelandic lexical entries. *Chicago Linguistic Society* 17, 185–196.

Manzini, M. R. (1981). *Small clauses.* Unpublished manuscript. MIT, Cambridge, Mass.

Manzini, M. R. (1983). On control and control theory. *Linguistic Inquiry* 14, 421–446.

Marantz, A. (1984). *On the nature of grammatical relations.* MIT Press, Cambridge, Mass.

Perlmutter, D. (1978). Impersonal passives and the unaccusative hypothesis. *Berkeley Linguistics Society* 4, 157–189.

Pesetsky, D. (1982). *Paths and categories.* Ph.D. dissertation, MIT, Cambridge, Mass.

Postal, P. (1974). *On raising.* MIT Press, Cambridge, Mass.

Rizzi, L. (1982). Negation, WH-movement and the null subject parameter, in *Issues in Italian Syntax,* 117–184. Foris, Dordrecht.

Schein, B. (1982). Non-finite complements in Russian. *MIT Working Papers in Linguistics: Papers in Syntax* 4, 217–243.

Simpson, J. (1981). *Finnish essive and translative.* Unpublished manuscript, MIT, Cambridge, Mass.

Simpson, J. (1983). *Aspects of Warlpiri morphology and syntax.* Ph.D. dissertation, MIT, Cambridge, Mass.

Stowell, T. (1981). *Origins of phrase structure.* Ph.D. dissertation, MIT, Cambridge, Mass.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.

Williams, E. (1980). Predication. *Linguistic Inquiry* 11, 203–238.

Yokoyama, O. (1979). *Studies in Russian functional syntax.* Ph.D. dissertation, Harvard University, Cambridge, Mass.

NOTES

[1]This is the nearly unrevised text of a paper circulated in 1982, versions of which were presented at GLOW 1981, NELS 12 1981, and the LSA Linguistic Institute 1983.

[2]The idea that a small clause is just an instance of predication is due to Williams (1980). Williams claims, however, that predication subsumes obligatory control of an infinitival. This claim requires that it be sufficient for the subject to c-command its predicate—contrary to (1), which requires mutual c-command. Williams's claim separates predication from other cases of θ-role assignment. I believe the claim and this consequence for θ-theory are incorrect. See the discussion in sections 2.1 and 3.1. See also Manzini (1983), who shows that the properties that Williams takes to define obligatory control do not in fact correlate.

Consistent with principle (1), a d-structure subject is assigned its θ-role by XP. That is, I assume that the subject θ-role is determined by the semantic composition of the predicate. See Marantz (1984) in support of the view adopted here.

[3]Consider the structure in (i), where the PP is subcategorized by V.

(i) $[V\ NP_0\ _{PP}[P\ NP_1]]$

As required by (2), I assume that V assigns a θ-role only to NP_0. It does not assign a θ-role to PP, although the latter is (or contains) an argument of the predicate. The θ-role assigner for NP_1 is P. I adopt this convention without prejudice to any ideas on the nature of θ-roles. I mention three possibilities for the relation of V and P to the θ-role assigned to NP_1 in (i) and say what (2) would say about each.

(a) (Stowell, 1981) The verb names a predicate function which specifies an n-tuple of θ-roles $< \theta_1, \ldots, \theta_n >$. For each appropriate $NP_1, \ldots, NP_n$, some X_i, $X_i \in \{V, P_1, \ldots\}$, assigns θ_i to NP_i. (2) says that any X_i will assign a unique θ_i.

(b) (Marantz, 1984) Marantz proposes that θ-roles are assigned by a V or P, and the verb names a function from arguments bearing θ-roles to predicates. For X, $X \in \{V, P_1, \ldots\}$, X names a function from NPs to arguments bearing θ-roles. (2) says that any such X applies to a unique NP.

(c) The θ-role is assigned to NP_1 in (i) by V and P compositionally. In this case, (2) will say that for any X, $X \in \{V, P_1, \ldots\}$, X assigns in composition with V a unique θ-role.

Double object constructions make V an apparent counterexample to (2). Following, for example, Marantz (1984) and Stowell (1981), I will assume that one of the objects in this construction is assigned its θ-role by an underlying oblique P.

[4]The thesis of "subjects across categories" forms part of Stowell's program to eliminate phrase structure rules. He argues correctly that if every category were to have a subject position, the category-specific rules specifying subject positions for S and NP could be eliminated. He then affirms, citing small clauses as evidence, that every category has a subject position. The conclusion is not supported. If phrase structure rules are to be eliminated, the notion of a category having a subject position is not coherent. A category has a subject position only in the sense of its phrase structure expansion containing such a position. The result of saying that every category has a subject position is a rule schema for a class of phrase structure rules, and not an elimination of phrase structure rules.

In terms of GB and principle (1), the "subjects across categories" thesis cannot come out as a generalizing or simplifying idea. Instead it represents the adventitious claim that the government configuration is not a sufficient condition for predication.

[5]The examples show only that an instrumental small clause cannot be predicated of the subject, which is all that is relevant to the discussion. Predications of oblique objects are discussed in section 2.2.

[6]Case is required on small clauses. In the case of adjunct small clauses, Case by agreement with its subject is also possible. As Pesetsky notes, small clauses in other Cases are not limited to direct objects.

[7]For the necessary and sufficient conditions on interpreting pronouns as bound variables, see Higginbotham (1979, 1980).

[8]Simpson (1981) reports that in Finnish a secondary predicate in translative Case, expressing a resultative, can be predicated only of direct objects. But she also points out that a predicate in essive Case, expressing a depictive, can be predicated of indirect objects as well, at least for some speakers. Thus, (i) is three-ways ambiguous. Each of the NPs can be the subject of the depictive.

(i) *Lainasin auton* *Juhalle* *huonokuntoisena.*
loaned the-car-ACC to-John-ALLATIVE in-poor-condition-ESSIVE

[9]At d-structure in particular, $_{PP}$[P NP] for both types of languages.

That the restriction on the oblique objects in (32)–(33) is a consequence of θ-theory is further supported by the following. Oblique Case on an NP bars predication only if that oblique Case is a P in the sense defined by (2) and (3). The partitive phrase in Finnish (Carlson, 1978; Simpson, 1981, 1983) in its quantificational (and aspectual) use is an NP rather than a PP. The partitive NP is assigned its θ-role by V and can therefore be the subject of an adjunct small clause as in (i).

(i) *Matti söi kalan raakana.* *Matti söi kalaa raakana.*
Matti ate fish-ACC raw-ESSIVE Matti ate fish-PART raw-ESSIVE

[10]It must be assumed that the structure in (i) corresponding to (35) is also excluded.

(i) . . . [V $_{PP}$[P NP [PRO XP]]]

[11]The short form, for unknown reasons, can appear only as the predicate of a finite clause and, for some speakers, as the predicate in a gerund.

[12]Russian lacks Exceptional Case Marking. So we cannot compare PRO with a lexical subject in infinitival clauses. See Schein (1982).

[13]The argument is the same mutatis mutandis if both θ-roles are assigned by prepositions, P_0 and P_1. The relevant structures are those in (i)–(iv).

(i) $_{PP}[P_1\ _{PP}[P_0\ NP_i\ XP_i]]$
(ii) $_{PP}[P_1\ NP_i\ _{PP}[P_0\ XP_i]]$
(iii) $_{PP}[P_1\ _{PP}[P_0\ NP_i]\ XP_i]$
(iv) $_{PP}[P_1\ NP_i]\ _{PP}[P_0\ XP_i]$

[14]The case where the θ-role is assigned by P is similar.

[15]In Schein (1982), I treated (i) and (ii) as violations of the uniqueness condition of the θ-criterion (7).

(i) **Bill tried happy.*
(ii) **John persuaded Bill happy.*

In (i) and (ii), *Bill* receives two θ-roles, one of which gets assigned to PRO in (iii) and (iv).

(iii) *Bill tried* PRO *to be happy.*
(iv) *John persuaded Bill* PRO *to be happy.*

The exceptions to the uniqueness condition, adjunct small clauses, (v) and (vi), were exempted from it by a more restricted formulation of the condition, (vii).

(v) *John ran unencumbered.*
(vi) *John ate them unwashed.*
(vii) 'selects*' $=_{df}$ 'selects' closed under transitivity. Selection includes subcategorization and the relation between a predicate and its subject (cf. Chomsky, 1981, pp. 36–38).
Any two θ-roles, θ_0 and θ_1, cannot be assigned to the same NP if and only if the α that selects* θ_0 selects* θ_1.

The effect of (vii) is that (v) and (vi) do not violate the θ-criterion since the matrix verbs do not select the adjuncts. The statement of (vii) in Schein (1982) differs in using 'governs,' instead of 'selects,' in the non-technical, traditional sense of selecting an argument. This sense is obviously necessary since none of the small clauses nor their heads in (i), (ii), (v), and (vi) govern their subjects in the technical sense.

This view contrasts with the present one, which eliminates the uniqueness condition altogether and explains its apparent effects in terms of the d-structure configuration as it is determined by (1)–(3).

[16]In Chomsky (1981), the definition of government assumed and the details of the structure assigned to θ-marked small clauses result in PRO also being governed internally by the head of XP.

[17]Stowell (1981) suggests an explanation in terms of properties of subcategorization and selection. In Stowell (1981) and Chomsky (1981), the two classes of small clauses are, more accurately, those that appear in subcategorized positions and those in non-subcategorized positions; cf. (i).

(i) a.**Happy in life is difficult.*
[$_{\alpha}$[PRO XP] INFL VP]
b. *To be happy in life is difficult.*
[$_{S'}$[PRO INFL VP] INFL VP]

Because of (i), I assume that what is meant to distinguish the two classes is θ-marking or, equivalently, being in an A-position. Thus the PRO subject of the small clause in (ia) is governed in violation of the binding theory. The discussion in the text assumes this emendation.

[18]See also Green (1973), Halliday (1967), and Simpson (1983).

[19]I assume that no lexical process has applied to derive verbs subcategorized for small clauses. If this assumption were incorrect, then θ-marked small clauses would be transparent and Case could be assigned in the structure (62). The process, if it existed, would be ad hoc, resembling no other case of thematic restructuring. Moreover, in a language such as Finnish, although such processes usually have morphological reflexes, the construction in (60) lacks derivational morphology. See Marantz (1984) for the typology of these processes.

If the small clauses of (60) were assumed to be subcategorized, it would become unclear why the lexical process could not apply to unnacusative verbs, (65) in the

text. Consider the familiar observation from relational grammar that unnacusative verbs do not undergo passivization.

(i) a.**John was arrived.*
b. (in languages with impersonal passives; see Perlmutter, 1978)
It was danced.
**It was arrived.*

Contrast (i) with (ii).

(ii) *A solution was arrived at yesterday.*

(ii) suggests that reanalysis of a subcategorized PP involves thematic restructuring. Thus, *arrive* in (iii) has no direct object, and *John* is θ-marked by the VP *arrived at a solution.*

(iii) *John arrived at a solution.*

That is, *arrive* is no longer an unaccusative verb.

Now if we were to assume that the small clauses in (60) occupy subcategorized positions in VP, it is unclear why thematic restructuring should not apply to (65) and to (iv).

(iv) **John was arrived beat.*

There is also a correlation that suggests that the small clauses in (60) are not subcategorized. It appears that all subcategorized predicates and their complements can be extracted.

(v) *Angry is what John seems. Angry is what I consider John.*
Angry is what I made John. Angry is what John is considered.
(vi) *Who does John seem proud of? Who do I consider John proud of?*
Who did I make John proud of? Who is John considered proud of?

This is not the case among adjuncts, although it cannot be said that all adjuncts block extraction.

(vii) a.**Drunk is what I met John.*
**Drunk$_i$ is how I met John$_i$.*
?Drunk$_i$ is how I$_i$ met John.
b.**Opened is what I received the letters.*
?Opened is how I received the letters.
c.**Raw is what I ate the meat.*
?Raw is how I ate the meat.
d.**Dead is what I shot John.*
**Dead is how I shot John.*
(viii) **Who did you meet John angry at?*
What did you serve the fish wrapped in?
What did you wipe the table free of?

The construction in (60) correlates with adjuncts.

(ix) **Sober is what John drank himself.*
**Sober is how John drank himself.*
?What worries did John drink himself free of?

The differences among small clauses with respect to pseudoclefts is noted by Halliday (1967). See Pesetsky (1982) for a possible explanation of the differences in extraction from a small clause. He assumes, however, that all adjuncts block extraction.

[20]This section bears only upon the technical details of the Chomsky (1981) analysis. The Jespersen construction can be accommodated by changing the stipulated distribution of the two categories of small clauses. It is sufficient not to restrict the transparent category to argument positions. We are then left with the two categories of small clauses in free distribution subject to conditions (i)–(ii).

(i) The uniqueness condition of the θ-criterion (7); and
(ii) The opaque category cannot be θ-marked, or, equivalently, it cannot appear in argument positions.

[21]In (i), the grammatical sentences are resultatives of the type in (60).

(i) a. *He talked John deaf.*
He laughed John out of the room.
b.**He talked to John deaf.*
**He laughed at John out of the room.*

The corresponding ungrammatical sentence has the same meaning, but *John* is θ-marked by a P. This construction, however, violates principle (1), as discussed in section 2.2.

[22]Accessibility is not relevant here.

[23]In (73d), the anaphor is not bound in any category since it is not c-commanded by its antecedent.

[24]There is a question as to whether the extension to the structures in (74) undermines the structural definition of subject or of clause. Note that no definitions more principled than a list could identify (i) and (ii) as clauses (with subjects) but exclude (iii).

(i) $_{S}$[INFL NP VP]
(ii) $_{X'}$[NP XP]
(iii) $_{VP}$[V NP XP]

Moreover, any such definition must be sufficiently general to include (iii). Sections 1 and 2 have shown that adjunct small clauses in VP have exactly the structure in (iii), and opacity [(74a) and (74b)] shows that the NP in (iii) must be recognized as a SUBJECT.

[25]The absence of *non* indicates that the subject quantifier is confined to the non-finite complement. Cf. (i)–(ii).

(i) **Nessuno non è venuto.*
(ii) *Nessuno è venuto.*
nobody (not) is come
'Nobody has come.'

[26]For convenience, I show the quantifiers adjoined to S, but this is somewhat misleading. The reader should keep in mind what is intended by the LFs (i) and (ii).

(i) [Qx : N′(x)] [NP $_{VP}$[V . . . x . . .]]
(ii) *[Qx : N′(x)] [NP $_{VP}$[V . . . x . . .]]

(i) says that the sentence has a reading in which the quantifier includes in its scope VP, and (ii) says that the sentence has no reading in which the quantifier includes in its scope VP. Despite the appearance of these LFs, the scope relations between the quantifier and the subject NP are irrelevant to the discussion.

[27]The judgments in (85)–(95) do not change if *force* or *ask* is replaced by another verb—*believe*-type, *want*-type, causative, or control verb.

[28]Note that XP in (94a) and (95a) can be either θ-marked (86) or adjunct (87).

[29]I see no principled way to specify S_1 as an opaque category for just the subject quantifier in (94). Consider the problem presented by an example such as (ii), noting first that the LF in (i) is excluded since the quantifier *everyone,* as shown in section 4.1.2.1, must include in its scope VP_0.

(i) *John* $_{VP_0}$[*believes* [*everyone to* [*have married none of his friends*]]].
*John believes [[none x : one(x) of his friends][every y : one(y)] y married x]
*'John believes that none of his friends did everyone marry.'
(ii) *John believes* $_{S_1}$[*everyone to* $_{VP_1}$[*have considered none of his friends eligible*]].
John believes $_{S_1}$[*everyone to* $_{VP_1}$[*have considered his friends eligible for none of the jobs*]]

A theory that specifies S_1 as the opaque category for the subject quantifier in (94) and similarly specifies S_1 for the subject quantifier *none of his friends* in (ii) must at the same time make S_1 obligatorily transparent to the higher subject *everyone* in (ii) and optionally transparent to the object *none of the jobs.* It is difficult to imagine why S_1 should be opaque to the subject in VP_1 but transparent to the subject of S_1.

[30]The "clauses" of (97) share another property. Rizzi (1982) observes that a negative quantifier which is a subject may have scope outside its opaque domain if it has been inverted. Only (i b) can have the corresponding LF in (ii).

(i) a. *Non pretendo che* ***nessuno*** *sia arrestato.*
b. *Non pretendo che sia arrestato* ***nessuno.***
(I) not require that (nobody) be arrested (nobody)
(ii) a.*[No x : one(x)] I require that x be arrested
b. [No x : one(x] I require that be arrested x
'I do not require that anyone be arrested.'

Heavy NP shift has the same effect in (97b). Only (iii b) has the corresponding LF in (iv).

(iii) a. *John asked (Mary) to consider none of his friends (to be) eligible.*
b. *John asked (Mary) to consider (to be) eligible none of his friends.*

(iv) a.*[No x : one(x) of his friends] John asked (Mary) to consider x (to be) eligible
b. [No x : one(x) of his friends] John asked (Mary) to consider (to be) eligible x
'John did not ask (Mary) to consider any of his friends eligible.'

[31]The choice of (97) will require that the rule of S'-deletion become instead a rule deleting both S' and S. Either choice will maintain an essential difference between control and raising s-structures. In contrast to the subject quantifier in (89b), the quantifier controlling PRO can have wide scope.

(89) b. *John asked (Mary) to consider none of his friends to be responsible for an assignment.*
In all these years, John asked (Mary) to consider not a single friend to be responsible for an assignment.
*[none x : . . .] NP asked (NP) [PRO to $_{VP1}$[V x to VP]]

(i) *John asked (Mary) to persuade none of his friends to be responsible for an assignment.*
In all these years, John asked (Mary) to persuade not a single friend to be responsible for an assignment.
[none x : . . .] NP asked (NP) [PRO to $_{VP_1}$[V x [PRO to VP_2]]]

Note that the object of *persuade* is not the subject of any predicate, the subject of VP_2 being PRO. VP_1 is therefore not an opaque domain for the quantifier. VP_1 in (89) is, however, a "clause" as discussed in the text.

This difference in the possibility of wide scope is another argument against a rule of raising that would derive an s-structure such as (ii), which is essentially identical to the s-structure of a control verb.

(ii) . . . $_{VP}$[V NP $_S$[e to VP]]

The remaining difference between PRO and NP trace does not provide an obvious explanation for the contrast between (89) and (i).

The above explanation for this contrast depends on the infinitival '[PRO to VP]' not being a predicate. In so far as this explanation is correct, it is an argument against Williams' (1980) analysis of obligatory control as predication (see n. 2).

THE TEMPORAL INTERPRETATION OF PREDICATION

Jacqueline Guéron*
Teun Hoekstra†

**UFR d' études anglo-américaines*
Université Paris X–Nanterre
92001 Nanterre, France

†Department of Linguistics
Leiden University
2300 RA Leiden, The Netherlands

1. SMALL AND FULL CLAUSES

Small Clauses (SC) in the sense of Stowell (1981) are limited to maximal projections of lexical categories.[1] The subjects of full clauses thus constitute an exception to the general idea that subjects are specifiers of the projection of a lexical head.[2] Disregarding this exception, Stowell's approach can be seen as the first explicit proposal to generate θ-bearing DPs inside the projection of their θ-assigner, a generalized version of the so-called VP-internal subject hypothesis which appeared somewhat later. Let us formulate this generalized hypothesis as in (1) (cf. Hoekstra, 1984, section 2.6).

(1) All θ-roles are assigned within the maximal projection of the θ-assigning head.

The subject of verbs in full clauses normally occurs in a position external to the lexical projection, viz in [Spec,IP], as a consequence of moving from its base position to a position where it can receive formal licensing, e.g., Case. A dissociation thus exists between the position of thematic licensing and the position of formal licensing: the former takes effect inside a lexical

Syntax and Semantics, Volume 28
Small Clauses

projection, the latter inside a functional projection dominating the lexical projection. This dissociation can equally be generalized. Following Abney (1987) and much recent work, we assume that each lexical projection is dominated by one or more functional projections. These functional projections provide the licensing domain of the lexical projection. This can be formulated as in (2).

(2) Each lexical projection is dominated by functional categories which provide the licensing domain of the lexical projection.

Various types of licensing are involved in (2), e.g., Case licensing of argument DPs, feature checking of lexical heads, operator checking of variables, etc. A particular hypothesis we would like to endorse here is that each predication involves a node AGR. If a lexical projection is to be construed as a predicate, its head is checked by AGR, which itself is checked by the subject of predication. In a typical Small Clause structure such as *John foolish* in (3a), then, the head of the secondary predicate will be associated with AGR, yielding a structural representation of the SC-complement as in (3b).

(3) a. *We considered John foolish.*
b. [*John*$_i$ AGR [$_{AP}$ t_i foolish]]

The trace is motivated by (1), while AGR is motivated by the principle of predication. Predication is inclusion: the subject is included in the denotation of the predicate. This is syntactically represented by AGR, which can be thought of as an inclusion operator. One might be inclined to label AGR as a predicate head (as does Bowers, 1993), but that would make the notion of predicate a syntactic primitive, rather than a syntactically defined one.

When it comes to the question as to which categories form the basis of predicates, the most optimal answer would be that each category qualifies as such (cf. Déchaine, 1992). We may assume, for instance, that adjectives are always heads of predicates, unlike nouns, which may either head predicates or arguments. The functional differentiation in this case is not a matter of lexical assignment, but of syntactic determination. Ultimately, then, notions such as predicate and argument arise dynamically, i.e., in the syntax, through the composition of lexical heads with functional domains (cf. Guéron and Hoekstra's 1989 notion of functional determination of categories).

Verbs clearly may also head predicates, on the basis of which we expect to encounter them in SCs as well. This raises the question as to how we can differentiate full clauses from SCs. For Stowell this difference was between a mere lexical projection for SCs and an inflectional projection for full clauses. In more recent conceptions, the difference should be captured in terms of a difference in functional structure. The hypothesis we want to put

forth is that full clauses are characterized by the presence of a Tense Operator, while SCs lack a Tense Operator. This is formulated in (4).

(4) Full clauses contain a Tense chain headed by a Tense Operator.

In this chapter we develop the notion of Tense chain (T-chain), extending ideas of Guéron and Hoekstra (1989), and discuss the temporal interpretation of SCs. We show how the predicative basis of both verbal and non-verbal elements is integrated into a referential domain. Note that a predication requires such embedding: thus a SC such as *John ill* or *John in the garden* is not in itself a complete object, except for "zero-copula" languages (see Rothstein, this Volume). One way of integrating a non-verbal predication into a complete object is by means of an auxiliary element to form a T-chain, as discussed in section 2. Two other ways are illustrated in sections 7.1 and 7.2.

2. THE SIMPLE TENSE-CHAIN

Guéron and Hoekstra (1989) proposed that a minimal T-chain consists of a Tense Operator (TO), a Tense-position, and a verb. The TO was situated in C, as proposed by Enç (1987), and has as its unmarked value the time of the utterance (Reichenbach's, 1948, notion of Speech time). We would now like to formulate this slightly differently. The TO itself does not occupy the C-position, but rather is situated in its SPEC. It ranges over the discourse world. The operator determines the value of C, which contains the reference time (R). In the unmarked case the operator is deictic, and it determines the value of R to be the current interval, i.e., the Now.[3]

The Tense node itself is conceived of as a pronominal variable, and the verb is related to Tense by providing it with an *e*-role in the sense of Higginbotham (1985), where *e* is meant to denote eventuality. Eventuality includes at least two different aspectual types, viz. states and events. We take it that Tense has two values, [±PAST]. [−PAST] represents an anaphoric relationship, while [+ PAST] is of pronominal nature, i.e, subject to principle B. Thus [−PAST] situates the eventuality at or within the domain of the speech time, while [+ PAST] requires that the eventuality be disjoint from the speech time. For the simple French cases in (5), this gives the adequate interpretation that John's reading of this book takes place within the context of the speech time, and in a period disjoint from the speech time, respectively.

(5) a. *Jean lit* *ce* *livre.*
Jean read-PRES this book
TO_i TNS_i [Jean $read_i$ this book]

b. *Jean lut ce livre.*
Jean read-PAST this book
TO_i TNS_j [Jean $read_j$ this book] $i \neq j$

A few remarks are in order here. First, the fact that disjointness is interpreted as PAST results from the definiteness of the pronoun. Definiteness here is to be taken as realized, i.e., realis, which allows only PAST, not future. Future we take to be an interpretation of modal or non-realized, but we shall not elaborate on it here.[4] Second, it is no coincidence that we illustrate the working of the T-chain with French examples. As we discuss below, simple tenses in several languages, including Dutch, English, and Spanish, cannot be used to construct sentences in which ongoing activities are denoted. Rather, for such cases an imperfective construction like the English progressive must be used.

In languages like English or French, a simple T-chain terminates in a verb, i.e., there are no T-chains of the form (TO, TNS, X) where X is something other than V. Conversely, while elements of categories other than V are found in various syntactic environments, verbs appear to require a licensing by TNS, with a number of oft-noted exceptions (specifically in causatives). A T-chain itself might thus be thought of as the functional determination of the category V. Observations of this type suggest the formulation in (6).

(6) The relationship between Tense and Verb is biunique.

One version of (6) would assume that all and only verbs have an *e*-role, and that Tense must bind an *e*-role. The biuniqueness would then follow from something like the event criterion, which says that each *e*-role must be assigned to a unique *e*-role bearer. From this (6) would follow if only verbs have *e*-roles, and only Tense can be an *e*-role bearer. Under this perspective, (6) reduces to a semantic property of verbs (cf. Higginbotham, 1985; Pollock, 1989). Alternatively, we might attribute (6) to some morphosyntactic property of verbs, e.g., that verbs are lexically assigned a tense feature which must be licensed, or checked by a functional category TNS, much in the spirit of Chomsky (1993). If matching features are eliminated, the biuniqueness again follows straightforwardly.

Yet, neither of these alternatives seems fully correct. First, in serial verb constructions, several verbs appear to be licensed in one single domain. Different situations can be distinguished here in terms of overt elements. First, tense may be represented independently; second, only one of the verbs is Tense-inflected; third, all verbs which are serialized bear the same Tense inflection. This raises various questions with respect to the morphological checking account. As for the *e*-role–based account, it is not immediately evident whether it is indeed distinct from a morphosyntactic account as long as no specification is given as to what an *e*-role is.

To elaborate on this, if all and only verbs have an *e*-role, it is unclear whether we are dealing with a relevant semantic property. Kratzer (1989) and Diesing (1992) argue that predicates can be divided into those that have an *e*-role versus those that do not, a distinction that is similar (if not identical) to the stage–individual level distinction between predicates proposed by Carlson (1977), and a distinction that cuts across the categories verb and adjective. So, by various tests they show that a verb such as *know* differs from a verb such as *speak,* which they capture by saying that the former lacks an *e*-role, which the latter has. Clearly, however, this difference does not bring with it a difference with respect to the requirement of Tense-linking: both types of verb require a Tense inflection. On the other hand, an individual-level predicate such as *know* is semantically similar to an individual-level predicate such as *intelligent,* yet the latter does not require Tense inflection, any more than does a stage-level adjective such as *available.*

Yet, the idea that the backbone of a T-chain is the predication of an eventuality seems correct. Let us therefore try to give it more substance. To start, let us compare the adjectives in (7a) and (7b).

(7) a. *The sick boy came in.*
b. *The boy was sick.*

In (7a), the adjective is not used to denote an eventuality. Rather, it is a predicate restricting the range of the determiner under conjunction with the *boy* predicate, while the eventuality which is denoted by the sentence is that of an entering-event of this sick boy. In (7b), in contrast, the eventuality denoted by the sentence is that the predicate *sick* holds of the boy at the reference time of the sentence, which is some interval dissociated from the moment of speech. The tense-inflected element in this case is the verb *be,* but this verb does not itself bear any event-role, i.e., it denotes neither a state nor an event. In order to accommodate this situation, we propose the mechanism of T-chain extension under T-marking. The verb *be* T-marks the adjective, which as a result becomes part of the T-chain, supplying it with descriptive content and satisfying the T-chain criterion formulated in (8).

(8) T-CHAIN CRITERION
Each T-chain bears an *e*-role.

The notion of *e*-role is now in part syntactically defined: lexical content (here that of the adjective) is construed as an *e*-role. In the same vein, nouns can supply an *e*-role to a T-chain, just as they supply an R-role, in the sense of Williams (1981), if part of a D-chain, i.e., the nominal counterpart of T-chains (cf. below).

Adjectives lexically possess agreement features, which allow them to function as predicates. The predication they form by virtue of their inherent lexical content and their agreement features may form the basis of a T-chain. Because they lack the relevant features required for direct composition with Tense (e.g., person), they cannot by themselves predicate of a temporal object, however.

Verbs are not lexically ambiguous in this way: they are Janus-faced, with two sets of features, in the normal case. Verbs have agreement features, by virtue of which they form predicates; and they have tense features, by virtue of which they contribute to composing a T-chain (cf. Zagona, 1993). A verb which lacks lexical content must tense-mark some other agreement-bearing element in order for the T-chain to satisfy (8). We see, then, that neither the morphosyntactic nor the semantic approach per se is sufficient: rather, a combination of both results from an adequate interpretation of the T-chain criterion in conjunction with the notion of T-chain extension.

Verbs that tense-mark their complement, allowing an extension of the T-chain, may be called auxiliaries. Clearly, verbs which themselves have lexical content in terms of which a predication can be formed should not be allowed to T-mark their complements, as otherwise two lexical contents become part of the same T-chain. It seems reasonable to insist that a T-chain have a unique lexical head to provide an *e*-role. The verb *be* is an auxiliary in this sense.[5]

A T-chain, in summary, is a complex object, with two features. It has lexical content construed as an *e*-role, denoting the eventuality which is predicated of a temporal object located within some discourse domain via an operator. And it contains a predicate connected to its subject via agreement. The tense features and the *e*-role may be found in a single element or may be distributed over a verb and its complement if the verb lacks the descriptive content necessary to supply an *e*-role.

3. "VERBAL" COMPLEMENTS TO BE

The present perspective makes progressive constructions and simple predicative structures identical: in both cases the complement of *be* supplies the *e*-role of the T-chain, with *be* functioning as an auxiliary, as in (9).

(9) a. *John is ill.*
TO$_i$ TNS$_i$ BE$_i$ [John ill$_i$]
b. *John is reading a book.*
TO$_i$ TNS$_i$ BE$_i$ [ing$_i$ John read$_i$ a book]

Yet, the progressive structure apparently contradicts the claim in (6) that the relationship between Tense and Verb is biunique. We must therefore analyze the *ing*-morphology more closely. At an intuitive level it is clear what *ing* does in a construction of the type (9b). *Ing* is allowed only with dynamic predicates, i.e., predicates which refer to eventualities which necessarily have an internal structure, consisting minimally of two points in time. Phrased differently, an event denotes a change in the discourse world: to predicate an event of a moment T implies that certain things in the world at T are different from the moment preceding T. In English, as in some other languages, simple tenses cannot denote the ongoing of an event. This does not mean that verbs of this type cannot be used in a simple tense at all. Consider the examples in (10).

(10) a. *John often reads a book.*
b. *OK, I write a letter, if you talk to Bill.*
c. *He enters the room. He sits down. He takes his paper and reads the front pages. He gets up . . .*

The sentences in (10) contain elements which allow dynamic verbs in simple present: in (10a), it is a quantificational adverb; in (10b), the near future interpretation; and in (10c) a narrative present. (10a) is an instance of the habitual or generic interpretation of simple present; we propose here that it is a generic tense operator, rather than the explicit quantificational adverb, which supplies the generic reading. In all three cases there is no dynamic event temporally situated in the present. Apparently, dynamic events do not "fit" in the temporal space provided by the simple tense in the languages which show this restriction (English, Dutch, Spanish, but not French or German).[6] Lacking further insights into the nature of this restriction, we unfortunately have to just stipulate it as a fact.

What then, is the role of *ing?* We may regard a structure of the form BE + *ing* + VP as a kind of partitive structure. *Ing* is a partitive quantifier which selects an arbitrary instance from the interval denoted by the dynamic predicate. *Ing* is thus like an indefinite determiner, which also picks out an arbitrary member of the set denoted by its complement. If we take the event structure of dynamic verbs to be a linearly ordered set of points, *ing* selects an arbitrary member of that set. Schematically, this can be represented as in (11).

(11) ing_i [*read a novel*]
$t \ldots t_i \ldots$

where t stands for a moment in the interval denoted by "read a novel," and *ing* is coindexed with an arbitrary member inside this interval. The reason progressives cannot be constructed with stative verbs is precisely the lack of an internal structure with such verbs. Their denotation is like that of mass

nouns, which equally cannot be combined with an indefinite determiner (cf. **a water*). The result of applying *ing* to a dynamic verb is a stative predicate, similar to non-verbal complements to *be,* more specifically to complements of the stage-level type: its subject is placed, by predication invoked by AGR, at an arbitrary point inside an event. This localist view makes it understandable that progressives take the form of a locative construction in many languages, as in the Dutch progressive construction in (12).

(12) a. *Ik ben aan het lezen.*
I am at the read-INF
'I am reading.'
b. *Ik ben aan het opruimen.*
I am at the up-clearing
'I am cleaning up.'

Alternatively, Dutch progressives are constructed with posture verbs, as illustrated in (13).

(13) a. *Ik zit te lezen.*
I sit to read-INF
'I am reading.'
b. *Ik loop al de hele morgen op te ruimen.*
I walk already the entire morning up to clear
'I have been cleaning up all morning.'

Assuming as we did above that simple tenses are point-like, the claim that *ing* picks out a moment from an interval makes the progressive consistent with the point-like nature of tense. The point-like interpretation of both progressives and other complements to *be* in English is further evidenced by the following observation. If the complement of *be* is modified by a durational adverbial, English must use a present perfect, as in (14).

(14) a. *I have been ill for three days.*
b. *I have been reading this book since this morning.*

The similarity in behavior in this respect can be taken as support for our similar treatment. Yet, the treatment itself raises questions about (6): clearly, in progressives the tense inflection is found on *be,* a verb, and not on the lexical element in the complement of *ing.* If we want to maintain (6), two routes are open to us: either we consider *ing* a tense itself, so that we are dealing with a structure as in (15), or verbal status is denied to the lexical element in *ing*'s complement.

(15) TO TNS V TNS V
BE *ing* *read*

We argue below that *ing,* even while occupying a tense position, need not be taken to be tense inherently, i.e. to have a tense value. Rather its role

is functionally determined. Recall that the lexical base of a T-chain is not necessarily verbal. Hence the fact that *read* functions as such is not by itself sufficient motivation to assume that either *read* or *reading* is verbal. The next thing to note is that a tense requirement on V-stems is not always relevant. In all deverbal morphology, be it in *-er* (*reader*) or in *-ion* (*destruction*) forms, the verbal stem is obviously not linked to tense. Yet, there is an important difference between these cases of verbal morphology and the *ing* forms under discussion: in the latter case the verbal nature is manifested by Case-licensing of the object. In the Dutch progressive construction exemplified in (13), this case-licensing potential is equally maintained.

(16) a. *Dat Jan dit boek aan het lezen is.*
that John this book at the read-INF is
'That John is reading this book.'
b.**Dat Jan aan het dit boek lezen is.*
c.**Dat Jan aan dit boek het lezen is.*
d.**Dat Jan aan het lezen van dit boek is.*

As is clear from the presence of the determiner, the infinitive is nominalized in (16). The object, while dependent on the nominalized infinitive, is necessarily realized outside the *aan het* V-INF structure. We analyze this along the following lines. First, we adopt the hypothesis that objects are assigned Case (alternatively, that their Case is checked) by virtue of a Spec-Head relationship inside an agreement projection (cf. Kayne, 1989; Chomsky, 1993). Clearly, this AGR-position must be included in the T-chain, as otherwise intervening heads would have to be skipped. AGR can only legitimately check the Case of the object if AGR is linked to a verb which is transitive (cf. Chomsky, 1993). The transitive verb itself does not have to raise to this O-AGR (or any higher functional nodes), for its feature complex is checked in the nominalized domain, i.e., the infinitival form as such does not require feature-checking by either Tense or AGR. Nor could it raise there, as BE intervenes. We propose, therefore, that the verb's case feature is made available to O-AGR through the T-chain, a mechanism that can be regarded as the mirror image of chain government (cf. den Besten, 1985). The English progressive is amenable to the same analysis. The structure of (9b) under these assumptions would be as in (17).

(17) TO_i *John* S-AGR TNS_i O-AGR is_i *ing* $read_i$ [*a book*]

Movement of the object DP *a book* to the O-AGR is postponed in English until LF, while it takes place in the syntax in Dutch. Here it is checked against O-AGR. The verb *is* raises step by step to S-AGR, where its features are checked for TNS and AGR. It moves through O-AGR and licenses the ACC-relevant features of this AGR via its T-chain relationship

with *read*. The inflectional form *reading* itself does not need to be checked outside the complement of *be*. Its contribution to the higher functional domains is twofold: it provides the lexical content for the T-chain, and it licenses the ACC-feature in O-AGR. Both aspects are covered by the T-chain extension.

The current perspective provides one of the stronger arguments in favor of the hypothesis that objects must be Case-licensed under Spec-Head agreement rather than under government by V. As an alternative to the analysis provided above, one might say that the verb in *ing* may assign Case under chain government, where the chain is identified as a T-chain along the same lines. However, that would not account for the ungrammaticality of (16b–c). These show that the object must move away from the verb, let us say to O-AGR. Parsimony requires that this movement equally apply in English, where it is postponed until LF.

The representation in (15), then, according to which *ing* is analyzed as a tense, finds no motivation in the case-assigning properties of the progressive construction. We may therefore conclude that *ing* is not a Tense even though it occurs configurationally in a tense position, and hence that there is a single T-chain, with a single Tense in progressive constructions.

4. GERUNDS: NOMINAL AND VERBAL

In this section we discuss *ing*-forms in gerunds, to see whether the functional determination we argued for in the previous section allows us to capture the differences between nominal and verbal gerunds, illustrated in (18).

(18) a. *John's/the growing of tomatoes*
b. *John's/*the growing tomatoes.*

In (18a) the construction appears "fully" nominal: the object is rendered in an *of*-phrase, and the *ing*-complex may take an article as its determiner. In terms of the functional determination of categories mentioned above, this would lead us to say that *-ing* is part of a D-chain, and hence taken as nominal. The entire functional structure is that of nominal structures. In (18b), on the other hand, while the rendering of the "subject" with genitival *s* is typical of nominal (functional) structures, the realization of the object in bare form, let us say accusative, suggests verbality. In the foregoing we argued that there is no reason to attribute verbality to the *ing*-form on the basis of Case availability: rather we suggested that Case-licensing took place in O-AGR, where the Case feature of O-AGR itself is supplied by a

T-chain extending to the transitive verbal base. If this is correct, we are led to also postulate an O-AGR projection within which the object is checked for Case at LF, with the Case feature being determined by the verbal base of the *ing*-form through a chain. Does (18b) then contain a T-chain?

The following consideration suggests that the answer to this question is yes. We noted that auxiliaries are members of T-chains. Specifically, it seems reasonable to assume that aspectual auxiliaries (HAVE and BE) function like modifying elements inside the T-chain. Interestingly, case-licensing of the object of an *ing*-form and the option of aspectual auxiliaries are correlated, as shown by (19).

(19) a. *John's having passed (*of) this exam.*
b.**The having passed (of) this exam.*

If the presence of *have* in the structure is indicative of the presence of a T-chain, the impossibility of *of* in (19a) is an automatic consequence of the analysis: *of* would preclude the raising of the object to O-AGR by the principle of greed (cf. Chomsky, 1993), so that O-AGR's features will not be removed by checking at LF, and the derivation crashes.

This analysis raises the question as to why only genitival specifiers are allowed in "verbal" gerunds, now taken to be gerunds with an internal T-chain. At this point we would like to broaden the scope of our discussion somewhat.

Let us begin by considering the role of the T-operator. As we explained above, the role of this operator is not to tense-license the verb (i.e., a morphosyntactic property), but rather to hook the TNS-V complex to the world, i.e., to make the predication referential. We now generalize this conception to all referential expressions, which we therefore take to all be operator phrases. Operators, then, come in two varieties, T-operators and D-operators. They have in common the role of hooking their descriptive domain to the world; hence their deictic nature. Their deictic content licenses a person feature in AGR: it is only through reference to the discourse that distinctions between first and second person can be made. This captures the (as far as we know valid) empirical generalization that person agreement is limited to argument agreement, i.e., that it is never found on agreeing modifiers. The latter agreement appears to be restricted to gender and number. While both T- and D-operators license person, then, only T-operators license tense. This gives us the two structures in (20).

(20) a. $[_{\text{OP-P}}$ TO [DP AGR . . .
b. $[_{\text{OP-P}}$ DO [DP AGR . . .

In (20a), the operator position is taken by a T-operator; in (20b), by a D-operator. The structure in (20b) is more transparently visible in Hungarian DPs, as in (21).

(21) a. *az en haz-am*
the I house-1SG
'My house'
b. *a te haz-ad*
the you house-2SG
'your house'

We take *a(z)* to make the D-operator in its specifier visible. It licenses AGR with a person feature, agreeing with a nominative DP in its SPEC. Alternatively, in Hungarian nominal structures, the specifier may raise to the D-operator, i.e., to the specifier of *a(z)*, where it occurs with Dative Case, as in (22).

(22) a. *nek-em a haz-am*
DAT-1SG the house-1SG
'my house'
b. *nek-ed a haz-ad*
DAT-2SG the house-2SG
'your house'

In English, such raising of the "subject" to Spec-OPP is the only option, with AGR moving to the head position, as in (23).

(23) $[_{\text{OP-P}}\ John_i\ s_j\ [\text{AGRP}\ t_i\ t_j\ house]]$

According to this analysis, then, genitival *s* is an agreement morpheme, indicating person, which is raised to the D-position, rather than a D itself. The D-operator is empty in this case, as is the normal situation in the case of a T-operator.[7] This very fact creates a potential ambiguity: *John's* may lexicalize either a D-operator or a T-operator, while *the* uniquely identifies a D-operator. If *John's* is lexicalizing a T-operator, this T-operator not only licenses the person feature in AGR, but it also licenses Tense, which itself licenses the building of a T-chain downward in the configuration. Hence, through licensing Tense, the T-operator indirectly also licenses the O-AGR position. The ambiguity thus results in (24).

(24) a. *John's reading the book.*
b. *John's reading of the book*

In (24a), the operator is a T-operator, licensing the AGR, TNS and O-AGR, as required. In (24b), the operator is a D-operator, which does not license TNS, which therefore in turn cannot license O-AGR. Hence the object of *read* cannot be licensed by ACC-case in (24b); nor can it be so licensed if there is a D-operator corresponding to *the*.

To sum up: in verbal gerunds, a T-operator heads the structure, giving rise to the building of a T-chain. This involves a Tense-node and two AGR-nodes, in terms of which the case assignment to the object can be readily explained. The postulation of a T-operator explains other properties of verbal gerunds, such as the possibility of aspectual auxiliaries and the fact that modifiers are adverbial [cf. (26b)], as well as the lack of pluralization in such structures. Referential number is a property of D-chains. Nominal gerunds, in contrast to verbal gerunds, are headed by a D-operator. Hence, plurals are allowed as in (25), modification is done by adjectives [cf. (26)], objects are not licensed by ACC-case, but rather require *of,* and aspectual auxiliaries are not permitted (see Wasow and Roeper, 1972, for discussion).

(25) a. *Sightings of UFO's make Mary nervous.* (cf. Wasow and Roeper, 1972)
b.**Sightings UFO's make Mary nervous.*
c. *Sighting UFO's makes Mary nervous.*

(26) a. *I enjoy graceful diving.*
b. *I enjoy diving gracefully.*

Wasow and Roeper (1972) cite two other properties which are amenable to explanation under the current analysis. First, they note that nominal gerunds take *no* as their negation, while verbal gerunds take the sentential negation *not,* see (27).

(27) a. *No reading of the book will satisfy me.*
b. *Not reading the book will not satisfy me.*

Under the assumption that *not* requires a T-operator, the distinction in (27) follows immediately. This is in congruence with Zanuttini's (1991) hypothesis that negation depends on Tense. Secondly, Wasow and Roeper note a difference in the interpretation of non-overt subjects: in (26a) the diving can be done by anyone, but in (26b) the subject of the verbal gerund must be controlled by the matrix subject. This control will follow from whatever the right theory of control is, but the difference here parallels the difference in (28).

(28) a. *I hate the destruction of our city.*
b. *I hate to destroy our city.*

In conclusion, then, our approach to *ing* in terms of functional determination by the syntax, specifically by the formation of a T-chain, not only applies to progressives, but extends to the domain of gerunds.

5. PAST PARTICIPLES

The hypothesis that licensing O-AGR is dependent on the formation of a T-chain, and hence on the involvement of a TNS licensed by a T-operator, has further desirable consequences, specifically with respect to past participial structures. The treatment of such participial complements should be similar to present participial complements. Consider (29).

(29) *John has read the book.*

It seems unlikely that *have* contributes the event-role: rather, *have* is an auxiliary, i.e., an intermediate link in the T-chain, headed by a T-operator. Unlike present participial constructions, however, the auxiliary required in this case is HAVE, rather than BE.[8] We take it that HAVE differs from BE in being "transitive," i.e., an element which inherently provides a case feature to its associated O-AGR by which the ACC-case of the object can be checked (cf. Hoekstra, 1993; den Dikken, 1993). A first approximation of the T-chain in (29) is given in (30).

(30) TO_j S-AGR TNS_j O-AGR $HAVE_j$ . . . . . $read_j$ DP

where S-AGR checks the agreement features of *has* and O-AGR is checked against the DP-complement of *read* after LF-movement of DP to its Spec. The T-chain extends down to *read* in order to satisfy the requirement that the T-chain have an *e*-role. We will now try to fill in the dots in (30). Suppose a full T-chain were present in HAVE's complement, as in (31).

(31) HAVE TO_i S-AGR TNS_i O-AGR V_i

The presence of an independent T-operator in (31) is inconsistent with our claim that *read* is the foot of the matrix T-chain. We conclude therefore that no T-operator is present in the complement of HAVE, but that a single T-chain is built. Accordingly, the node TNS is not directly licensed by a T-operator, and cannot, in turn, license O-AGR as case assigner and agreement checker. O-AGR is thus not activated, although it may be syntactically present and either empty or occupied by lexical material as in the Dutch participle mentioned below. This conclusion is at odds with the rather common assumption that O-AGR is available in participial structures (cf. Kayne, 1989) in order to account for the agreement found in case the object has moved, either as a clitic, or by A-bar movement, as in the French examples in (32).

(32) a. *Je les ai lu-s.*
I $them_j$ have read-AGR_j
b. *Quels livres as-tu lu-s?*
Which $books_j$ have-you read-AGR_j

Yet, it would be surprising if this participial agreement indeed instantiated O-AGR for the following reasons: (a) French normally has no visible object agreement; (b) the relative positions of agreement and what we take to be TNS is [[[stem] TNS] AGR]. By the mirror principle (Baker, 1985; Chomsky, 1993), this ordering would inversely reflect the hierarchical ordering if AGR were to instantiate O-AGR; (c) if O-AGR were involved, it remains unclear why clitics cannot reside on the participle, assuming these originate in O-AGR. These considerations support the hypothesis that O-AGR is not involved, as a consequence of the absence of a T-operator to license it.[9]

Let us next turn to the node TNS in (31). Various suggestions have been made that this node should not be labeled TNS, but rather ASP(ect). We nevertheless take it to be (syntactically) TNS. In fact, the very morpheme instantiating this node is very often identical to the past tense morpheme. This is true for Dutch, as shown in (33), and Hungarian, as shown in (34).

(33) a. *dat Jan wandel-d-e.*
that John walk-D-AGR
'that John walked'
b. *dat Jan ge-wandel-d heeft.*
that John GE-walk-D has

(34) a. *Janos lat-o-tt egy kutya-t.*
John see-O-PAST a dog-ACC
'John saw a dog.'
b. *Az ldz-tt kutya.*
The chase-PART dog
'The chased dog.'

The same holds, obviously, for English, with a number of lexical differences between participles and past tense forms. Even more transparent is the situation in Standard Arabic. Much discussion has been devoted in the literature as to whether Arabic inflected verb forms should be taken as instantiating aspect or tense (cf. Fassi Fehri, 1993). As (35) shows, both the past/perfect form and the present/imperfect form occur as primary and as secondary elements in what we identify as a T-chain, i.e., a single T-operator domain.

(35) a. *Katab-a Zayd-un l-maktub-a.*
write-PAST-3MASC.SG Zayd-NOM the-letter-ACC
'Zayd wrote the letter.'
b. *Ya-ktub-u Zayd-un l-maktub-a.*
3MASC.SG-write-3MASC.SG Zayd-NOM the-letter-ACC
'Zayd is writing/will write the-letter.'

c. *Kaan-a Zayd-un ya-ktub-u l-maktub-a.*
BE-PAST-3MASC.SG Zayd-NOM 3MASC.SG-write-3MASC.SG the-letter-ACC
'Zayd was writing the letter.'

d. *Ya-kun-u Zayd-un qad katab-a l-maktub-a.*
3MASC.SG-BE-3MASC.SG Zayd-NOM already write-PAST-3MASC.SG the-letter-ACC
'Zayd will have already written the letter.'

We would like to resolve this issue on Tense and Aspect by giving the functional definition of these notions in (36).

(36) Tense is a tensed form directly bound by a T-operator.
Aspect is a tensed form not directly bound by a T-operator.

The fundamental difference is whether Tense is deictically interpreted via a T-operator which directly links it to a referential domain, or whether it is dependent, relating the event of its verbal base to a nondeictic anchor. In the latter case, tense is relative, rather than deictic.

Given these definitions, the TNS in (31) is indeed tense, but as it is not interpreted directly through a T-operator, it is construed as aspectual. The aspectual nature is PAST, i.e., anterior, which places the event of the verb in the past of the reference point obtained through the T-chain. Just as *ing* was taken as similar to an indefinite determiner, the past Tense morpheme might be compared to a definite determiner (cf. Guéron, 1993): it does not select an arbitrary member of the (ordered) set, but rather a particular one, viz., the last. Thus the last member of a "read a book" event is selected, and positioned relative to an anchor point. The resulting interpretation is that the event precedes this anchor point.

As Tense is not directly T-operator–licensed, O-AGR is not activated. We take it that O-AGR is occupied by the participial morpheme *GE* in Dutch while it is empty in other languages, but we shall not elaborate on this here (cf. Postma, 1992). This approach makes past participles inherently "passive." They are active only when a T-chain stretches down from the "transitive" auxiliary HAVE.[10] This inherent "passive" nature of participles is evidenced by their "absolute" use, as adjuncts. Here, they occur with non-overt subjects corresponding to their notional object, as in (37).

(37) a. *The man,* [PRO *caught by the police*], *was put in jail.*
b. *John entered the room,* [PRO *loaded with presents*].

Italian has one context which contradicts this situation, viz., absolute participial constructions of the type in (38), as discussed by Belletti (1981).

(38) *Conosciuta-mi, Gianni . . .*
known-FEM-SG-me, Gianni . . .
'Once he has known me, Gianni . . .'

Here the non-overt subject corresponds to the notional subject, while the notional object is overtly realized, as an enclitic. Rather than constituting a problem for our approach, this structure supports it. The enclitic order can be taken to result from movement of the participle to an operator position, in the absence of an intervening auxiliary. The tense being directly operator-licensed, the AGR-position is licensed, and so is the object. A different situation is found in French examples of the type in (39), where the participle does not move in the way it does in Italian, but where the temporal adverbial *une fois* acts as a T-operator, which in turn licenses AGR (cf. Guéron and Hoekstra, 1989:71).

(39) a. *Une fois les enfants venus/habillés, nous partirons.*
'Once the children have come/are dressed, we will leave.'
b.**Une fois les enfants chantés . . .*
'Once the children have sung . . .'

6. ADJUNCT STRUCTURES

We have so far seen three different uses of English *-ing:* (a) in progressives (i.e., complement position); (b) in adjuncts (i.e., reduced relatives and predicative/adverbial adjuncts); (c) in gerunds. We may wonder whether these three distributions feature the same *ing* or different *ing*'s. At first blush, we might be inclined to assume that different *ing*'s are involved, in that *ing* requires dynamic or at least transient verb types in the progressive, but not in other environments, as in (40)–(41).

(40) a.**John is knowing French.*
b.**John is resembling his brother.*
(41) a. *Knowing French as well as he does, John felt confident enough to go to Paris.*
b. *Resembling his brother as closely as he does, John is often mistaken for him.*

Yet, upon closer scrutiny, the distinction between dynamic predicates and stative predicates cuts across the three environments. First, while adjuncts based on dynamic predicates can be interpreted as contemporaneous with the matrix clause event, adjuncts based on stative verbs can only be interpreted as causally related to the matrix event, as in (42).

(42) a. *Walking to school, John met his friend.*
b. *Playing at the neighbors', John had an accident.*

There is no causal relation between John walking to school and his meeting his friend: the two events are merely temporally related. No such neutral temporal relationship is possible in (41). Likewise, in the domain of gerunds, *ing* forms based on stative verbs are permitted only in "verbal" gerunds, not in "nominal" gerunds, contrary to those based on dynamic verbs, as in (43)–(44).

(43) a. *John's/*the knowing (*of) the answer*
b. *John's/*the resembling (*of) his brother*
(44) a. *John's beating (of) his brother*
b. *the growing of tomatoes*

The fact that the distinction cuts across these three different environments supports the idea that one and the same element is involved. The distribution of the present participle in other languages is more limited than in English. Specifically, it is not used in progressive constructions, as complement of BE, (with a few exceptions) in Dutch or French. This suggests that some difference between progressives (BE-complements) and participial adjuncts must be made.

Clearly, we would want the function of *ing* to be the same in all cases, if possible. In progressives we argue that *ing* functions as a bridge between the point-like nature of Tense and the complexity of the temporal structure of the VP, by selecting an arbitrary point in the interval denoted by the complement which is related through BE to the point of TNS, as in (45).

(45) TO TNS BE ing_i $[_{VP} \ldots\ldots_i \ldots$
. = .

The Tense point is inserted in the interval denoted by the T-operator. Note that *-ing* cannot be directly related to the TO, as TNS + BE intervenes.

We said earlier that French simple tense is compatible with transient eventualities. Assuming that a simple present is more economical than a complex BE + participle construction, the fact that present participles are not acceptable in Dutch and French complement position follows from economy. The same can be said about the prohibition of the progressive in the case of stative verbs in English. Note that if development becomes relevant, verbs such as *know* and *resemble* do allow the progressive, as in (46).

(46) a. *John is resembling his brother more and more.*
b. *John is knowing French better every day.*

Let us now turn to adjuncts. By the criteria we developed in our analysis of verbal and nominal gerunds, we are led to postulate a T-operator in these adjunct domains. We argued that the presence of sentential negation is dependent on licensing by a T-operator, as is the activation of O-AGR and the possibility of aspectual auxiliaries. We see in (47) and (48) that these properties are found in adjuncts.

(47) a. *Not knowing the answer, John felt at a loss.*
b. *This student, not having written any paper, should be flunked.*

(48) a. *N'ayant pas eu d'enfance heureuse, Jean écrit des romans.*
'Not having had a happy childhood, Jean writes novels.'
b. *Cet étudiant, ne travaillant pas beaucoup, a échoué.*
'This student, not working enough, failed.'

We can now postulate (49) as the structure of an adjunct present participial structure.

(49) TO_j S-AGR TNS_j O-AGR V_j

Pollock (1989:408) shows that the participle moves to a higher functional position in French than in English. Following Chomsky (1993), we will assume that English postpones this movement until LF. The relevance of Pollock's observations is that nothing intervenes between the participle and the T-operator, unlike the situation in *ing* complements in English, where BE intervenes. In (49), then, the participle is directly linked to a T-operator. If we are correct in assuming that the T-operator is not point-like (cf. above), the function of *ing/ant* is the same as in progressives in English, i.e., it links the eventuality denoted by the verb to its next higher element in the T-chain. The selection of a point in the interval in progressive structures can then be regarded as a consequence of the point-like nature of simple tense in English. No such reduction is required in the case of linking to a T-operator, as this operator ranges over an interval.

Clearly, the T-operator relevant to these adjunct structures is not itself directly deictic: rather, it is dependent on the temporal structure of the domain to which it is an adjunct. In this respect, these participial adjuncts are rather similar to parasitic gap constructions under the analysis proposed in Chomsky (1986), which can be represented as in (50):

(50) OP_j. . . . . vbl_j
OP_i. . . . . vbl_i $\quad i = j$

There are two chains, each connecting an operator to a variable, but the adjunct-operator is itself interpreted through strong binding by the matrix chain. This chain-composition in the case of participial adjuncts leads to a

conjoined interpretation of the dependent chain and the matrix chain, i.e., (47a) is interpreted as in (51a), while (47b) is interpreted as in (51b).

(51) a. TO [*John feel at a loss*] *and* [*not* [*John know the answer*]]
b. *This x* [*student*(*x*)] *and* [*not* PAST [*write any paper* (*x*)]]

The fact that stative predications in adjunct position are not taken as just cotemporal is a general property of such predications, found also in non-restrictive relatives and under coordination.

(52) a. *My father, who is very old, is not skating any longer.*
b. *My father is very old and he doesn't skate anymore.*

In both examples in (52), the interpretation is not neutral: a causal or other relation is superimposed on the mere conjunction of a state and an event, as an instance of e.g., a post hoc/propter hoc effect, which may plausibly be attributed to rules of discourse construction.

Having now established that adjunct structures based on present participles are headed by a T-operator, we next turn to such structures based on past participles. With the exceptions noted earlier, we are now led to conclude that the latter may not have a T-operator. Recall that we hypothesized that the lack of an active O-AGR in past participial structures was due to the absence of direct licensing by a T-operator. Since past participial adjuncts are "passive," i.e., lack an active O-AGR, they cannot therefore have a T-operator, contrary to present participial adjuncts. While this difference may at first sight be surprising, the predictions following from it appear to be correct: past participial adjuncts not only lack the possibility of licensing objects, they equally lack other features which we traced to the presence of a T-operator. Specifically, sentential negation and clitics may not appear in such structures, as is shown by the French examples in (53).

(53) a.**Ces cadeaux, ne pas emballés correctement, ont été rapportés.*
'These presents, not wrapped correctly, have been brought back.'
b.**J'ai cassé cette tasse, y mise par Jean.*
'I broke this cup, put there by Jean.'
c.**Jean a rendu ce livre, lui donné par ses parents.*
'Jean gave back this book, given to him by his parents.'

These adjunct structures are "non-verbal," then, in the same sense in which nominal gerunds in English are "non-verbal." They behave entirely like adjectival secondary predicates, with an AGR linking the subject of predication to it, as in (54).

(54) AGR TNS O-AGR V

Here, TNS is not licensed by a T-operator, and O-AGR is not activated. The tense is PAST, as discussed before, not referentially interpreted, but rather aspectually, i.e., as accomplished.

7. NON-VERBAL SMALL CLAUSES

In this section we briefly discuss two other ways of integrating a non-verbal predication into a referential domain.

7.1. Adjunct Small Clauses

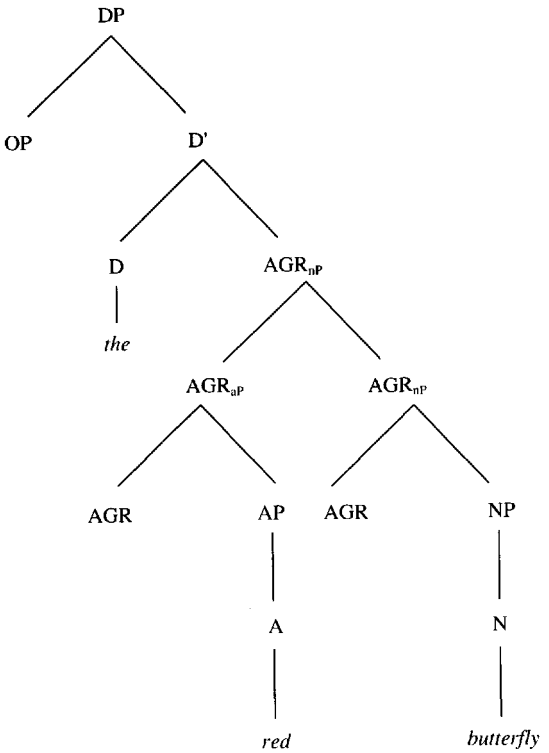
Like adjuncts, adjectival and prepositional predicates occur in three varieties: subject- and object-related predicative adjuncts and noun-related attributive adjuncts. Recall that we have taken the position that each lexical projection is dominated by an AGR, through which it is constructed as a predicate. We take it that the projection of AGR is adjoined to the structure it modifies, and that it is interpreted via conjunction with the object modified. In the remainder of this discussion we limit ourselves to adjectival adjuncts, but it would seem that there are no significant differences with prepositional adjuncts.

For attributive adjectives, the above assumptions lead to the following result. First we assume, without further motivating it, that N is likewise dominated by an AGR-node. A simple noun phrase minimally has the structure in (55).[11]

(55) D_i AGR_i N_i

Here a D-chain is formed from the operator in D's SPEC to the foot of the D-chain, the N. D, like Tense, saturates the descriptive content of N, which we call the R-role, the D-counterpart of a verb's *e*-role (cf. Higginbotham, 1985; Williams, 1981). The adjectival AGR-projection is adjoined to the nominal AGR-projection, yielding the required interpretation for the simple case of intersecting adjectives, as in (56) (for more complicated cases, cf. the references given above).

(56)



(57) *The* [*red and butterfly*]

Proceeding now to predicative APs, we assume that they likewise, as AGR-projections, adjoin to AGR-projections, either to S-AGR, yielding a subject-related predicative adjunct, or to O-AGR, yielding an object-related adjunct. These assumptions allow us to predict the correct relative order of subject and object related adjuncts: if both occur at the end of a clause, the object-related adjunct must precede the subject-related one, as in (58).[12]

(58) *John$_i$ ate the salad$_j$ undressed$_j$,* [*naked as a jailbird*]$_i$.

The example in (58) is from Déchaine (1992), who argues for this particular relative order, noting as well that the subject-related adjunct must be preceded by a clear intonational break and is subject to a heaviness requirement. A further difference between these two is that subject-related adjuncts may occur in sentence initial position, unlike object-related adjuncts:

(59) a. [*Overly angry*]$_i$ *John$_i$ submitted the book.*
b.*[*Only half-way finished*]$_j$ *John submitted the book$_j$.*

This difference is immediately captured if we assume that subject-related adjuncts are adjoined to the S-AGR projection. Finally, the present proposal predicts the correct results for ellipsis, where subject-related adjuncts survive, but object-related adjuncts do not (cf. Déchaine, 1992, and the references cited there).

(60) a. *John$_i$ read the letter outraged$_i$ and Bill$_j$ did upset$_j$.*
b.**John submitted his text$_i$ finished$_i$ and Bill did unfinished$_j$.*

As no verb is present to support O-AGR in the second conjunct, an object-related adjunct is not allowed.

As for the interpretation, all adjuncts are interpreted under conjunction. So, *John entered the room angry* is interpreted as the conjunction of John being angry and John entering the room, both occurring at the same reference time. We find here the same differentiation in interpretation between stage-level and individual-level adjuncts as we found in the case of adjunct clauses headed by a present participle: while stage-level adjectives allow a neutral contemporaneous interpretation, individual-level adjectives again require a more modalized interpretation of causality or concession, cf. (61a–b).

(61) a. *Angry, John entered the room.*
b. *Intelligent as ever, John hesitated before opening the door.*

As we traced this interpretation to rules of discourse construal above, we take it that the difference in this case has the same source. Although individual-level predicates are much harder to use as secondary predicates, (61b) shows that they are certainly not totally excluded (contrary to what is claimed in the literature, cf. Rapoport, 1986 a.o.).

7.2. Complement Small Clauses

We next turn to complement small clauses. Here we distinguish between two types, RESULTATIVE and EPISTEMIC small clauses. The motivation for such a distinction is twofold: first, while epistemic complements are selected, e.g., in terms of propositional content, resultatives are not. This is specifically clear in the case of resultatives in the complement of unergative verbs, but also with transitive verbs if the small clause subject does not correspond to the normal object of the verb, as in (62).

(62) a. *The joggers ran the pavement thin.*
b. *John drank his cup empty.*

Clearly, the complements here do not denote propositions. Echoing Williams (1983), one doesn't run or drink propositions. A second difference

with epistemic complements is that full complement clauses are possible with epistemic complements as an alternative to small clauses. But this is not the case with resultatives, see (63)–(64).

(63) a. *We found him silly.*
b. *We found that he was silly.*
c. *We considered John (to be) naive.*

(64) a.**The joggers ran that the pavement was thin.*
b.**John drank his cup to be empty.*

Let us concentrate on resultatives first. Minimally, these complements are AGR-projections. However, such AGR-projections must be integrated into some referential domain. Two options may be investigated: (a) the complement constitutes its own referential domain; (b) the complement is integrated into a different referential domain. The former option seems very unlikely in that it is entirely unclear what kind of referential domain (a T-chain or a D-chain) this should be. Resultatives are restricted to adjectival and prepositional predications. Nouns and verbs are not possible, see (65).

(65) a. *John beat him black and blue.*
b. *John kicked him into the street.*
c.**They tied him a prisoner.*
d.**They kicked him cry.*

The fact that nominal predicates are not possible is a consequence of the interplay of the semantics of nominal predicates and that of resultatives: the state denoted by the predication in a resultative comes about as a result of the activity denoted by the matrix verb (cf. Hoekstra, 1988, 1991), and it is therefore required that the property denoted by the predicate be a stage-level property. Nominal predicates in turn always denote individual-level properties (cf. Stump, 1981; Parsons, 1990).[13] The fact that verbs are equally disallowed is more difficult to understand, as verbs can denote temporary properties. The absence of verbal predicates is at once explained, however, if no T-chain is available for resultative complements, since verbs cannot then be licensed. One might ask at this point why past participles are equally disallowed in resultatives, since they are not dependent on the formation of a T-chain, as we saw above. We answer this question by pointing to the inherent contradiction that this would yield, seen in (66).

(66) a. *He kicked the door open.*
b.**He kicked the door opened.*

While both *the door open* and *the door opened* may denote the same state, the latter does so while at the same time denoting that this state is the accomplishment of an opening event. Yet, the semantics of the resultative construction has it that the state in its complement results from the matrix event.

These categorical restrictions suggest that the AGR-structure in the complement of resultatives is integrated into the matrix T-chain. More specifically, we argue that the AGR-structure is integrated into the event-structure of the matrix verb. Resultatives are possible only with dynamic verbs, i.e., verbs whose denotation can be regarded as a linearly ordered sequence of slices or moments. The state denoted by the complement AGR-phrase is integrated into this event structure by identifying the final slice of the activity with the state denoted by the AGR-phrase, as in (67).

(67) *John* T *drive* $[_{\text{AGRP}}$*Mary mad*$]_i$
$E = \{s_1, \ldots . s_i\}$

The integration of the state of AGR_i into the event structure of *drive* turns the activity *drive* into an accomplishment. Capturing the integration in these terms accounts for the fact that such integration is impossible if the governor is inherently bounded. A perfective verb, as in the examples in (68), inherently binds its final slice. Adding a state yields a violation of the θ-criterion (cf. Hoekstra, 1991).

(68) a. **John destroyed the town into a ruin.*
b. *John killed Mary dead.*

Clearly, full clausal complements are not open to such integration, since these are by definition headed by their own T-operator, and constitute a referential object by themselves. One question left open concerns (bare) infinitives, which are equally disallowed in resultatives. One might think that simple causatives instantiate resultatives with verbal heads, but we think that it would be wrong to treat causatives on a par with resultatives, despite their apparent similarity. It would take us too far afield to discuss causatives (as well as infinitives in general) in this chapter (cf. Guéron and Hoekstra, 1992, for an analysis of these constructions).

Epistemic complements, as noted above, come in both a small clausal and a full clausal variety, the latter obviously headed by a T-operator. With respect to the former, then, the question is whether they likewise feature an independent T-operator, or whether the predication expressed is integrated into the matrix T-chain.

One apparent reason to assume that the embedded predication is not integrated into the matrix T-chain has to do with the interpretation of bare plurals. In principle, bare plural NPs in English and other languages allow one of two interpretations, existential or generic. Which of these is chosen depends on the environment of the bare plural NP, cf. (69).

(69) *John threw books out the window.*

The NP *books* in (69) may refer either to books in general or to a particular set of books. The choice matches the interpretation of activity itself: if reference is made to a particular event in the past, the existential reading of *books* obtains; if the activity is interpreted as habitual, the generic reading of *books* obtains. Representing the nominal phrase as an operator-headed D-chain, the generic vs. existential interpretation can be accounted for by assuming that the DP operator is itself strongly bound by the matrix T-operator, as in (70).

(70) TO_j *John* . . TNS_j . . $[_{VP}$*threw*$_j$ $[_{DP}Op_j$ . . . $[_{NP}$*books*$]]]$

If the matrix TO is deictic, the nominal phrase refers to an indefinite set of books at the relevant reference time, but if the matrix TO is generic, there will equally be generic quantification over books, i.e., not a set of books at a particular reference time, but quasi-all sets of books at quasi-all reference times.

If we now inspect bare plural subjects of epistemic small clauses, it turns out that they are not open to an existential interpretation [cf. (71)]; they contrast in this respect with subjects of resultative small clauses as in (69) and (72).

(71) *John considered students boring.*

(72) *John talked students out of their wits.*

Diesing (1992:365–66, n. 11) notes this property of epistemic small clause subjects, without providing an account of it. The lack of an existential interpretation might suggest that epistemic small clauses are not integrated into the matrix T-chain, but that the complement is autonomous, semantically. Yet there does not seem to be an independent T-chain either, as properties which would make such a T-chain visible are lacking. Cardinaletti and Guasti (1993) present evidence that these small clauses may not instantiate the functional category of negation, which would immediately follow if no T-chain is present.

The apparently contradictory evidence may be reconciled by means of the hypothesis in (73).

(73) Stage-level predicates are associated with a deictic operator in Spec CP, while individual-level predicates are associated with a non-deictic operator.

A verb which selects a resultative small clause is necessarily stage-level and thus bound by a deictic operator, by (73). If the operator which binds the main verb also binds the SC subject governed by this verb, then (73) accounts for the existential interpretation in (69) and (72). A verb which

selects epistemic small clauses is individual-level and therefore bound by a non-deictic operator. This accounts for the lack of existential reading of the DP in (71).

8. CONCLUSIONS

In this paper we have argued that predications are syntactically represented through AGR, a functional category that inserts its specifier in the denotation of its complement, while checking the inherent agreement properties of the head of its complement. Such predications are not complete linguistic objects by themselves, but need to be integrated into a structure which is complete. Completeness implies a referential object. We distinguish two such objects: T-chains and D-chains, each of which is headed by an operator. Lexical elements have intrinsic descriptive content. This content is construed by the syntax as denoting either an eventuality or a thing, the former if the descriptive content functions as the basis of a T-chain, the latter if it is included in a D-chain. Non-auxiliary finite verbs enter into two relations: the formation of a predicate over a subject, and the formation of a T-chain. Auxiliary verbs lack descriptive content: they function as intermediate links in the composition of a full T-chain, by T-marking their complement category, thereby allowing the lexical head of the complement to supply its descriptive content to the chain.

The T-chain extension which applies to non-verbal predications also applies to participial verb forms. These do not form T-chains inherently, but they may enter into such a chain under T-marking by an auxiliary. In this context we analyzed the grammatical ambiguity of English *ing* forms, showing the appropriateness of our functional approach to category determination.

Apart from being integrated into a T-chain under T-marking by an auxiliary, there are other means of integration. First, predications (i.e., AGR-projections) may be integrated into a chain via adjunction, which yields a conjunction interpretation with the projection to which it is adjoined. Second, a predication may be integrated into the event structure of a governing verb under certain conditions.

REFERENCES

Abney, S. (1987). *The English noun phrase in its sentential aspect.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Baker, M. (1985). The mirror principle and morphosyntactic explanation. *Linguistic Inquiry* 16, 373–415.

Belletti, A. (1981). Frasi ridotte assolute. *Rivista di Grammatica Generativa* 6, 3–32.

Bernstein, J. (1993). *Topics in the syntax of nominal structure across Romance.* Ph.D. dissertation, City University of New York.

Besten, H. den (1985). The ergative hypothesis and free word order in Dutch and German, in J. Toman (ed.), *Studies in German grammar,* 23–64. Foris, Dordrecht.

Bowers, J. (1993). The syntax of predication. *Linguisitic Inquiry* 24, 591–656.

Cardinaletti, A., and M. T. Guasti. (1993). Negation in small clauses. *Probus* 5, 39–61.

Carlson, G. N. (1977). *Reference to kinds in English,* Ph.D. dissertation, University of Massachusetts, Amherst.

Chomsky, N. (1993). A minimalist program for linguistic theory, in K. Hale and S. J. Keyser (eds.), *The View from Building 20* 1–52. MIT Press, Cambridge, Mass.

Déchaine, R.-M. (1992). *Predicates across categories.* Ph.D. dissertation, University of Massachusetts, Amherst.

Diesing, M. (1992). Bare plural subjects and derivation of logical representations. *Linguistic Inquiry* 23, 353–380.

Dikken, M. den (1993). *Auxiliaries and participles.* Paper presented at NELS 24, Amherst. Unpublished manuscript, HIL/Free University Amsterdam.

Enç, M. (1987). Anchoring conditions for tense. *Linguistic Inquiry* 18, 633–658.

Fassi Fehri, A. (1993). *Issues in the structure of Arabic clauses and words,* Kluwer, Dordrecht.

Giorgi, A., and G. Longobardi. (1991). *The syntax of noun phrases,* Cambridge University Press, Cambridge.

Guéron, J. (1993). Sur la syntaxe du temps. *Langue française* 100, 102–122.

Guéron, J., and T. Hoekstra. (1989). T-chains and the constituent structure of auxiliaries, in A. Cardinaletti, G. Cinque, and G. Giusti (eds.), *Annali di Ca' Foscari.* University of Venice.

Guéron, J., and T. Hoekstra. (1992). Phrases réduites and chaînes temporelles, in H. Obenauer, and A. Zribi-Hertz (eds.), *Structure de la phrase et théorie du liage,* 69–92. University of Paris VIII, Paris.

Higginbotham, J. (1985). On semantics. *Linguistic Inquiry* 16, 547–594.

Hoekstra, T. (1984). *Transivity,* Foris, Dordrecht.

Hoekstra, T. (1988). Small clause results. *Lingua* 74, 101–139.

Hoekstra, T. (1991). Aspect and theta theory, in I. Roca (ed.), *Thematic structure* 145–176. Mouton De Gruyter, Berlin.

Hoekstra, T. (1993). *Have as BE plus or minus.* Unpublished manuscript, HIL/ Leiden University.

Kayne, R. S. (1989). Facets of Romance past participle agreement, in P. Benincà (ed.), *Dialect variation and the theory of grammar,* 85–103. Foris, Dordrecht.

Kayne, R. S. (1992). Toward a modular theory of auxiliary selection. To appear in *Studia Linguistica* 47.

Kayne, R. S. (1993). *The antisymmetry of syntax.* Unpublished manuscript, CUNY, New York.

Kratzer, A. (1989). Stage and individual level predicates. *Papers on quantification,* NSF Grant Report. University of Massachusetts, Amherst.

Parsons, T. (1990). *Events in the semantics of English,* MIT Press, Cambridge, Mass.

Pollock, J.-Y. (1989). Verb movement, UG and the structure of IP. *Linguistic Inquiry* 20, 365–424.

Postma, G. (1992). *On the nature of the particle GE- in Westgermanic participles.* Unpublished manuscript, Leiden University.

Rapoport, T. (1986). Nonverbal predication in Hebrew. WCFFL 5, Stanford University.

Ritter, E. (1991). Two functional categories in noun phrases: evidence from Modern Hebrew. In S. Rothstein (ed.), *Syntax and Semantics* 26, 37–62, Academic Press, New York.

Stowell, T. (1981). *Origins of phrase structure,* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Stump, G. (1981). *The formal semantics and pragmatics of free adjuncts and absolutes in English.* Ph.D. dissertation, Ohio State University, Columbus.

Szabolcsi, A. (1994). *The noun phrase,* in F. Kiefer and K. É. Kiss (eds.), *The syntactic structure of Hungarian. Syntax and Semantics 27,* 179–274. Academic Press, San Diego.

Wasow, T., and T. Roeper. (1972). On the subjects of gerunds. *Foundations of Language,* 8, 44–61.

Williams, E. (1981). Argument structure and morphology. *The Linguistic Review* 1, 81–114.

Williams, E. (1983). Against small clauses. *Linguistic Inquiry* 14, 287–308.

Zagona, K. (1993). *Perfective and temporal arguments.* Unpublished manuscript, University of Washington, Seattle.

Zanuttini, R. (1991). *Syntactic properties of sentential negation.* Ph.D. dissertation, University of Pennsylvania. Philadelphia.

NOTES

[1]The ideas in this chapter are a further development of work in progress, on which both authors have previously reported in joint and separate papers. We shall not at every point where relevant refer to these individual papers.

[2]The problematic status of subjects of verbs in Stowell's treatment becomes apparent from the fact that he does treat these as specifiers of V in the case of bare infinitival complements to e.g. perception verbs, which he takes to select VP-complements, whereas he follows the then standard assumption that subjects of full clauses are base-generated in [SPEC,IP].

[3]We assume that a *-wh,* neg., etc. operator in Spec CP is adjoined to the discourse operator.

[4]That future is non-realized or irrealis is evident in English, where a modal verb is used to construct the future. The modal verb may raise to C, requiring C and hence the operator to select a discourse distinct from deictic, i.e. non-realis, with differences between the modals in quantificational force. The modal *will* requires that the eventuality be predicated over a certain world, *can* requires a possible world, etc.

[5]BE does not contribute a *e*-role to the T-chain, nor any modality. It merely supplies the features which its complement is lacking for the composition of a T-chain. The semantic role we attributed to AGR (i.e., of inclusion operator) might therefore easily be attributed to BE, but that would be a mistake. We leave undecided here the analysis of equative BE sentences.

[6]We have speculated whether the distinction between these systems could be traced to properties of the inflectional morphology, but this seems unlikely. While Dutch and English may be said to lack person agreement (this claim would require a special status for the stem-form used in third person, cf. Kayne, 1989), Spanish is like German and French in having both number and person inflection. Also, the restriction does not correlate with the HAVE/BE alternation in the perfect tenses, as Dutch patterns with German as well as French in showing the alternation. Similarly, it does not correlate with the existence of a preterite/imperfect past distinction, as Spanish patterns with French in this respect. Nor does it correlate with the preterite interpretation of present perfect, which is available in Dutch, French, and German, but not in Spanish or English.

[7]We shall not, in this paper, analyze (full) complement clauses, but it is evident that these have their own Tense-operator. Typically, the Tense-operator is made visible by an overt complementizer, like *that* in English. The range of embedded T-operators is restricted by its relationship with the matrix operator (cf. Enç, 1987), as are operators on nominal constructions (i.e., arguments).

[8]The very fact that HAVE cross-linguistically alternates with BE in perfect tense constructions supports the conclusion that HAVE does not contribute the *e*-role. This alternation is not limited to the ergative/unergative distinction. Some languages are like English in having only HAVE, others alternate between HAVE and BE under certain conditions, while still others have BE throughout (cf. Kayne, 1992).

[9]Recall that we do not attach substantive value to the labels O-AGR and S-AGR, but rather use these labels to differentiate between AGR in different configurational environments. So, the S-AGR in agreeing participle constructions agrees with the "object" and lacks the person feature characteristic of S-AGR in finite clauses. This difference is a consequence of the lack of operator-licensing of TNS (and hence of its associated AGR), since person is dependent on such an operator. Note that there is no point in asking whether AGR in adjective constructions is O-AGR or S-AGR: it is just AGR, and since there is only one such AGR in adjectival constructions, no need to attach a mnemonic label arises.

[10]In languages that select BE as their perfective auxiliary throughout, it must be possible to transport the case feature of the verb in the participle via the T-chain to

allow BE to license a matrix O-AGR, as in the English progressive constructions analyzed in section 3.

[11]Other functional categories may intervene, such as NUM. For discussion of Noun Phrase structure, cf. among others Bernstein (1993), Fassi Fehri (1993), Giorgi and Longobardi (1991), Ritter (1991), Szabolcsi (1994).

[12]The linear position of adjuncts is itself quite problematic, certainly if we were to follow Kayne's (1993) hypothesis that adjunction is limited to left-adjunction. It would take us too far afield to engage in the complications that this hypothesis causes.

[13]In languages such as Spanish, where two copula verbs are in use (*ser* and *estar*), nominal predicates typically cannot be combined with the stage-level copula *estar*.

This page intentionally left blank

SMALL CLAUSES WITH PREDICATIVE NOMINALS

Andrea Moro

DIPSCO
H San Raffaele, 20132
Milano, Italy

1. SMALL CLAUSES WITH PREDICATIVE NOMINALS: AN IDEAL EXPERIMENT

One of the less controversial assumptions concerning the nature of small clauses is that they are indeed clauses. To say that this is one of the less controversial assumptions, of course, is far from saying that it is not controversial, for at least two different types of reason.

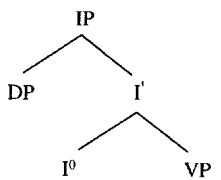
First, a theory-internal reason. Since their first appearance as complements of *believe*-type verbs (see Williams, 1975), the identification of small clauses has engendered a quite lively empirical debate. In fact, the term has been extended to include many other contexts. Let us survey some influential proposals: it has been suggested that they occur in double object constructs, as in *John gave* [$_{SC}$*Mary a book*] (see Kayne, 1986); raising verbs contexts, as in *John is* [$_{SC}$*t a fool*] *or John seems* [$_{SC}$*t a fool*] (see Stowell, 1983, Burzio, 1986, and references cited there); existential sentences, as in *there is* [$_{SC}$*a fool in the garden*] (see Williams, 1984, Stowell, 1983, and Burzio, 1986); adjunct constructs, as in *John left the room* [$_{SC}$PRO *angry*] (see Williams, 1980, Chomsky, 1981); and perceptual reports, as in *Maria vide* [$_{SC}$*Gianni che correva verso casa*] 'Mary saw Gianni who was running home' (see Cinque, 1991).[1] In all these cases but the double object construct, it has been argued that the kind of relationship between the two phrases constituting the small clause is that of predication. Now, a first question is: Since predication is an essential property of clauses, can we

Syntax and Semantics, Volume 28
Small Clauses

consistently include a structure that does not involve such a relation within this class?[2]

Second, it is the very notion of predicative link that fails to be straightforward.[3] Indeed, even within the generative framework there is no universal agreement on this matter. For example, following Rothstein (1983), Chomsky (1986a) assumes that a predicative link is a kind of "saturation" in the Fregean sense. On the other hand, Napoli (1989) suggests that a predicative relation can in fact be reduced to a type of θ-relation (see also Schein, this Volume).[4] Are these approaches tenable for the syntax of small clauses? Moreover, it is widely assumed that in a full inflected clause, the structural relation between the subject and the predicate is that between a DP subject and a VP predicate (1), as mediated by the inflectional system of the verb.[5]

(1)



Thus, a further question is whether there is a medium for predication in small clauses.

All in all, in this chapter I follow the idea that an essential property of clauses is that of containing a predicative relation and assume that small clauses are not exceptional to this. Once we do so, a number of major empirical questions arise. In this paper, I attempt to address the following three:[6]

(i) Can the role of subject and predicate in a small clause be derived from the type of lexical categories involved?
(ii) Does the distribution of the subject and the predicate in a small clause solely depend on the distribution of the lexical categories that play such roles?
(iii) Does the predicative relation within a small clause depend on the interaction of independent modules of grammar?

The major aim of this chapter is to show that the subclass of small clauses containing predicative nominals can help us in understanding the issue. In a sense, they provide us with an "ideal experiment," where the predicative relation is established without the occurrence of a VP. More explicitly, since both the subject and the predicate are DPs, nominal small clauses minimize the contribution of the lexicon to a predicative link.

The paper is organized as follows. In sections 1.1 and 1.2 I deal with questions (i) and (ii). Section 2 is mainly devoted to arguing against two possible positive answers to question (iii), and to the inner structure of small clauses.

Finally, in section 4 it will be shown that small clauses with predicative nominals play an essential role in setting the pro-drop parameter. Data are mainly taken from English and Italian.

1.1. Predication and Lexical Categories

Question (i) is trivially dismissed by the very existence of small clauses containing a predicative nominal (NOMINAL SMALL CLAUSES, henceforth). In fact, along with (2), in the bracketed constituent in (3), the DPs *John* and *the cause of the riot* do have the same predicative relation without the occurrence of any verb.

(2) $[_{DP}$*John*$]$ $[_{VP}$*is* $[_{DP}$*the cause of the riot*$]]$

(3) *I consider* $[_{SC}$ $[_{DP}$*John*$]$ $[_{DP}$*the cause of the riot*$]]$.

In both cases, we are saying that the individual named "John" has the property of being the cause of the riot.[7] This provides us with a case where the elements entering into the predicative relation belong to the same lexical categories. More explicitly, predication is here shown to be independent from the lexicon.

Moreover, it must be highlighted that the phrase playing the role of predicate in the latter example, i.e., *the cause of the riot,* does not necessarily play this role in all its occurrences in a nominal small clause. Take for example (4).

(4) *I consider* $[_{SC}$ $[_{DP}$*the cause of the riot*$]$ $[_{DP}$*the worst event I have ever studied*$]]$.

In this example, we are asserting that a property of the cause of the riot is that of being the worst event. The phrase *the cause of the riot* is now playing the role of a subject of predication. Thus, one cannot assume that a predicative link can immediately be predicted by the types of phrases included. Of course, we must still maintain that the predicative link cannot be established by any two phrases: for example, for any given pair of APs there cannot be a predicative relation. However, the answer to question (i) is indeed immediate: the role of subject and predicate cannot be immediately derived from the types of lexical categories involved, because these two roles can be performed by the same lexical category (i.e., a DP) in the same sentence and because the same DP can play either role in different sentences.

The answer to the second question, though, requires a subtler argument.

1.2. On the Rigid Direction of Predication

Nominal small clauses of the type just considered show that from a categorical point of view there is clearly no way to derive the distribution of

all subjects and predicates. Of course, when the predicate is a VP the situation is different: in such a case, the occurrence of the predicate is limited by the morphological necessities of a V^0. When the predicate is a DP instead, we cannot say in isolation whether or not it will occur as a subject or as a predicate.

Nevertheless, we cannot simply assume that a predicative and a subject DP can freely occur in any position where a DP can occur. An empirical argument can be constructed as follows.

Consider (5).

(5) a. *I consider* [$_{SC}$ [$_{DP}$*John*] [$_{DP}$*the cause of the riot*]].
b.**I consider* [$_{SC}$ [$_{DP}$*the cause of the riot*] [$_{DP}$*John*]].

This contrast shows that the direction of the predicative link is fixed within the small clause: the subject must precede the predicate.[8] Note that nothing prevents the predicate from occurring first, as in (6) (and thus from being governed by the matrix verb).[9]

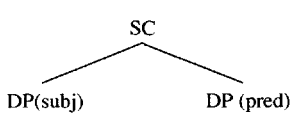
(6) a. *I consider John to be the cause of the riot.*
b. *I consider the cause of the riot to be John.*

This contrast is explained by assuming that the basic direction of predication is fixed; i.e., in English the subject precedes the predicate.[10] The copula provides the structure with a landing site for either the subject (as has normally been assumed since Stowell, 1978) or the predicative nominal (as was originally proposed in Moro, 1988; see Moro, 1993, for an updated and detailed discussion). The representation of these two types of structure (respectively called CANONICAL and INVERSE copular sentences) is as in (7).

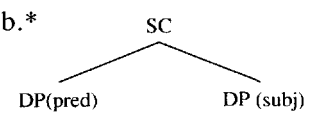
(7) a. *I consider* [*John to be* [$_{SC}$*t* [$_{DP}$*the cause of the riot*]]. (canonical)
b. *I consider* [[$_{DP}$*the cause of the riot*] *to be* [$_{SC}$[$_{DP}$*John*] *t*]. (inverse)

Summarizing, we have reached a first empirical conclusion: although the role of the subject and the predicate can be played by the same category, namely DP, this role cannot be predicted by solely observing the distribution of DPs. Only one combination is legitimate in English, i.e., the subject must precede the predicate, as in the following abstract representation in (8).[11]

(8) a.



b.*



This conclusion is in fact a negative answer to our question (ii).

2. THE LINK OF PREDICATION: AGAINST TWO POSSIBLE THEORIES

We have so far considered the nature of the elements entering into the predicative relation. Still, a major question concerns the structure in which this relation can be established.

We know one thing for sure: the small clause is a phrase, i.e., a constituent that can occur where maximal projections occur. Empirically, this can be concluded by observing that it can occur as a complement of a head, it can be an adjunct to a maximal projection, and it can occur in isolation, especially in informal contexts, as in (9).

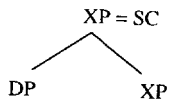
(9) a. *I* [$_{V'}$[$_{V^0}$*consider*] [$_{SC}$*John the cause of the riot*]].
b. [$_{IP}$[$_{IP}$*John*$_i$ *arrived*] [$_{SC}$PRO$_i$ *drunk*]].
c. [$_{SC}$*John the cause of the riot*]? *I can't believe it!*

None of these three occurrences would be possible if the small clause were not a phrase. The next step now is to look inside the inner architecture of such a phrase.

At this stage of development of the theory of syntax, according to X-bar syntax all phrases are analyzed as projections of a head. The proper question is then what projects a small clause.

In the early 1980s, it was proposed to analyze small clauses as a kind of adjunct structure, where a subject DP is adjoined to a maximal projection related to a lexical head, as in (10) (for references and discussion see Manzini, 1983; see also Stowell, 1981).

(10) a.



b. X = A, N, V, P

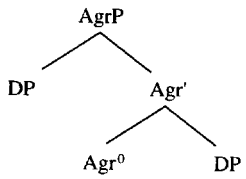
The intuitive ideas that underlay this formalism were that a small clause consists solely of a predicative relation and that this relation is not mediated by any functional head.[12] In other words, a small clause is anomalous in that its distribution is that of a phrase, i.e., a full maximal projection, but its inner structure is not projected by a head.

In many recent works, there have been efforts trying to avoid this apparently unique case by tracing it back to a canonical full X-bar structure. In the next subsection, I try to show that one possible solution should be abandoned.

2.1. Small Clauses without Agreement.

In Moro (1988), it was proposed to analyze the complement of the copula, a prototypical instance of a small clause, as an AgrP, as in (11).[13]

(11)



In this case, the preference for a more articulated structure was due to some properties of copular constructions that I will simply leave aside. The only necessary observation to be highlighted here is that if we adopt this representation, the role of medium between the subject and the predicate is performed by Agr^0.

In the same paper it was observed that while this representation solves many problems, some empirical data still contrast with such a hypothesis. I here reproduce those considerations that were just sketched in Moro (1988).[14] Let us shift to Italian, where the rich morphology will help in the exposition of the argument.

Consider two DPs mismatched in both gender and number, like those in (12).

(12) a. [$_{DP}$*quest-i libr-i*]
this + MASC + PL book + MASC + PL
b. [$_{DP}$*la caus-a della rivolta*]
the + FEM + SG cause + FEM + SG of-the riot

These two DPs can enter into a predicative relation, yielding a perfect, well-formed nominal small clause. If a small clause is an AgrP, then we expect them to agree. Consider (13).

(13) *Gianni ritiene* [$_{SC}$[$_{DP}$*questi libri*] [$_{DP}$*la causa della rivolta*]].
Gianni believes these books the cause of-the riot

Clearly, there is no agreement at all. The two DPs do enter into a predicative relation without matching any component of their ϕ-features. Of course, as I just said, this is not to say that agreement is impossible in Italian nominal small clauses. In cases like (14), it is in fact obligatory:

(14) a. *Gianni ritiene* [$_{SC}$ [$_{DP}$*queste ragazze*] [$_{DP}$*le sue migliori amiche*]].
Gianni believes these girls the-PL his-PL best-PL friends-PL
b.**Gianni ritiene* [$_{SC}$ [$_{DP}$*queste ragazze*] [$_{DP}$*la sua migliore amica*]].
Gianni believes these girls the-SG his-SG best-SG friend-SG

We can leave aside the explanation for this important difference (see, e.g., Higginbotham, 1990). What interests us here is the very fact that there is at least one case where agreement between the subject and the predicate must not be realized. As usual, we will take a single counterexample to be a sufficient reason to conclude that all other cases must be considered as epiphenomena. In this case, the conclusion would then be that predication cannot be derived by agreement between the subject and the predicate.

Interestingly, this conclusion can be reinforced by independent data. It is a well-known fact that in those languages where small clauses can make a full matrix sentence, like Russian, for example, agreement on the predicate is not only unnecessary but impossible. This provides a sharp contrast with those cases where the same element occurs as a modifier, in that in this case agreement is obligatory. A classic example is the Jespersen's (1924: 120), shown as (15).

(15) a. *dom nov.*
house new −agreement
'the house is new'
b. *dom nov-yj.*
house new + agreement
'a/the new house'

The conclusion is clear: only when agreement is absent do we have a predicative relation, thus, a clausal structure.[15]

We can conclude that if the predicative relation involves a form of agreement, this cannot be a necessary condition for this relation to be established (but see Guéron and Hoekstra, this volume). In other words, from the very fact that nominal small clauses contain an instance of predication without agreement, we can conclude that small clauses need not necessarily be analyzed as AgrPs.[16] They may be AgrPs, of course, as in the case of AP predicates; however, this must be regarded as an accidental fact that has nothing to do with predication but rather with specific morphological necessities of adjectives.

2.2. Subjects of Small Clauses without θ-role Assignment

A second problem about the inner structure of small clauses concerns the predicative relation itself. As we have seen in section 1.2, the order of predication is fixed within a small clause. In English, the subject precedes the predicate. Linguists like Jespersen have already explored this issue. For example, it was observed that lexical elements like *the cage* and *empty* can play very different roles, depending on the linear order in which they occur, as in (16).

(16) a. *I found the cage empty.*
b. *I found the empty cage.*

More specifically, directionality has often been taken to be a sign that θ-role assignment is involved in the predicative link.[17]

Let us go back to the predicative nominal sample we are considering here, namely *the cause of the riot.* If we take the corresponding verbal phrase, we might construe it as in (17).

(17) a. *cause* $<$ *agent, patient*$>$
b. $[_{DP}Mary]_{+\ agent} \leftarrow caused \rightarrow [_{DP}the\ riot]_{+\ patient}$.

The head *cause* assigns its θ-role to the two arguments, as indicated in the representation given here.

Apparently, the very same relation is established within the small clause in (18).

(18) *John considers* $[_{SC}\ [_{DP}Mary]_{+\ agent} \leftarrow [_{DP}the\ cause\ of \rightarrow [_{DP}the\ riot]_{+\ patient}]]$.

The subject *Mary* receives the agent θ-role from *cause* and *the riot* receives the patient θ-role.[18]

The analogy, though, is broken if one extends the analysis to different types of DP. Take for example a phrase projected by *picture.* We know that this head can assign two θ-roles. For the sake of simplicity, let us assume that they are the same as *cause,* namely agent and patient. Correspondingly, the verb *picture* is also able to assign two θ-roles, as in (19).

(19) a. *John destroyed* $[_{DP}\ [_{DP}his]_{+\ agent}$ *pictures of* $[_{DP}Mary]_{+\ patient}]$.
b. *John believes that* $[_{DP}he]_{+\ agent}$ *pictured* $[_{DP}Mary]_{+\ patient}$.

In an active sentence, the subject receives the agent θ-role, while the object receives the patient θ-role.

It is easy now to construct a case (20) where the DP headed by *pictures* occurs as a predicative nominal within a small clause but where neither of the two θ-roles assigned by *picture* is assigned to the subject of the small clause.

(20) *John considers* $[_{SC}\ [_{DP}these]\ [_{DP}\ [_{DP}his]_{+\ agent}$ *best pictures of* $[_{DP}Mary]_{+\ patient}]]$.

Still, however, the two DPs constituting the small clause do establish a predicative link.

To support the latter conclusion, an indirect proof that the complex DP is playing the role of a predicate was given in Moro (1993), by considering Italian data. Let us synthetically reproduce the argument by constructing a

copular sentence (21) containing two DPs corresponding to the English examples we just considered.

(21) *Queste sono le sue migliori foto di Maria.*
these are the his best pictures of Mary
'These are his best pictures of Mary.'

Here, the postverbal DP can be cliticized by the non inflected clitic *lo*, yielding (22).

(22) *Queste lo sono t.*
these *lo*-NEUTER are

The possibility of being cliticized by *lo* is an exclusive property of predicates. The inflected clitic that should have been used if the postverbal DP were an argument is *le*, which is + FEM + PL, but this would yield an ungrammatical sentence (23).

(23) **Queste le sono t.*
these *le* FEM.PL are

Thus, *lo*-cliticization diagnoses the predicative role of *le sue migliori foto di Maria.*

These data raise a theoretical consideration. We have here a case of a predicative link that does not involve θ-role assignment. In fact, this is not the only case in syntax. It is widely assumed (but see Moro, 1990, for a different approach) that unaccusative constructs involving expletives display the same empirical fact. Take for example (24).

(24) [there ← predicative link → [arrived ← θ-relation → many girls]].

The predicative link is established between spec-IP (the subject of predication) and the inflected VP (the predicate).[19] Nevertheless, the analogy is not complete: in the latter case, it is assumed that at LF the expletive *there* is replaced by the associated argument yielding *many girls arrived t* (see Chomsky, 1986a, 1988, 1993), while in the case involving the predicative nominal, this would not make sense (**John considers Mary his best pictures t*).

For the purposes of this section, we can stop here. Predication seems to be possible even if the head of the predicate does not assign its θ-role to the subject (see Schein, this Volume). This amounts to saying that predication cannot be derived from θ-theory. Of course, one cannot conclude that predication is totally unrelated to θ-role assignment, but at least we can assume that the predicative link is something which cannot be derived from this module.

Summarizing, although nominal small clauses help us in understanding the essential properties of the predicative link, question (iii) remains partially unanswered. We still do not know whether the predicative relation derives from independent modules of grammar. What we know is that two specific modules cannot be considered the essential factors for the predicative link, namely θ-theory and Agr-theory.[20]

Just to recall the major empirical data, the two cases in (25) will be sufficient.

(25) a. *Gianni ritiene* [*loro* *la causa*].
Gianni believes them-MASC.PL the cause-FEM.SG
b. *John considers* $[_{SC}[_{DP}$*these*$]$ $[_{DP}[_{DP}$*his*$]_{+\text{ agent}}$ *best pictures of* $[_{DP}$*Mary*$]_{+\text{ patient}}]]$.

In the first, the link is established without any agreement between the two. On the other hand, in the second the link is established even if the head of the predicate does not assign any of its θ-roles to the subject of predication.

3. CONCLUDING REMARKS: THE NULL-HEAD HYPOTHESIS

In this section, I address a problem left over from what has been argued in section 2.1. Let us recall the main thesis here: since not all nominal small clauses show agreement between the subject and the predicate, the very idea of considering all small clauses as projections of an Agr^0 turns out to be dubious. The problem now is that, if we abandon the abstract representation of small clauses as AgrPs, we lose a non-minimal advantage of normalizing the representation of such constituents in terms of X-bar theory requirements.

Can we refute the AgrP analysis without losing the idea that small clauses are projected by a head? In other words, can we assign a value to the variable in (26) other than Agr^0?

(26) *I consider* $[_{XP}$*John* $[_{X'}[_{X^0}e]$ *my best friend*$]]$.

One possibility that was suggested in Moro (1988) is that of assuming a predicative phrase, that is, an empty "predicative head" (see also Bowers, 1993). Support for this hypothesis was later suggested in Moro (1993), by considering pairs like those in (27).

(27) a. *I consider* [*John the cause of the riot*].
b. *I consider* [*John as the cause of the riot*].

Since these two sentences are totally synonymous, the idea was that *as* can be considered a predicative marker. From a structural point of view, there

are quite a few possibilities of implementing this observation. Consider three potential analyses in (28).

(28) a. *I consider* $[_{SC}[_{DP}$*John*$]$ $[$*as*$]$-$[_{DP}$*my best friend*$]]$.
b. *I consider* $[_{XP}$*John* $[_{X'}[_{X^0}$*as*$]$ $[_{SC}$*t my best friend*$]]$.
c. *I consider* $[_{XP}$*John* $[_{X'}[_{X^0}$*as*$]$ *my best friend*$]]$.

In the first case, *as* is a sort of affix inserted to license the predicative DP. This insertion would be very superficial, paralleling other well known cases like *of*-insertion, for case-marking DP complements of N^0.[21] In the second case, *as* is like a "copula" in the sense that it takes a small clause. The subject *John* would be extracted in this case, *as* in canonical sentences. In the third case, *as* is the spell-out of the predicative head.

Assuming that one of these three hypotheses is correct, do we have empirical reasons to prefer one? I do not know of any clear, cogent answer to this question. However, it seems to me that one can exclude the idea that *as* is like a copula in taking a small clause complement by observing that inverse sentences are impossible, as opposed to the case where the "real" copula occurs; see (29).

(29) a. *I consider* [*John as* [*t my best friend*]].
b.**I consider* [*my best friend as* [*John t*]].
c. *I consider* [*John to be* [*t my best friend*]].
d. *I consider* [*my best friend to be* [*John t*]].

If *as* took a small clause as a complement, like the copula, why shouldn't it allow raising of the predicative DP, unlike the copula?

All in all, we can leave this crucial problem aside. To show whether or not a small clause analysis based on the idea of an empty predicative head is tenable would require much more attention that we can devote to it here. It is nevertheless worth noting that in two influential approaches, Chomsky (1993) and Kayne (1993), adjunction is still compatible with X-bar theoretical assumptions.[22] Thus, as far as this module is concerned, small clauses could still be regarded as adjunct structures in the spirit of the Manzini-type analysis.

4. APPENDIX: ON THE ROLE OF SMALL CLAUSES WITH PREDICATIVE NOMINALS IN SETTING THE PRO-DROP PARAMETER

What sets the pro-drop parameter? This is a central question and one that has engendered major advancements in the whole theory since it was formulated. The literature in the field is vast. For just a general survey, see

among others: Chomsky (1981), Rizzi (1982), Huang (1984), Hyams (1986), Manzini and Wexler (1987), Platzack (1987), Jaeggly and Safir (1989), Haegeman (1990), Radford (1990), and all references cited there. In general, it is assumed that positive evidence is available to children in a pro-drop language when they hear sentences missing the overt subject in preverbal position in full inflected sentences. Thus, for Italian children to know that they are in a pro-drop language, it will be sufficient to hear a sentence like (30).

(30) *Viene.*
comes
'He/she/it comes.'

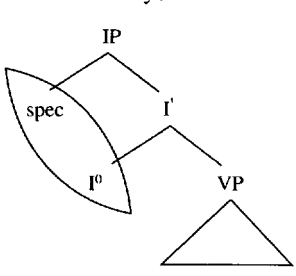
The child would learn that when the subject position is not phonologically realized, it is occupied by a matrix of features, namely *pro*. A common (if tacit) assumption is that *pro* is an optional element. In fact, the theory says that when the preverbal position is occupied by a full DP, the Italian child will not have recourse to *pro*.

The aim of this appendix is minimal. It will be shown that the syntax of nominal small clauses is relevant to the problem of the pro-drop parameter setting. The central point is to show that another piece of positive evidence is available to Italian children to know that *pro* can be licensed in their language. As a corollary, it will be argued that *pro* is an obligatory element, in the sense that when it can be generated, then it must be generated.

4.1. On Verb Agreement and Predicative Nominals (the case of English)

A fundamental assumption of the theory of syntax is that verb agreement with the subject is ultimately established as a spec-head relation with the I-system.[23] Formally, this relation is represented as in (31).

(31)



Let us now take a nominal small clause as selected by the copula, (32).

(32) *be* [$_{SC}$DP DP]

Following the unified theory of copular sentences proposed in Moro (1988), we assume that (for a proper choice of DPs) either the subject or the predicative DP can be raised to spec-IP, as in (33).[24]

(33) a. DP *be* . . . [*t* DP]. (canonical sentence: the subject is raised)
b. DP *be* . . . [DP *t*]. (inverse sentence: the predicate is raised)

Suppose now that we take two DPs mismatching with respect to number like (34).

(34) a. [$_{DP}$*John and Mary*] + PL
b. [$_{DP}$*the cause of the riot*] + SG

These two DPs can establish a predicative relation as in (35).

(35) *I consider* [$_{SC}$[$_{DP}$*John and Mary*] [$_{DP}$*the cause of the riot*]].

The question now is: What kind of verb agreement will DP raising yield in both a canonical and in inverse sentence? In a minimalist framework, we can rephrase it by asking: What choice of Agr^0 will give us a convergent derivation? The formalization is given in (36).

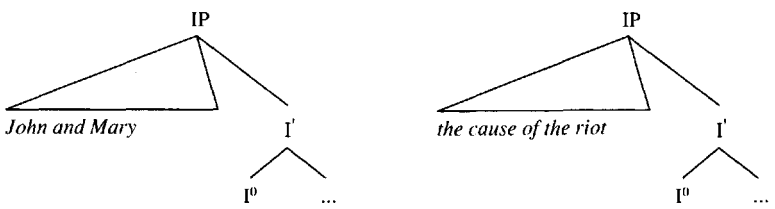
(36) a. DP *be*-Agr^0 . . . [$_{SC}$*t* DP]
b. DP *be*-Agr^0 . . . [$_{SC}$DP *t*]

The experiment gives the sharp result in (37).

(37) a. [*John and Mary*]$_{+\ PL}$ *are*$_{+\ PL}$ [*t the cause of the riot*].
b. [*The cause of the riot*]$_{+\ SG}$ *is*$_{+\ SG}$ [*John and Mary t*].

Clearly, the two DPs constituting the small clause preserve their number and determine verb agreement.[25] This is hardly surprising, if we follow the fundamental assumption mentioned at the beginning of section 4.1. Filling in the slots of the I^0-system with the DPs in question, as in (38), we can focus on the relevant segment.

(38)



Since verb agreement is determined by a spec-head relation with (some head contained in) the I^0-system, matching of the verb with preverbal DP is obvious. Nominal small clauses do confirm the general pattern.

But let us now reproduce the same type of experiment in Italian.

4.2. On Verb Agreement and Predicative Nominals (the case of Italian)

Let us take a pair of DPs mismatching in number (and in gender, since lists of proper names containing at least one masculine are grammatically considered as masculine), as in (39).

(39) a. [$_{DP}$*Gianni e Maria*]
Gianni and Maria + MASC + PL
b. [$_{DP}$*la causa della rivolta*].
the + FEM + SG cause + FEM + SG of-the riot

Again, a predicative relation can be established by these two elements, witness the possibility for them to occur in a small clause, as in (40).

(40) *Pietro ritiene* [$_{SC}$[$_{DP}$*Gianni e Maria*] [$_{DP}$la causa della rivolta]].
Pietro considers Gianni and Maria the cause of-the riot

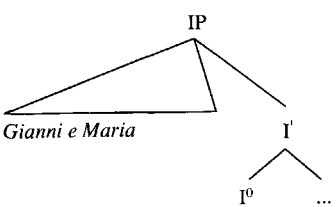
This pair, then, is a suitable choice for construing both a canonical and inverse sentence. What will verbal agreement be in case of DP raising? Let us do the experiment, as in (41).

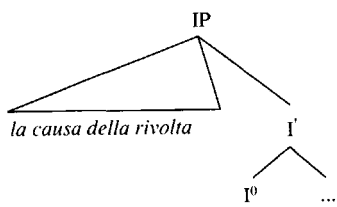
(41) a. *Gianni e Maria sono* [*t la causa della rivolta*]. (canonical)
Gianni and Maria are the cause of-the riot
b. *La causa della rivolta sono* [*Gianni e Maria t*]. (inverse)
the cause of-the riot are Gianni and Maria
c. **la causa della rivolta è* [*Gianni e Maria t*].
the cause of-the riot is Gianni and Maria

We have here a quite unexpected result. The pair of DPs contained in the nominal small clause seem to behave anomalously. When we raise either the plural or the singular DP, verb agreement is plural. Since we are now able to distinguish the two DPs by referring to their grammatical function, we can synthesize the result by saying that verb agreement is always with the subject, wherever it is.

Unlike English, then, we cannot simply maintain the fundamental assumption. Formally, we cannot adopt the two representations in (42) as valid, because the second one would give us singular, conflicting with the data.

(42)





We have two distinct lines of reasoning: either we simply give up the fundamental assumption, or we try to find a way to show that *la causa della*

rivolta is not in spec-IP (as an abbreviation for spec-Agr^0). We will pursue the second possibility here by reasoning as follows.

The syntax of nominal small clauses plays a central role here. Let us consider the examples in (43).

(43) a. *Maria ritiene* [$_{SC}$ *Gianni il colpevole*].
Maria considers Gianni the culprit
b.**Maria ritiene* [$_{SC}$*pro il colpevole*]
Maria considers *pro* the culprit
c.**Maria ritiene* [$_{SC}$*Gianni pro*]
Maria considers Gianni *pro*

Leaving aside the important issue concerning the licensing of *pro* (see Rizzi, 1986, and references cited there for a detailed discussion of this issue),[26] these examples show that neither the subject nor the predicative DP can be realized by *pro* in a nominal small clause in Italian. Nevertheless, nothing prevents either the subject or the predicative DP of a nominal small clause from being realized as "non-trivial chain" of *pro* as in the case of a copular sentence.[27] Things become clear once we look at the data in (44).

(44) a. *pro è* [*t il colpevole*]
is the culprit
b. *pro è* [*Gianni t*]
is Gianni

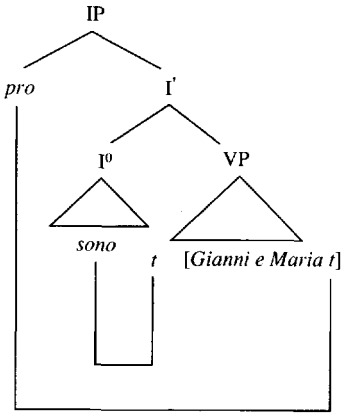
Clearly, the grammaticality of these glosses shows that there is no intrinsic prohibition for the subject or the predicate of a nominal small clause being *pro*. Simply, it must be the local environment within the small clause that blocks the licensing of *pro*. In fact, as soon as the chain of *pro* is "extended" to reach a rich inflectional context, the element is licensed. For our purpose, it is crucial to highlight that *pro* need not necessarily play the role of a "null subject;" in fact, it might as well play the role of a "null predicate."[28]

The crucial step now is to apply these considerations to inverse copular sentences in Italian.

Note first that a sentence like (45)[29] can be represented as in (46).

(45) *pro sono Gianni e Maria*
pro are Gianni and Maria

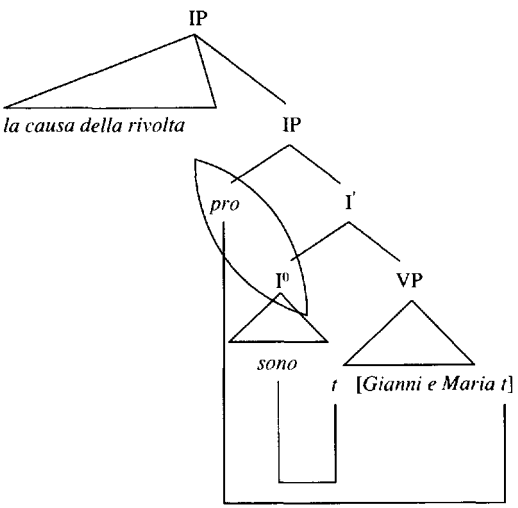
(46)



The element in spec-IP is a propredicative *pro*.[30] We can naturally assume that *pro* copies the ϕ-features from those of the subject, and these are what determine verb agreement in the proper configuration.

Bearing this in mind, we are now able to combine this result with the original problem of explaining verb agreement in inverse copular sentences with nominal small clauses without giving up the fundamental assumption. Formally, we can assign the structural representation (47) to sentence (41b) *La causa della rivolta sono Gianni e Maria* ('The cause of the riot is Gianni and Maria').

(47)

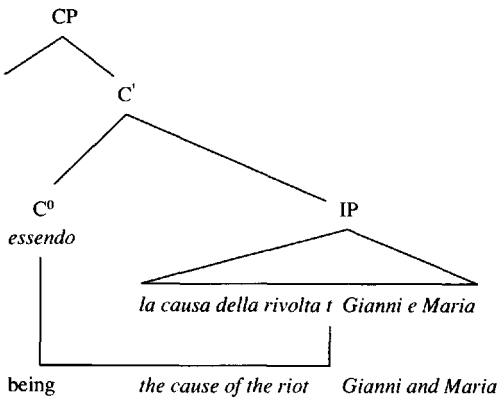


As indicated here, there is no need to give up the idea that verbal agreement is the result of spec-head agreement with the inflectional system. What must be abandoned is the idea that *la causa della rivolta* is raised to

spec-IP. We must assume that it is rather an adjunct, and that what forms a chain with the predicative position contained in the nominal small clause is a propredicative *pro*.

Note that the analysis of *la causa della rivolta* as an adjunct to IP (and not, say, to CP) can be independently supported by showing that in "Aux-to-Comp" constructs (see Rizzi, 1992) *la causa della rivolta* is left in a lower position, as shown in representation (48).

(48)



Synthesizing, verb agreement in Italian inverse copular sentences seems to be rightward, violating the fundamental assumption stating that verb agreement is the result of a spec-head relation between a DP and (the proper Agr^0 contained in the) I^0-system. According to the analysis proposed here, this assumption can be maintained for Italian. As for the relevance for parameter setting in language acquisition, my specific proposal is that, to preserve the fundamental principle that verbal agreement is triggered by a noun phrase in spec-IP, the Italian child is forced to assume that in inverse copular sentences such a position is occupied by *pro,* while the preverbal DP is an adjunct to IP.[31] This analysis shows that a piece of positive evidence is available to the child for setting the pro-drop parameter which is totally different from the classical type in (30), where a preverbal noun phrase is simply missing. In an inverse copular sentence of the kind in (41b), a preverbal noun phrase is indeed present, but it does not interact with the I^0-system.

Still a residual question emerges: why can't the predicative DP *la causa della rivolta* be raised to spec-IP, triggering agreement?

4.3. The Minimal Hypothesis

In fact, it seems to me that there is no necessity for a predicative nominal not to move directly to spec-IP triggering agreement with the verb. Indeed,

this is exactly what happens in English. Thus, there seem to be no principled reasons for this process to be blocked in Italian. I would like to suggest that there is no "explanation" for Italian being different: the difference is merely parametrical. Note that I am not simply adopting the usual view that in Italian *pro* can be licensed, as opposed to English. My claim is much stronger and can be synthesized as in (49).

(49) if *pro* can be licensed, then it must be licensed.[32]

Note that in principle this conclusion has wide-ranging consequences. In fact, although it is drawn from the analysis of nominal small clauses and copular sentences, if it is tenable it must be generalized to all types of sentences. Any theory that assumes *pro* to be obligatory only in copular sentences, and only in the inverse type of such class, would be totally implausible. How could a child know the difference?

Summarizing, if our reasoning is correct, along with the classic examples like (50), a child can set the proper value of the pro-drop parameter on the basis of inverse copular sentences like (51).[33]

(50) a. *(*he*) *comes*
b. (*egli*) *viene.*
he comes

(51) a. *the cause of the riot is John and Mary.*
b. *la causa della rivolta sono Gianni e Maria.*
the cause of-the riot are Gianni and Maria

In fact, the second type of evidence could perhaps be regarded as stronger. Potentially, for examples like *chiama* 'calls,' the child could just skip the subject position and produce an incomplete structure.[34] In the latter case, instead, he will be forced to introduce *pro,* to avoid agreement of the verb with the overt preverbal DP.

As a final remark, note that only small clauses with predicative nominals are relevant, because only these types of small clauses yield inverse constructions.[35]

ACKNOWLEDGMENTS

This chapter explores some consequences of an analysis of clausal structure that I developed in my doctoral dissertation, Moro (1993). Many persons have contributed to this work. Special thanks to Guglielmo Cinque, Giorgio Graffi, Richard Kayne, and Giuseppe Longobardi for helpful and generous comments.

REFERENCES

Belletti, A. (1990). *Generalized verb movement.* Rosemberg & Sellier, Turin.

Bowers, (1993). The syntax of predication, *Linguistic Inquiry,* 591–656.

Burzio, L. (1986). *Italian syntax.* Reidel, Dordrecht.

Cardinaletti, A. and T. Guasti. (1991). Epistemic small clauses and null subject. *ESCOL* 8, 23–33.

Chomsky, N. (1981). *Lectures on government and binding.* Foris, Dordrecht.

Chomsky, N. (1986a). *Knowledge of language.* Praeger, New York.

Chomsky, N. (1986b). *Barriers. Linguistic Inquiry Monograph Series 13.* MIT Press, Cambridge, Mass.

Chomsky, N. (1988). Some notes on the economy of derivation and representation. *MIT Working Papers in Linguistics* 10. Cambridge, Mass.

Chomsky, N. (1993). A minimalist program for linguistic theory, in K. Hale and S. J. Keyer (eds.), *A view from Building 20,* 1–52. MIT Press, Cambridge, Mass.

Cinque, G. (1991). *The pseudo-relative and Acc-ing constructions after verbs of perception.* Unpublished manuscript, University of Venice.

Giorgi, A., and G. Longobardi. (1991). *The syntax of noun phrases.* Cambridge University Press, Cambridge.

Graffi, G. (1988). Structural subject and thematic subject. *Linguisticae Investigationes* 12, 397–414.

Graffi, G. (1991). *La sintassi tra ottocento e novecento.* Il Mulino, Bologna.

Haegeman, L. (1990). Non-overt subjects in diary contexts, in X. Mascaró and X. Nespor (eds.), *Grammar in progress,* 167–179.

Hale, K. and S. J. Keyser. (1991). On the syntax of argument structure. *The Lexicon Project Monograph Series,* Center for Cognitive Science, MIT, Cambridge, Mass.

Higginbotham, J. (1990). Philosophical issues in the study of language, in I. Osherson and X. Lasnik (eds.), *An Invitation to Cognitive Science.* MIT Press, Cambridge, Mass.

Huang, J. (1984). On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15, 531–574.

Hyams, N. (1986). *Language acquisition and the theory of parameters.* Reidel, Dordrecht.

Jespersen, O. (1924). *The philosophy of grammar.* George Allen & Unwin, London.

Kayne, R. (1984). *Connectedness and binary branching.* Foris, Dordrecht.

Kayne, R. (1985). L'accord du participe passé en français et en italien. *Modeles linguistiques* 7, 73–89.

Larson, R. (1988). On the double object construct. *Linguistic Inquiry* 19, 335–391.

Manzini, R. (1983). *Restructuring and reanalysis.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Manzini, R., and K. Wexler. (1987). Parameters, binding theory and learnability. *Linguistic Inquiry* 14, 421–426.

Milsark, G. L. (1974). *Existential sentences in English.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Moro, A. (1988). Per una teoria unificata delle frasi copulari. *Rivista di grammatica generativa,* 13, 81–110.
Moro, A. (1990). *There*-raising: Principles across levels. Paper presented at GLOW Conference, St. John's College, Cambridge.
Moro, A. (1991a). The raising of predicates: Copula, expletives and existence. *MIT Working Papers in Linguistics* 15.
Moro, A. (1991b). Review of Napoli (1989). *Studies in Language* 15.
Moro, A. (1992). A syntactic decomposition of a lexical primitive: The "unaccusativity effect." Paper presented at GLOW Conference, Universidade de Lisboa.
Moro, A. (1993). *I predicati nominali e la struttura della frase.* Ph.D. dissertation, Università di Padova-Venezia, Italy.
Napoli, D. J. (1989). *Predication.* Cambridge University Press, Cambridge.
Platzack, C. (1987). The Scandinavian languages and the null-subject parameter. *Natural Language and Linguistic Theory* 5, 377–402.
Pollock, J.-Y. (1989). Verb movement, UG and the Structure of IP. *Linguistic Inquiry,* 20, 365–424.
Radford, A. (1990). *Syntactic theory and the acquisition of English syntax.* Blackwell, Oxford.
Rizzi, L. (1986). Null objects in Italian and the theory of pro. *Linguistic Inquiry* 17, 501–558.
Rothstein, S. (1983). *The syntactic form of predication.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Stowell, T. (1978). What was there before there was there. *Chicago Linguistic Society* 14, 475–471.
Stowell, T. (1981). *Origins of phrase structure.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Williams, E. (1975). Small clauses in English, in J. Kimball (ed.), *Syntax and Semantics* 4, 249–273. Academic Press, New York.
Williams, E. (1980). Predication. *Linguistic Inquiry* 11, 203–238.
Williams, E. (1984). *There*-insertion. *Linguistic Inquiry* 15, 131–153.

NOTES

[1]In Moro (1992; see also Moro, 1993) I also argued that *have* (and its counterpart in Italian, *avere*) and unaccusatives also have a small clause complement. The possibility of *avere* occurring with *ci* (which I analyzed as a pro-predicate rather than as an expletive) was considered a strong support to this analysis.

[2]In fact, if one adopt the Hale and Keyser (1993) or the Larson (1988) analysis of the double object constructs as not involving a small clause constituent but rather

VP projection, then the idea that small clauses contain a form of predication could be generalized to all instances of small clauses.

[3]In fact, the very notion of clausal structure is far from being uniform throughout the history of linguistics. Graffi (1991:187), for example, noted that if we just limit observations to the early 1930s, more than 230 different definitions for clausal structure had been proposed by linguists.

[4]For a comment on Napoli (1989) see Moro (1991b).

[5]Note that from a predicational point of view, the idea that subjects are generated VP-internally is irrelevant. In fact, the necessity for assuming such a hypothesis comes from θ-theory, not from predication. Within a VP, say [$_{VP}$*John* [$_{V'}$*hit the ball*]], the role of subject of predication must be necessarily not defined; otherwise we would have two different VPs for the two corresponding active and passive sentences, and by doing so we would miss a fundamental assumption.

[6]Although we are focusing on small clauses here, clearly these questions could be extended to the broader domain of fully inflected clauses.

[7]Many linguists assume that the copular sentence like the one given here is ambiguous between predication and identity (see, e.g., Rothstein, this Volume). We will leave this problem aside here. See Moro (1993) for a detailed and critical discussion of this issue and a brief history of the notion of copula.

[8]In a work in progress, I am trying to derive the order of constituents in a small clause from θ-role assignment, if there is any (see section 2.2). The core proposal can be illustrated here by considering the example in (i).

(i) a. *I consider this picture of John the cause of the riot.*
b.**I consider the cause of the riot this picture of John.*
c. *his picture of John*
d.**his cause of the riot*
e.**Mary is a picture of the wall.*
f. *Mary is the cause of the riot.*

As this pattern shows, *cause* is unable to assign its θ-role within the noun phrase [(i d)], but it is able to assign it outside [(i f)]; *picture,* instead, cannot assign it outside [(i e)] but it can assign it inside [(i c)]. The conclusion it that since θ-role assignment goes from right to left, at least for the external θ-role we are considering here, the only possible relative order of the two phrases headed by *cause* and *picture* is the one where the latter precedes the former (a special thanks to Gennaro Chierchia for a discussion of this topic).

[9]In this chapter I leave the problem of case assignment to predicative nominals aside. See Moro (1993) for a full discussion. To show that predicative nominals can receive case in English, we can limit ourselves to the two examples in (i).

(i) a.*(*for*) *John to be t the cause of the riot is unusual*
b.*(*for*) *the cause of the riot to be John t is unusual*

If we assume that *for* is inserted in (i a) to assign case to the subject *John,* it would be hard to deny that the same process occurs in (i b) to assign case to the predicate *the cause of the riot.*

[10]I leave the question open as to whether this is a parametrical difference with respect to directionality of predication among languages. We can just observe that in this single case, this direction can be derived from θ-theory: the subject *John* receives a θ-role from *cause,* since θ-role assignment is from right to left; then the order is immediately deduced.

[11]In Italian, this restriction seems to be less severe. Consider for example the pair in (i).

(i) a. *Maria ritiene Gianni la causa della rivolta.*
Maria believes Gianni the cause of-the riot
b.?*Maria ritiene la causa della rivolta Gianni.*
Maria believes the cause of-the riot Gianni

Although I am not going into this problem here, note that this can potentially be related to the fact that in Italian there are spec-positions between the verb and the small clause complement (cf. Pollock, 1989; Belletti, 1990), as in cases like (ii).

(ii) *Maria ritiene spesso Gianni il peggior allievo.*
Maria believes often Gianni the worst student

Thus, a potential solution to the paradox would take the predicative nominal in (i b) to have landed in one of these higher positions, unavailable in English.

[12]Assuming now that noun phrases can be considered as projections of determiner phrases, we will update the list of Xs by adding D. In any case, this functional head cannot be considered to be the element projecting the small clause.

[13]To avoid possible confusion, note that this version of the split-INFL hypothesis (as proposed in Moro, 1988) is independent from Pollock's (1989) analysis (see also Belletti, 1990, and references cited there). In spite of the similar conclusion, the two theories are totally unrelated. In fact, the essential proposal of my theory was to allow predicative raising to preverbal position, which I then called spec-TP, the copula being a bare T^0. In this section it will be shown that if we take Agr^0 to be what Pollock's theory indicated and entered into the minimalist program, then small clauses cannot (always) be considered AgrPs.

Apart from the split-INFL hypothesis, the analysis of small clauses as AgrPs was also proposed by Kayne (1985).

[14]The same representation is adopted in Chomsky (1988, 1993). Note that in this case, the idea is related to Pollock's (1989) theory.

[15]A similar case occurs in other languages. For example, it is a very well known fact that in German there is a similar phenomenon. Consider (i).

(i) a. *das Haus ist neu.*
the house is new-no agr/null agr
b. das neue Haus
the new-agr house

Although the extension of this phenomenon across languages and its correlation with case assignment should be studied carefully, we can just limit ourselves to this

brief note (I am indebted to Giorgio Graffi, Alessandra Tomaselli, and an anonymous reader for the German example).

[16]Of course, technically one can always assume that an Agr^0 is also present in the case where we do not see any overt agreement, as a "null" Agr^0. I will not adopt this solution, though, because it seems to me to be totally ad hoc and, what is perhaps more important, it would be not compatible with the case where agreement can be overt, as in (15).

[17]Of course, this is not to say that directionality has been taken to be involved only in θ-assignment. For example, (see Travis, 1984) directionality is also considered to govern Case-assignment.

[18]For a detailed discussion of the inner structure of DPs see Giorgi and Longobardi (1990) and references cited there.

[19]See Graffi (1988) for a discussion of what he calls "thematic" and "structural" subject in these types of construction.

[20]By "Agr-theory" I intend both the theory of the distribution of AgrPs and possibly Case theory, according to Chomsky's (1993) approach.

[21]In Moro (1993) I tentatively proposed analyzing *as* on a par with the infinitival marker *to* as instances of the same type of element, that is, a predicative marker. As for the nature of *of*-insertion, see Chomsky (1993: 46, n. 22).

[22]The notion of "adjunction" is stated in different ways and plays different roles in the two frameworks: in particular, recall that in Chomsky's approach adjunction is a binary operation that need not extend its target, and that in Kayne's theory there can be no adjunction to the right.

[23]The neutral term "establish" is used here in a wide sense to subsume both incorporation and checking, as proposed in Chomsky (1993). Note also that the split-INFL hypothesis (as in Pollock, 1989) is irrelevant.

[24]I will leave aside the important question concerning the reason why one DP ever has to move. See the cited work for a proposal.

[25]As far as I know, the unified theory of copular sentences adopted here yields the only case where verb agreement is determined by a predicate. As for the relevance of verb agreement in linguistics see Graffi (1991) and the appendix to Moro (1993).

[26]Interestingly, if we apply Rizzi's theory of licensing of *pro,* we can produce an argument to support the idea that nominal small clauses are not AgrPs. Rizzi's theory says that licensing of *pro* depends on two factors: (a) formal licensing requiring that *pro* be governed by a proper type of head; (b) identification requiring that the content of *pro* be recovered through the rich agreement specification. Were nominal small clauses projected by Agr^0, *pro* should be licensed, contrary to the facts. See also Cardinaletti and Guasti (1992).

[27]A "non-trivial chain," here, is meant to be a chain other than single-membered chains.

[28]For this reason, it seems to me that the terminology referring to the parameter in question as the "null subject parameter" should be abandoned in favor of the underspecified "pro-drop" parameter.

[29]For the sake of simplicity we will not consider the canonical representation that can be assigned to this sentence. A full treatment, avoiding all possible ambiguities, can be found in Moro (1993).

[30]It is important to note that a phrase like *sono Gianni e Maria* 'are Gianni and Maria' is not to be considered a case of subject inversion (see Burzio, 1986) as in *pro telefonano Gianni e Maria* '*pro* telephone Gianni and Maria.' In other words, *pro* is not an "expletive." In fact, a sentence like *Gianni and Maria sono* 'Gianni and Maria are' is totally unacceptable, as if something (viz. the predicate) were missing.

[31]Of course, this implies that this fundamental principle is part of the grammar of the child. Whether this is a true statement can only be empirically tested, and I am now not in a position to offer any data.

[32]I am restricting the view to subject agreement. Whether this claim can be extended to other instances of *pro* is an empirical matter that cannot be pursued here.

[33]Note that, besides the rather artificial samples given here, the class of inverse copular sentence is quite productive and large. It includes cases like (i)–(iv).

(i) *It's John and Mary.*
(ii) *What I didn't see is John and Mary*
(iii) *There are too many problems for this solution.*
(iv) *It's that I don't like it!*

See, again, Moro (1993) for a comprehensive analysis. Note that *there*-sentences are here analyzed as inverse sentences where there is not the expletive of the subject of predication but rather a (pro)predicative element raised from the small clause. If *there*-sentences play an important role in setting the value of the pro-drop parameter (as proposed by Hyams, 1986), another interesting issue would be that of exploring whether the new analysis is consistent with the acquisition data.

[34]In a minimalist framework where phrases are built "step by step" (i.e., derivationally) that lacks the projection principle, this possibility of producing an incomplete VP by missing a spec-position might acquire particular relevance.

[35]For future research, it would be interesting to do an experiment testing whether the pro-drop parameter is set before, after, or at the same time inverse structures appear in children's syntax. In fact, since inverse sentences require raising of the predicate to spec-IP, a natural prediction is that they show up no sooner than when the inflectional system is mature.

II

TYPES OF SMALL CLAUSES

This page intentionally left blank

SMALL CLAUSES AND COMPLEX PREDICATES

HELES CONTRERAS

Department of Linguistics
University of Washington
Seattle, Washington

1. INTRODUCTION

This chapter examines the structure of the sentence type illustrated in (1).

(1) a. *We consider* [*Mary intelligent*].
b. *We saw* [*Mary cross the street*].
c. *We consider* [*Mary our best friend*].
d. *We want* [*Mary in our committee*].

The controversy surrounding the analysis of these structures has centered on whether the bracketed strings are (D-structure) constituents or not. The affirmative answer to this question, going back to Jespersen (1940), has been defended in recent years primarily by Stowell (1983) and has gained wide acceptance mainly among linguists working within the principles-and-parameters model (Bosque, 1990, 1993; Chung and McCloskey, 1987; Contreras, 1987; Hoekstra, 1984; Hornstein and Lightfoot, 1987; Kitagawa, 1985; Rizzi, 1986; A. Suñer, 1990, to cite a few).

The main alternative to this analysis, suggested by Chomsky (1955/75), is the complex predicate hypothesis, according to which the bracketed strings in (1) are not D-structure constituents, but the phrases *consider . . . intelligent, saw . . . cross the street, consider . . . our best friend,* and *want . . . in our committee* are. Different implementations of this idea have been suggested by Bach (1979, 1980), Dowty (1982), Hoeksema (1991), Jacobson (1987), and others.[1]

Syntax and Semantics, Volume 28
Small Clauses

In this chapter I argue that the small clause analysis is correct for adjectival and verbal predicates (i.e., predicates headed by a [+V] category) as in (1a) and (1b), but not for nominal or prepositional predicates (i.e., predicates headed by a [−V] category) as in (1c) and (1d).[2] For the latter structures I propose a complex predicate analysis modeled on Larson's (1988) structure for double object constructions.

2. MOTIVATION

In this section I examine two differences between [+V] and [−V] predicates which provide the rationale for the proposal to analyze them differently.

2.1. Binding Domains

The first difference concerns the identification of the local domain (governing category) for binding purposes. It is well known that some small clauses are opaque domains for binding. This is illustrated in (2) and (3) for adjectival and verbal small clauses respectively.

(2) a. *We consider* [*Mary proud of herself*].
b.**We consider* [*Mary proud of ourselves*].
c. *We consider* [*Mary proud of us*].
d.**We consider* [*Mary*$_i$ *proud of her*$_i$].

(3) a. *We saw* [*Mary embarrass herself*].
b.**We saw* [*Mary embarrass ourselves*].
c. *We saw* [*Mary embarrass us*].
d.**We saw* [*Mary*$_i$ *embarrass her*$_i$].

What has not been widely noted is that [−V] predicates follow a different pattern, as in (4).

(4) a. *They*$_i$ *consider John each other*$_i$*'s friend.*
b. *They*$_i$ *want the wind away from each other*$_i$.

These sentences contrast with (2b) and (3b). Their grammaticality shows that the governing category for the anaphors contained in them is larger than in the case of the [+V] predicates illustrated in (2) and (3). More precisely, if Chomsky's (1986) appeal to the notion COMPLETE FUNCTIONAL COMPLEX (CFC) in the identification of governing category is correct, these contrasts indicate that while *Mary* in (2) and (3) is a subject, *John* and *the wind* in (4a) and (4b) respectively are not.

2.2. Reconstruction

Barss (1986) noted that when a predicate is fronted, it must be reconstructed to its original D-structure position; whereas a fronted argument may be reconstructed to intermediate positions. This is illustrated in (5).

(5) a. *[*Criticize himself*]$_i$, *John thinks his wife will not* t_i.
b. [*How much criticism of himself*]$_i$ *does John think his wife will tolerate* t_i?

Huang (1993) attributes this contrast to the presence of the trace of the VP-internal subject in the fronted VP *criticize himself*, which, being the trace of *his wife*, is not an appropriate binder for *himself*.

Sportiche (1990) shows that adjectival small clauses behave like the fronted VP in (5a) with respect to reconstruction, as in (6).

(6) *[*How proud of each other*]$_i$ *do they consider John* t_i?

He concludes that the fronted AP must contain the trace of its subject, and that Huang's (1993) account of fronted VPs can be extended to AP small clauses.

Disregarding for the time being the question of where the small clause subject moves to, it is clear that for Sportiche's proposal to go through, some version of the small clause analysis must be adopted for adjectival predicates. I will assume that this is correct.

Consider now the behavior of [−V] predicates with respect to reconstruction, as in (7).

(7) a. [*How good a friend of each other('s)*]$_i$ *do they consider John* t_i?
b. [*How far from each other's boats*]$_i$ *do they want John* t_i?

The grammaticality of these sentences contrasts with the ungrammaticality of (6). The implication is that if Sportiche's account of (6) is correct, the fronted phrases in (7) do not contain a trace of *John*. This will, of course, be the case if [−V] predicates do not form small clauses and hence have no subjects.

In conclusion, both of the differences discussed in this section suggest that while [+V] predicates have subjects, the embedded [−V] predicates in (1c) and (1d) do not.

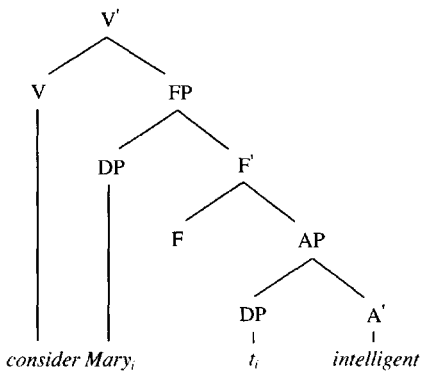
3. THE STRUCTURE OF [+V] CLAUSES

In this section I present an analysis of [+V] clauses which is compatible with the observations made in the previous section.

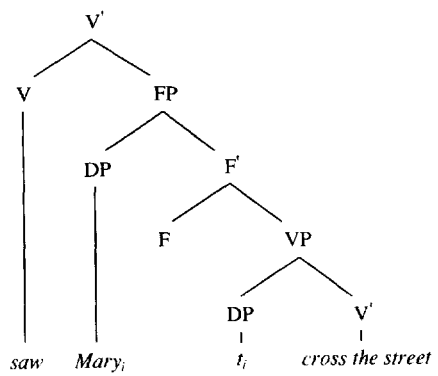
If we assume, following Chomsky (1986), that the local domain for binding is a complete functional complex (CFC), we must analyze the bracketed constituents in (1a) and (1b) as clauses having *Mary* as their subject, as proposed by Stowell (1983).

However, the reconstruction facts discussed by Sportiche (1990) suggest that at S-structure the subject of the small clause occupies a position external to the small clause. I will suggest, following proposals by Bosque (1990), Cardinaletti and Guasti (1992), Raposo and Uriagereka (1990), and Travis (n.d.), that there is a functional projection immediately dominating the embedded AP and VP in (1a) and (1b), and that the subject of the small clause is in the specifier of this projection at S-structure, where it is assigned objective Case by the matrix predicate. This is shown in (8) and (9), where F simply means 'functional.'[3]

(8)



(9)



Given these structures, the binding and reconstruction facts discussed above follow. In terms of binding, both AP and VP are CFCs, since they include a subject. The reconstruction effects follow from the fact that when AP and VP is raised, it includes the trace of its subject.[4]

For the case of adjectival small clauses, there is additional support in favor of the claim that their subject asymmetrically c-commands the predicate at some level. Consider the data in (10).

(10) a. *I consider nobody any good.*
b.**I consider anybody no good.*

This is the same kind of asymmetry that Barss and Lasnik (1986) noted with respect to double object constructions. It is a well-known fact that negative polarity items like *any good* or *anybody* must occur in the c-command domain of an "affective" element like negation or a negative quantifier (Acquaviva, 1993; Klima, 1964; Ladusaw, 1985; Laka, 1992; Linebarger, 1980; Uribe-Etxebarria, 1993; Zanuttini, 1991). The proposed analysis accounts for the facts in (10), since after raising, the subject *nobody* c-commands the negative polarity item *any good* in (10a), while raising of *anybody* in (10b) puts it outside the c-command domain of the negative quantifier *no good.*

The analysis proposed also accounts for the asymmetry illustrated in (11).

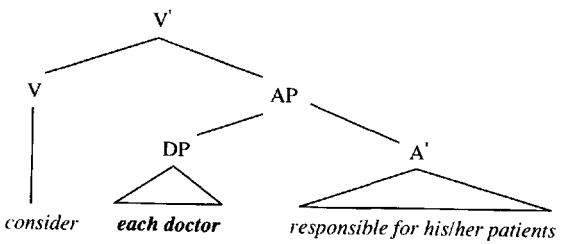
(11) a. *I consider each doctor responsible for his/her patients.*
b. *I consider his/her doctor responsible for each patient.*

The pronouns *his* and *her* in (11a) can be interpreted as variables bound by the quantifier *each doctor,* but the pronouns in (11b) do not have a bound variable interpretation.

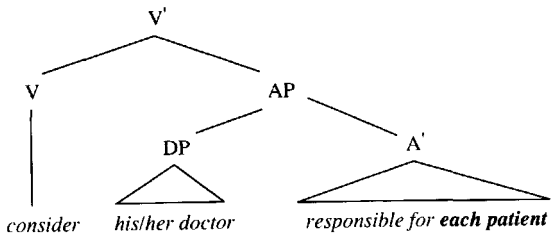
It is generally assumed that a pronoun can be interpreted as a bound variable only if it is c-commanded by a quantifier at LF (see, e.g., Higginbotham, 1980). Following DeCarrico (1983) and May (1985), let us further assume that quantifier phrases can freely adjoin to dominating maximal projections.

Under these assumptions, let us see if the facts in (11) can be derived within a nonraising analysis of small clauses. The (partial) structures in question are as in (12) and (13).

(12)



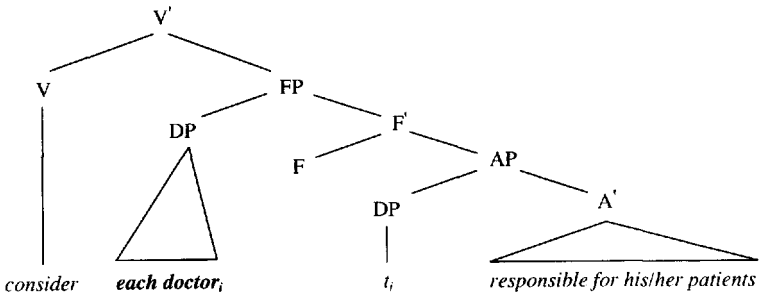
(13)



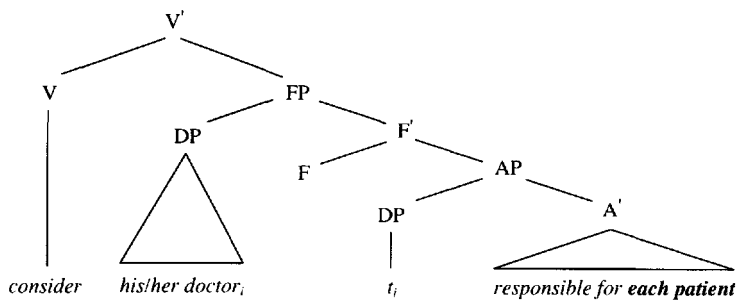
The emphasized quantifier phrases adjoin to AP at LF.[5] As a result, it is wrongly predicted that the pronouns in both structures may be interpreted as bound variables.

Consider now what happens under the raising analysis suggested here, that is, with the S-structures in (14) and (15).

(14)



(15)



Under this analysis, the quantifier phrase *each doctor* in (14) adjoins to FP at LF, thus preserving its asymmetrical c-command relation with the pronouns *his* and *her*. The quantifier phrase *each patient* in (15) adjoins to AP, not high enough to c-command the pronouns *his* and *her*. Adjunction to higher nodes, while possible in principle, is disallowed in May's (1985) account as a violation of Pesetsky's (1982) path containment condition.

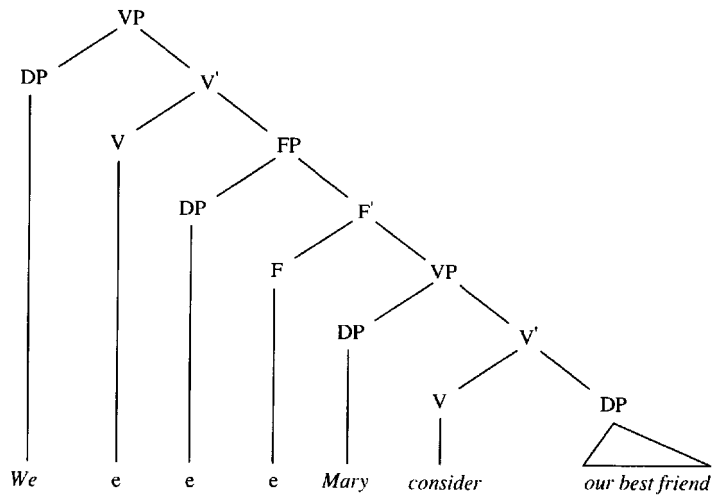
4. THE STRUCTURE OF [−V] CLAUSES

Let us now consider the structure of nominal and prepositional clauses as in (1c) and (1d), repeated here.

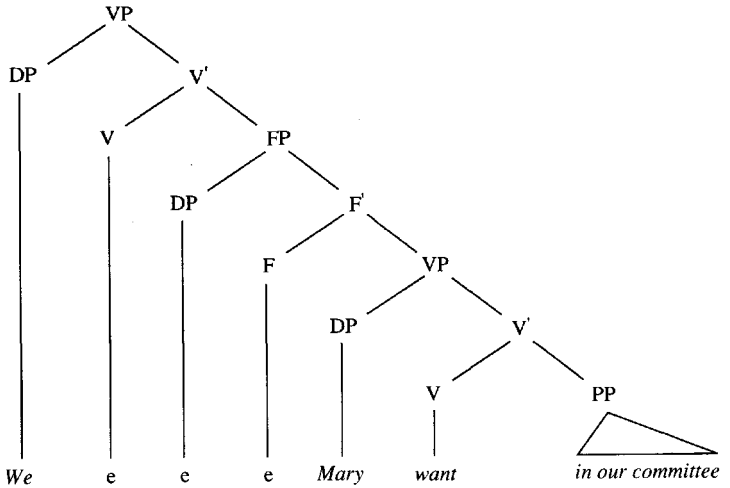
(1) c. *We consider Mary our best friend.*
d. *We want Mary in our committee.*

As noted above, binding and reconstruction facts suggest that *Mary* is not a subject in these cases. On the analogy of Larson's (1988) analysis of double constructions and incorporating Travis's (n.d.) proposal of an intermediate functional projection over the lower VP,[6] I suggest that the D-structures for (1c) and (1d) are (16) and (17) respectively, ignoring the functional projections over the higher VP.

(16)



(17)



I assume that the verbs *consider* and *want* are raised to F and then to the higher V position and that *Mary* moves to Spec of FP to get objective Case.

Given these structures, the CFC of the verbs *consider* and *want* is the higher, not the lower, VP. From this it follows that an anaphor in the lower complement [DP in (16), PP in (17)] can be bound by either of the higher DPs. Binding by the highest DP was illustrated in (4), repeated here.

(4) a. *They$_i$ consider John each other$_i$'s friend.*
b. *They$_i$ want the wind away from each other$_i$.*

Binding by the lower DP is illustrated in (18).

(18) a. *I consider them$_i$ each other$_i$'s friends.*
b. *I kept them$_i$ away from each other$_i$.*

Let us now consider the behavior of nominal and prepositional predicates with respect to reconstruction. The relevant examples are in (7), repeated here.

(7) a. [*How good a friend of each other('s)*]$_i$ *do they consider John* t_i?
b. [*How far from each other's boats*]$_i$ *do they want John* t_i?

In contrast with the adjectival small clauses [see (6)], the fronted DP and PP in (7) may be reconstructed in an intermediate position where the anaphor *each other* can be bound by *they*. Recall that what makes this impossible for adjectival small clauses, according to Sportiche (1990), is the presence of a subject trace in the fronted constituent. If the D-structures for (7a) and (7b) parallel (16) and (17) respectively, the fronted constituent is the lowest DP or PP, neither of which contains a subject or a subject trace.

Thus, the crucial factor which disallows intermediate reconstruction under the Huang/Sportiche account is not present, and the grammaticality of (7) is accounted for.

I now discuss two additional arguments in favor of the Larsonian structure proposed for nominal and prepositional predicates.

The first argument concerns the well-known subcategorization dilemma discussed by Hornstein and Lightfoot (1987) which arises from the impossibility of distinguishing plain DPs like *the President* from "small clause" DPs like *the President our best friend* within Stowell's (1983) uniform small clause analysis. The problem is how to state the subcategorization of verbs like *expect* and *consider* so that the former is allowed to take plain DPs but not small clause DPs, while allowing the latter to take small clause DPs, as shown in (19).[7]

(19) a. *We expected the President.*
b.**We expected the President our best friend.*
c. *We consider the President our best friend.*

The Larsonian analysis proposed here provides an answer. There are no small clause DPs. Verbs like *expect* subcategorize for one DP. Verbs like *consider* subcategorize for two independent DPs, their different hierarchical arrangement resulting from Larson's (1988) assumptions concerning X-bar theory, in particular his single complement hypothesis which disallows nonbinary structures.[8]

The second argument has to do with the status of the alternation in (20), discussed by Maxwell (1984).

(20) a. *I want them out.*
b. *I want out.*

Under the small clause analysis, the structure of (20b) should be (21).

(21) I_i *want* [PRO_i *out*].

But this is not possible under standard assumptions regarding the distribution of PRO, since PRO is governed by *want.*

The Larsonian analysis proposed here provides a solution to this problem: *want* subcategorizes for an obligatory PP (*out*) and an optional DP (*them*). (20b) is simply a case where the optional DP has not been selected.

5. POTENTIAL PROBLEMS

In this section I discuss two potential problems for the proposal that nominal predicates have a Larsonian structure. I conclude that neither

problem is real, an : that the analysis suggested here is compatible with the facts in question.

5.1. Rizzi's Chain-formation Argument

Stowell (1991) suggests that Rizzi's (1986) account of the ungrammaticality of Spanish structures like (22) provides an argument in favor of the small-clause hypothesis.

(22) *$Juan_i$ se_i *parece inteligente.*
John to-himself seems intelligent
'John seems intelligent to himself.'

Since the effect is also observed with nominal predicates, as shown in (23), we must determine whether these facts actually argue in favor of a uniform small clause analysis.

(23) *$Juan_i$ se_i *parece un buen amigo.*
John to-himself seems a good friend
'John seems a good friend to himself.'

Under the small clause analysis, the S-structure of (22) is (24), omitting irrelevant details, where e' is an optional Experiencer selected by *parecer* 'seem.'

(24) $Juan_i$ se_i *parece* $[_{AP}$ e_i *inteligente*$]$ e'_i.

Under Rizzi's (1986) account, the only chain structure that could satisfy the theta criterion, namely (25), is ill formed, since it would require skipping intermediate binders.

(25) (*Juan, e*) (*se, e'*)

This follows from the chain formation algorithm in (26), which entails (27), plus the assumption that clitics like *se* are potential A-binders.

(26) $C = (\alpha_1 \ldots \alpha_n)$ is a chain iff, for $1 \leq i < n$, α_i is the local binder of $\alpha_i + 1$.

(27) Chain formation cannot skip intervening binders.

Stowell (1991) argues that since Rizzi's account holds only if one assumes the subject trace *e,* these facts provide independent evidence for the small clause hypothesis. I would suggest that this argument is not valid.

Fontana and Moore (1992) have pointed out that Rizzi's account is incompatible with the internal subject hypothesis assumed in much recent

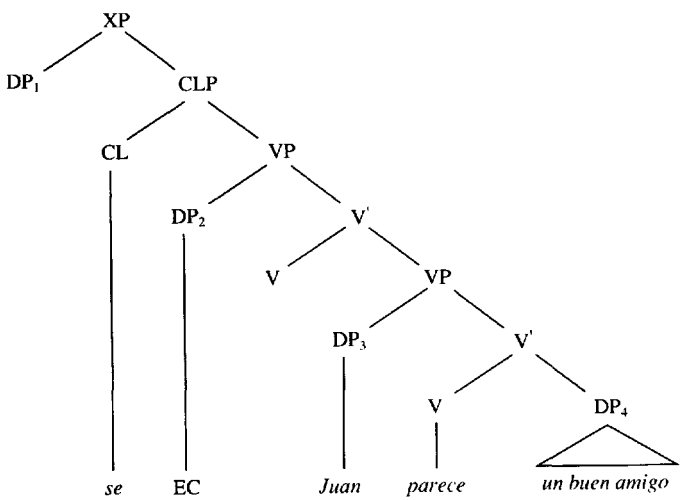
work, since under that hypothesis there are structures parallel to (22) and (23) in the relevant respects which are well formed, for instance (28) in Spanish.

(28) *Los niños$_i$ se$_i$* [$_{VP}$ *e$_i$ lavan e'$_i$*].
the children REFL wash
'The children wash themselves.'

To the extent that the internal subject hypothesis is well motivated, Rizzi's chain formation algorithm makes incorrect predictions. Fontana and Moore (1992) show that Rizzi's algorithm can be maintained as long as clitics are not considered potential A-binders, which is consistent with most current proposals regarding the status of clitics (Borer, 1983; Jaeggli, 1981; Sportiche, 1992; M. Suñer, 1988). Under Fontana and Moore's reinterpretation of Rizzi's algorithm, the intervening potential binder which prevents the subject *Juan* from forming a chain with its trace in (24) is not the clitic *se,* but the empty category denoting the Experiencer (*e'*) which occupies a higher position than the trace (*e*). Since in (28) no A-position intervenes between the subject trace and the subject, chain formation is legitimate.

Let us examine whether this account, which I take to be correct, is compatible with the analysis proposed in this chapter. The crucial case to consider is that of [−V] predicates, which I claim have no D-structure subjects. Under the assumptions discussed so far, the D-structure for (23) is (29).[9]

(29)



The lexical specification associated with *parecer* 'seem' can be thought of in either subcategorization or thematic terms. For concreteness, I assume that *parecer* is associated with the thematic grid in (30).

(30) *parecer* {(Experiencer), Theme, Property }

The optional Experiencer is represented by the EC dominated by DP_2, the Theme is realized as *Juan* 'John,' and the thematic role I am calling Property as *un buen amigo* 'a good friend.' The hierarchical arrangement of DP_2, DP_3, and DP_4 results from the thematic hierarchy in (31) suggested by a number of authors (Belletti and Rizzi, 1988; Carrier-Duncan, 1985; Fillmore, 1968; Larson, 1988).

(31) Agent > Experiencer > Theme > Goal > Obliques (manner, place, time, property, . . .)

The DP *Juan* must move to the position indicated as DP_1 for Case purposes, since the verb *parecer,* being intransitive, cannot Case-mark it even after the verb raises to the empty V position. Since there is an intervening potential A-binder, namely the EC in DP_2, *Juan* cannot cross it, according to Rizzi's chain formation algorithm. Note, however, that this result is obtained without having to posit that *Juan* is the subject of the DP *un buen amigo* 'a good friend' at any level. Thus, the analysis proposed is compatible with Fontana and Moore's reinterpretation of Rizzi's original proposal.

5.2. Bosque's (1993) Cataphoric Sentences

Another potential problem for the proposal that nominal predicates do not form small clauses stems from Bosque's (1993) analysis of cataphoric sentences such as (32).

(32) [*Peter's e*] *was a strange family.*

Bosque shows convincingly that the empty category in cases like this can be identified by backward anaphora (more properly, cataphora), an option which is not open to cases like (33).

(33) [*Peter's e*] *knew my family very well.*

He shows that the cataphoric option is available only when there is a predicate nominal as a potential identifier for the empty category. He then suggests that this contrast can be captured syntactically by assuming that *Peter's e* is the D-structure subject of a nominal small clause in (32), an analysis which is not conceivable for (33). Bosque then proposes the licensing condition in (34) for the empty category in question, which he identifies as *pro.*

(34) A predicate nominal can lexically identify the features of a nominal head external to it only if their maximal projections c-command each other inside a small clause (my translation).

I suggest that there is an alternative account of these facts which does not rely on a small clause analysis for structures like (32).

Let us assume, following Stowell (1989), that while NPs are always predicative, DPs may be either referential, as in (35), or predicative, as in (36).

(35) *I saw* ***that man.***

(36) *He became* ***an engineer.***

The difference between these two types of DP, according to Stowell (1989), results from the different function of the Determiner head. While in (35) *that* converts the predicate *man* into a referential expression, the Determiner *an* in (36) converts 'a predicate denoting INSTANTIATION of a kind into a predicate denoting MEMBERSHIP in the kind' (1989: 257). Articles may function in either capacity, but demonstratives can only head referential expressions, as shown in (37).

(37) a. *We saw* ***an old friend.***
b. *We consider her* ***an old friend.***
c. *We saw* ***the worst movie of the year.***
d. *We consider it* ***the worst movie of the year.***
e. *We saw* ***that man.***
f. **We consider him* ***that man.***

Under Stowell's (1989) uniform analysis of the emphasized strings as DPs, the question arises as to how to guarantee the appropriate choice of referential or predicative instantiation of the category; in particular, how to rule out structures like (37f) while allowing (37d). Two alternatives suggest themselves. We could posit that different members of D are marked in the lexicon as either + or −referential, and derive the different effects of D on NP accordingly. Or we could posit, as I did above, a thematic role *Property* with different syntactic realizations including predicative DPs.

Notice that this is a problem that all analyses of so-called small clauses must face. Regardless of whether *consider* in (37) selects a small clause or two independent DPs, we must ensure that the second DP is not referential (see Rapoport, this Volume).

How can the facts discussed by Bosque be accounted for under these assumptions? If we opt for the feature solution, the answer is clear: cataphoric interpretation is available only for nominals which are directly dominated by [−referential] D. If we adopt the thematic approach, cataphoric interpretation is possible only with DPs which instantiate the role *Property*.

While these schematic remarks do not do justice to Bosque's careful analysis, I believe they are sufficient to indicate that the problem of cataphoric interpretation could be solved without recourse to a small clause analysis of predicate nominals.

6. RESIDUAL PROBLEMS

The proposal presented here raises a number of issues, two of which I will comment on briefly.

The first one has to do with the analysis of attributive copulative constructions like (38).

(38) *Mary is a doctor.*

There is a significant body of literature, which Bosque (1993) appeals to in his study on cataphora, defending the position that *be* in such sentences is a raising verb, and the surface subject originates as the subject of a nominal small clause (see Burzio, 1986; Couquaux, 1981; Moro, 1991, among others). In the previous section I suggested how one of the facts adduced in favor of this analysis, Bosque's (1993) cataphoric predication, could be accounted for without positing a small clause, but I have said nothing about other arguments which seem to support the small clause analysis for these constructions. The task of reconciling those arguments with the ones presented here remains to be done.

On a more general level, the proposal presented here raises the following questions: If it is true that only [+V] predicates project small clauses, what is responsible for this fact? Is the existence of a subject the direct result of the functional projection dominating the small clause? Why is it that only [+V] predicates have Agreement or Aspectual functional projections? I have nothing to say about these important questions, but I hope that the discussion presented here can be useful in the search for answers.

ACKNOWLEDGMENTS

I am grateful to Anna Cardinaletti, M. Teresa Guasti, and Karen Zagona for extremely useful comments on a previous version of this paper.

REFERENCES

Acquaviva, P. (1993). The representation of operator-variable dependencies in sentential negation. *GLOW Newsletter* 30, 14–15.

Bach, E. (1979). Control in Montague grammar. *Linguistic Inquiry* 10, 515–531.

Bach, E. (1980). In defense of passive. *Linguistics and Philosophy* 3, 297–341.

Barss, A. (1986). *Chains and anaphoric dependence.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Barss, A., and H. Lasnik. (1986). A note on anaphora and double objects. *Linguistic Inquiry* 17, 347–354.

Belletti, A., and L. Rizzi. (1988). Psych-verbs and theta theory. *Natural Language and Linguistic Theory* 6, 291–352.

Borer, H. (1983). *Parametric syntax: Case studies in Semitic and Romance languages.* Foris, Dordrecht.

Bosque, I. (1990). Sobre el aspecto en los adjetivos y en los participios, in I. Bosque (ed.), *Tiempo y aspecto en español,* 177–211. Cátedra, Madrid.

Bosque, I. (1993). Este es un ejemplo de predicación catafórica, in C. Sánchez López and B. Suárez Buratti (eds.), *Cuadernos de lingüística* 1, 27–57. Instituto Universitario Ortega y Gasset, Madrid.

Bresnan, J. (1982). Control and complementation, in J. Bresnan (ed.), *The mental representation of grammatical relations,* 282–390. MIT Press, Cambridge, Mass.

Burzio, L. (1986). *Italian syntax.* Reidel, Dordrecht.

Cardinaletti, A., and M. T. Guasti. (1992). Epistemic small clauses and null subjects. In *ESCOL* 8, 23–33. University of Maryland, Baltimore.

Carrier-Duncan, J. (1985). Linking of thematic roles in derivational word formation. *Linguistic Inquiry* 16, 1–34.

Chomsky, N. (1955/75). *The logical structure of linguistic theory.* University of Chicago Press, Chicago.

Chomsky, N. (1986). *Knowledge of language.* Praeger, New York.

Chomsky, N. (1993). *A minimalist program for linguistic theory,* in K. Hale and S. J. Keyser (eds.), *The View from Building 20,* 1–52. MIT Press, Cambridge, Mass.

Chung, S., and J. McCloskey. (1987). Government, barriers, and small clauses in Modern Irish. *Linguistic Inquiry* 18, 173–237.

Contreras, H. (1987). Small clauses in Spanish and English. *Natural Language and Linguistic Theory* 5, 225–243.

Couquaux, D. (1981). French predication and linguistic theory, in R. May and J. Koster (eds.), *Levels of Syntactic Representation,* 33–64. Foris, Dordrecht.

DeCarrico, J. (1983). On quantifier raising. *Linguistic Inquiry* 14, 343–346.

Demonte, V. (1987). C-command, prepositions, and predication. *Linguistic Inquiry* 18, 147–157.

Demonte, V. (1988). Remarks on secondary predicates: c-command, extraction and reanalysis. *The Linguistic Review* 6, 1–39.

Dowty, D. (1982). Grammatical relations and Montague grammar, in P. Jacobson and G. K. Pullum (eds.), *The Nature of Syntactic Representation,* 79–130. Reidel, Dordrecht.

Fillmore, C. (1968). The case for case, in E. Bach and R. Harms (eds.), *Universals in Linguistic Theory,* 1–88. Holt, Rinehart, and Winston, New York.

Fontana, J., and J. Moore. (1992). VP-internal subjects and *se*-reflexivization in Spanish. *Linguistic Inquiry* 23, 501–510.

Higginbotham, J. (1980). Pronouns and bound variables. *Linguistic Inquiry* 11, 679–708.

Hoeksema, J. (1991). Complex predicates and liberation in Dutch and English. *Linguistics and Philosophy* 14, 661–710.

Hoekstra, T. (1984). *Transitivity: Grammatical relations in government-binding theory.* Foris, Dordrecht.

Hornstein, N., and D. Lightfoot. (1987). Predication and PRO. *Language* 63, 23–52.

Huang, C.-T. J. (1993). Reconstruction and the structure of VP: Some theoretical consequences. *Linguistic Inquiry* 24, 103–138.

Jacobson, P. (1987). Phrase structure, grammatical relations, and discontinuous constituents. In G. Huck and A. Ojeda (eds.), *Discontinuous constituency. Syntax and Semantics* 20, 27–69. Academic Press, New York.

Jaeggli, O. (1981). *Topics in Romance syntax.* Foris, Dordrecht.

Jespersen, O. (1940). *A modern English grammar on historical principles,* Part V, *Syntax,* vol. 4. Ejnar Munksgaard, Copenhagen.

Kitagawa, Y. (1985). Small but clausal. *Chicago Linguistic Society.* 21, 210–220.

Klima, E. (1964). Negation in English, in J. Fodor and J. Katz (eds.), *The structure of language: Readings in the philosophy of language.* Prentice-Hall, Englewood Cliffs, N.J.

Ladusaw, W. (1985). *Polarity sensitivity.* Garland, New York.

Laka, I. (1992). Negative complementizers: interclausal licensing of negative polarity items. *North East Linguistic Society* 22, 275–289.

Larson, R. K. (1988). On the double object construction. *Linguistic Inquiry* 19, 335–391.

Linebarger, M. (1980). *The grammar of negative polarity.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

McCawley, J. D. (1983). What's with *with? Language* 59, 271–287.

Maxwell, M. (1984). *The subject and infinitival complementation in English.* Ph.D. dissertation. University of Washington, Seattle.

May, R. (1985). *Logical form.* MIT Press, Cambridge, Mass.

Moro, A. (1991). The raising of predicates: Copula, expletives and existence. *MIT Working Papers in Linguistics* 15, 119–181.

Pesetsky, D. (1982). *Paths and categories.* Ph.D. dissertation. Massachusetts Institute of Technology, Cambridge.

Raposo, E., and J. Uriagereka. (1990). Long-distance case assignment. *Linguistic Inquiry* 21, 505–537.

Raposo, E., and J. Uriagereka. (1993). Two types of small clauses. *GLOW Newsletter* 30, 68–69.

Rizzi, L. (1986). On chain formation, in H. Borer (ed.), *The syntax of pronominal Clitics, Syntax and Semantics* 19, 65–95. Academic Press, New York.

Sportiche, D. (1990). *Movement, agreement, and case.* Unpublished manuscript, University of California, Los Angeles.

Sportiche, D. (1992). *Clitic constructions.* Unpublished manuscript, University of California, Los Angeles.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.

Stowell, T. (1989). Subjects, specifiers, and X-bar theory, in M. R. Baltin and A. S. Kroch (eds.), *Alternative Conceptions of Phrase Structure,* 232–262. University of Chicago Press, Chicago.

Stowell, T. (1991). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters in comparative grammar,* 182–218. MIT Press, Cambridge, Mass.

Suñer, A. (1990). *La predicación secundaria en español.* Ph.D. dissertation, Universitat Autònoma de Barcelona, Barcelona.

Suñer, M. (1988). The role of agreement in clitic-doubled constructions. *Natural Language and Linguistic Theory* 6, 391–434.

Travis, L. (n.d.). *Derived objects, inner aspect, and the structure of VP.* Unpublished manuscript, McGill University, Montréal.

Uribe-Etxebarria, M. (1993). *On the typology of negative polarity.* Ph.D. dissertation, University of Connecticut, Storrs.

Williams, E. (1983). Against small clauses. *Linguistic Inquiry* 14, 287–308.

Zanuttini, R. (1991). *Syntactic properties of sentential negation: A comparative study of Romance languages.* Ph.D. dissertation. University of Pennsylvania, Philadelphia.

NOTES

[1]Two additional proposals, not considered here, are the ternary analysis of Bresnan, 1982, and Williams, 1983, which treats the main verbs in (1) as taking two independent and mutually c-commanding complements; and a recent proposal by Stowell (1991), according to which the LF representation of small clauses shows the complex predicate structure.

[2]I will not take a stand on the status of structures like (i).

(i) *We saw Mary tired.*

For a recent discussion of the difference between (i) and (1a), see Raposo and Uriagereka (1993). See also Demonte (1987, 1988), and A. Suñer (1990).

Also excluded from the discussion are absolute constructions like (ii).

(ii) *With Pelé on the team, we can't lose.*

On these constructions see Chung and McCloskey (1987) and McCawley (1983).

[3]I will not concern myself with the identification of F. In Travis (n.d.) it is identified with (inner) Aspect in the case of VP, and Bosque (1990) claims that Aspect dominates AP small clauses, while Raposo and Uriagereka (1990) and Cardinaletti and Guasti (1992) argue that the functional category immediately dominating AP small clauses is Agreement.

[4]This account suggests that the head-to-head movement which adjoins A and V to F for feature-checking must take place at LF. Otherwise, the theory of movement would have to be relaxed to allow the targeting of intermediate X-bar projections [F′ in (8) and (9)]. Within Chomsky's (1993) minimalist program, this entails that the features of F are 'weak,' consequently invisible at PF.

[5]The fact that the PP headed by *for* in (13) might be an alternative adjunction host for *each patient* is irrelevant for our purposes. As long as adjunction to AP is legitimate, the argument in the text holds.

[6]I include this functional projection for the sake of explicitness, although it is not crucial for the argument.

[7]The status of sentences like (i) is irrelevant to the point under discussion.

(i) *They considered the proposal carefully.*

Whether the verb in this sentence is analyzed as the same lexical item as the one in (19c) is of no consequence for the subcategorization dilemma.

[8]It is irrelevant for present purposes whether the lexical properties of the verbs in question are expressed in terms of subcategorization frames or, as suggested by Larson (1988), in terms of thematic grids. I ignore, for the time being, the problem of ensuring that the lowest DP be nonreferential. See section 6 for discussion of this issue.

[9]CL and CLP stand for Clitic and Clitic Phrase respectively, following Sportiche (1992). The analysis does not depend crucially on the identity of these categories, however. All that matters is that the Clitic not occupy an A-position. XP stands for the complex of functional categories projected above the Clitic Phrase, and DP_1 stands for the surface position of the subject, whose status is irrelevant for present purposes.

SPECIFICITY, OBJECTS, AND NOMINAL SMALL CLAUSES

T. R. RAPOPORT

Department of Foreign Literatures and Linguistics
Ben-Gurion University of the Negev
Beer-Sheva 84105, Israel

1. INTRODUCTION

This chapter argues for a particular restriction on the small clause nominal predicate and for the derivation of this restriction from ascribing to small clauses membership in a broad class of verb–modifier, complex-predicator constructions.

I argue here that the restriction exhibited by the small clause predicate position is not due to the particular nature of small clause constructions or of the verb introducing them, but is part of the characterization of the position of the predicate, said position being reserved for verb modifiers, a class which includes the non-specific direct object.

The small clause, then, is classified as a verb–modifier construction. The restriction on the small clause predicate is thus seen as constituting further evidence for a complex-predicator analysis of small clauses.

2. RESTRICTIONS ON THE SMALL CLAUSE PREDICATE

The position of the predicate in nominal small clauses has been argued (e.g., in Safir, 1987) to exhibit a definiteness effect, as shown in (1).[1]

Syntax and Semantics, Volume 28
Small Clauses

(1) a. *I consider/believe/find/think Jones a fool/a friend.*
b.**I consider/believe/find/think Jones the fool/the friend.*

While there is indeed a restriction on the position of the small clause predicate (SCP), as (1) shows, this position is not, in fact, constrained by definiteness, a fact that has been noted in work on the subject (e.g., Higginbotham, 1987; Rapoport, 1987; Stowell, 1991a, etc.). Consider (2).[2]

(2) a. *I consider John the man for the job.*
b. *I find Smith the class genius.*
c. *I believe Jones the most intelligent person I've ever met.*
d. *I think the library the ugliest building in the university.*

The SCPs in the sentences of (2), containing the determiner *the,* are obviously definite; yet these sentences are grammatical (under the appropriate reading of the definite NPs). So the restriction on the SCP position is not against definiteness. [The sentences of (2) show, too, that the SCP position is not constrained by uniqueness; the predicates in these grammatical sentences are true of a unique individual.] Nevertheless, not every definite NP is possible in this position, as we have seen in (1).[3]

Certainly, referential NPs, i.e., those that are understood as denoting a particular entity in the universe of discourse, are disallowed in SCP position. Equative (identity) sentences, in which both NPs are referential, are not possible as small clauses, as noted in, for example, Doron (1983), Pollock (1983), Rapoport (1987), and Rothstein (this Volume); this is illustrated in (3).[4]

(3) a.**I consider Tali that woman over there.*
b.**I find the chair of the department Anat Ben-Shalom.*
c.**I proved our professor Riki.*

We can assume that a restriction against referential NPs [in (3), demonstratives and proper names] rules out the sentences of (3) and (1b) as well. However, such a constraint is too narrow. Even when the SCP is a nonreferential (and indefinite) NP, the sentence containing it can be ungrammatical, as the examples in (4) illustrate.

(4) a.**I believe Jones a certain friend of mine.*
b.**I find Smith an excellent linguist who is known for her formalisms.*
c.**I think Smith a particular genius in our department.*

The restriction on SCPs, then, is neither against definiteness nor solely against referentiality.

The SCPs in (4) can be characterized as specific, and my claim here is that it is the property of specificity—rather than referentiality, definiteness, or

uniqueness—that rules out the ungrammatical examples (1b), (3), and (4) above. It is not enough, therefore, for an NP in SCP position to be indefinite or non-referential; it must also be non-specific. On the other hand, definite and unique predicates are allowed, as long as they are not specific.[5] We can therefore assume the constraint in (5).

(5) The SCP position is restricted to non-specific phrases.

The impossibility of equative sentences as small clauses [e.g., (3) above] now follows from (5). Explanations for the ungrammaticality of such sentences have been given, for example, in terms of the lack of Case on the second small clause NP [e.g., *that woman over there* in (3a); *Riki* in (3c)] (Pollock, 1983); and in terms of the lack of θ-role assignment to that NP (Doron, 1983). Rapoport (1987) explains the ungrammaticality in terms of the necessarily argumental nature of referential NPs. Under a thematic view of predication (e.g., Schein, this Volume; Williams, 1985; Rapoport, 1987), predicates always assign θ-roles. Arguments, on the other hand, necessarily receive θ-roles. Given the assumption that a small clause is a proposition whose predicate is selected by the matrix verb (or a predicate-headed selected proposition), equative small clauses are impossible because both NPs in an equative are θ-role–receiving arguments, neither of them is a predicate, and so neither projects to the small clause node as such. Thus, equative small clauses are ruled out because the semantic restrictions on the selected constituent are not met. An alternative explanation excludes the equative small clause for reasons of X-bar theory, since the proposition has no head, neither INFL nor a predicate. (An equative is possible in a matrix clause because that clause has a head.)

It has been argued, then, that the referentiality of the second NP is what makes small clause equatives ungrammatical. However, since referential NPs are specific (as discussed in section 3), these sentences are already ruled out by (5) and so no special appeal need be made to the inherent referential or argumental nature of the second NP in the equative small clause.[6] Thus, small clause equatives are ruled out, not as a special case of their own, but as a subcase of excluded specific SCPs. Small clause equatives are thus ungrammatical for the same reason as the sentences of (1b) and (4): they do not meet the non-specificity constraint in (5).

3. SPECIFICITY

The phenomenon of SPECIFICITY has been approached in at least two ways. One is that of SPEAKER REFERENCE, or, as Partee (1972) suggests,

SEMI-REFERENCE; this is when 'the speaker does not specify uniquely for the hearer what individual he has in mind' (p. 439).[7] For example, consider the situation in which Smith finds Jones at the computer, asks her what she is doing, and Jones replies with (6).

(6) *I am writing a paper.*

(6) has one interpretation under which Jones is just typing away at something that she assumes will turn into a paper. (6) also has an interpretation under which Jones is writing a certain paper; for example, she might have in mind the one for this volume. In such a case, the speaker, Jones, has a particular paper in mind that the hearer, Smith, does not; the NP *a paper*, then, is specific.

This NP is not referential, though. A phrase is used referentially when *both* the speaker and the hearer have a specific individual in mind. If Jones were to reply to Smith's question with (7), the NP *the paper* would be used under the assumption that both Smith and Jones know its referent; this NP would therefore be referential.

(7) *I am writing the paper.*

Referential NPs, then, are always specific, as they necessarily involve speaker reference. An NP that involves only speaker reference (i.e., a specific NP) is not referential. And non-specific NPs are, obviously, non-referential.

As far as the speaker reference view of specificity goes, I will operate on the assumption that (almost) every NP has the potential of both a specific and a non-specific reading (such ambiguity being due to a number of factors).[8]

Partee (1972) argues that the specific/non-specific distinction for indefinites is to be assimilated to the referential/attributive distinction for definites. I am not convinced that there should be a total assimilation of the two:[9] as I have stated above, specific indefinites are not (usually) referential. But I will assume for present purposes that definite NPs that are non-specific (and so non-referential) are used attributively. This use is exemplified in the predicates of (2) above,[10] and in (8), Partee's variant of Donnellan's (1966) example.

(8) *The man who murdered Smith is insane.*

In the attributive, non-specific, case the speaker is asserting that whoever it is that murdered Smith is insane. The speaker does not have in mind a particular individual to whom the description *the man who murdered Smith* applies.

This sentence also has a reading under which the speaker is asserting of a particular individual that that individual is insane. In such a case, the NP is specific. (5), then, predicts that an NP used by a speaker in this semi-referential way cannot be an SCP. That this is so is seen in the ungrammaticality of (4b), for example.

Another approach to specificity,[11] not unrelated to the first, is found in, for example, Reuland (1988) and in Enç (1991). In Reuland, 'the interpretation of specific indefinites involves individuals endowed with properties given in terms of the current conversational domain, whereas the interpretation of non-specific indefinites does not' (p. 3).

Enç adopts the Heim-Kamp semantic theories in which syntactic structures are related to discourse representations. For Enç the referent of a specific NP is linked to a previously established discourse referent; a non-specific NP is not linked to an already established referent. An NP that is specific has as its referent a subset of a set that has already been introduced into the domain of discourse. This is illustrated in (9).

(9) *A bunch of kids are in the garden.*
I know two of them.

Here, the NP *two of them* is specific, since it has as its referent a subset of the set introduced into the discourse by the earlier NP *a bunch of kids.*

In Enç, the linking for specificity is the inclusion relation. And, adapting Enç's analysis, I assume that the linking relevant for referentiality is the identity relation.[12] An NP used referentially has a referent identical to that of one previously established. Consider (10), for example.

(10) *A bunch of kids are in the garden.*
I know them.

The NP *them* has a referent identical to that of the NP *a bunch of kids;* it is referential.

Given that identity of referents entails inclusion, under this view of specificity too, a referential NP is always specific.

Enç's analysis of the specificity of quantifiers, together with the specificity restriction in (5), makes the correct predictions with respect to the grammaticality of partitives and of the different quantifier types in SCP position.

Under Enç's analysis, partitives are necessarily specific. (5), then, predicts that partitives are disallowed in SCP position; and this is indeed so, as seen in (11)–(12).[13]

(11) **I find Smith and Jones two of the fools in this university.*

(12) *There are lots of fools in this room.*
**I find Smith and Jones two of them.*

An apparent counterexample is found in sentences in which the partitive contains a superlative, as in (13).

(13) *I find Smith and Jones two of the worst fools in this university.*

Here, however, the predicate phrase, although technically partitive, is not specific. The sentence does not mean that there is a set of fools in the university and Smith and Jones are two of them; but rather, that Smith and Jones simply are terrible fools.

I conclude that partitives, being specific, are excluded from SCP position.

Enç, assuming that universal quantifiers quantify over sets already in the domain of discourse, argues that NPs that quantify universally are specific, and in fact that all strong quantifiers are specific. Given (5), we expect such QPs in SCP position to be ungrammatical; and this is what we find, as shown in (14).

(14) **I consider Jones every fool.*
**I think Smith and Jones most fools.*

It is not surprising that phrases headed by strong quantifiers lead to ungrammaticality in SCP position. Weak quantifiers, though, can also be specific, according to Enç, following Milsark (1974) on the duality of weak quantifiers. Enç argues that only the cardinality reading of weak quantifiers is non-specific; the quantifier reading is specific. This characterization is demonstrated by the contrast in examples (15)–(16) (from Enç, p. 17).

(15) *I thought that the best way to determine whether or not this course would be boring was to ask the students who took it last semester. I talked to many students and decided that it was worth a shot.*

(16) *What did I do yesterday? I cleaned my desk, wrote some memos, talked to many students, and graded about twelve papers.*

As Enç explains, in (15), the referent of the NP *many students* is a subset of the students who took the course last semester. Here, *many* is interpreted with respect to the set of students, it receives the quantifier reading, and the NP *many students* is specific. In (16), on the other hand, there is no superset for the NP. *Many* is interpreted with respect to the set of students talked to; this is the cardinality reading. Here, the NP *many students* is not specific.

We therefore expect NPs with weak quantifiers on their quantifier reading to be disallowed in SCP position. And this is indeed the case, as we see in (17).

(17) *There are many idiots, fools, and geniuses here.*
#I find Smith and Jones two fools. (interpreted as *two of the fools*)

On the other hand, SCPs with weak quantifiers with a cardinality reading are, as expected, allowed; see (18).[14]

(18) *I find Smith and Jones two absolute morons.*

Partitives and quantifiers in SCP position, then, behave much as Enç's analysis of specificity and (5) predict.[15] SCPs with a partitive or quantifier reading are excluded for the same reason as the SCPs in (4)—they are specific.

The SCP position, then, is indeed constrained by specificity (under either view of the phenomenon). Since definites are often interpreted as specific [as is the case in (1b)], small clauses have been said to exhibit a definiteness effect. We see here that this is, in fact, a specificity effect.

I turn now to a discussion of the reason behind (5). Given the θ-relations involved, we might expect that predicates cannot be referential, but that they cannot be specific is not necessarily quite so obvious. In the next sections, I propose that the non-specificity restriction is characteristic of the underlying position of the SCP, and that this position is sister to the verb.

4. DIRECT OBJECT TYPES

The V-sister position is generally assumed to be that of the direct object. In this section, I discuss specific and non-specific direct objects and claim that only the specific object functions as a true argument of the verb, whereas the non-specific object functions as a verb modifier. Adapting Rapoport (1991), I propose that this difference in function corresponds to a distinction in licensing requirements, in structural position, and in interpretation.

Rapoport demonstrates that the two direct object types are distinguished by morphology and behavior as well as by interpretation in many languages, such as Hungarian (Marácz, 1989; Szabolcsi, 1986), Turkish (Enç, 1991; Kornfilt, 1984; Yükseker, 1991) and Hindi (Mahajan, 1990). We find, for instance, differences in agreement and case with respect to the different direct object types. For example, in Turkish, specific objects are marked with accusative case (see Enç, 1991; Yükseker, 1991); non-specific objects are not. According to Mahajan (1990), case and agreement play the same role in the licensing of the specific object in Hindi: objects marked with the case-marker *ko* get a specific reading, and where there is verb–object agreement, the NP object is interpreted as specific. In Hungarian (see Marácz, 1989) and in Neo-Aramaic (see Hoberman, 1989), too, we find different verb agreement for different object types.

In Turkish, only non-specific nouns can incorporate and any incorporated noun cannot be interpreted as specific. In Hungarian, too, the choice of a specific or non-specific object and their respective positions correlates with a difference in the interpretation of the sentences containing the objects. Consider the examples in (19) (from Szabolcsi, 1986, and Marácz, 1989).

(19) a. *Péter olvasta az újságot.*
Peter read the newspaper-ACC
'Peter read the newspaper.'
b. *Péter újságot olvasott.*
Peter newspaper-ACC read
'Peter did newspaper-reading.'
c. *Péter fát vág.*
Peter wood-ACC cut-AGR3SG
'Peter is wood-cutting.'

In (19a), the noun *újságot* 'newspaper,' with the definite article, acts as an argument of the verb. In (19b), the same noun acts as a modifier that narrows the description of the action of reading to one of newspaper-reading. We find the same modifier use of the non-specific object in (19c).

I propose that this modificational use of non-specific NP objects is cross-linguistic, i.e., that non-specific objects are always interpreted as modifiers. Consider a few English examples, in (20).

(20) a. *Terry will read a book (during the summer).*
b. *Carey is building a house.*
c. *Gerry scrubbed floors.*
d. *Barry shoveled snow.*

(20d) is the equivalent of 'Barry snow-shoveled'; that is, 'Barry engaged in an activity of snow-shoveling.' The VPs in the other examples of (20) also have this activity reading. (20b), for example, does not necessarily mean that there is a particular house (her dream house, for example) that Carey is building, but can mean just that Carey is engaged in a house-building activity.

The interaction of aspect and tense will preclude certain readings with certain types of verbs, but when the object NP does have a non-specific reading, it functions much as a manner adverb. The non-specific object modifies the action (or state or process) of the verb; it is part of the description of that action, narrowing that description. Non-specific object NPs are, then, to be assimilated to the class of modifiers of the verb.

Specific direct objects, on the other hand, do not act solely as modifiers of the verb's action. *Carey is building the house,* for example, has a component that (20b) does not: Carey is engaged in an act of house-building;

in addition, she is house-building a particular house.[16] The specific object NP is not, then, just part of the description of the action described by the verb. It is a true argument of the verb.[17]

According to Tenny (1987), the direct argument of a verb measures out the event described by the verb over time. Affected arguments (or canonical arguments, in Ghomeshi and Massam's, 1992, terms) are direct arguments that delimit the event on that scale. Non-affected direct arguments also measure out the event but do not delimit it. Here, I suggest that it is specific NPs that delimit the event described by the verb. They are therefore full arguments of the verb and are licensed as such.

In addition to these differences between the two object types, there is a syntactic difference as well. Consider the contrast in (21) [from Enç (1991) and see references therein].

(21) a. *Who did John read a story about?*
b.**Who did John read every story about?*

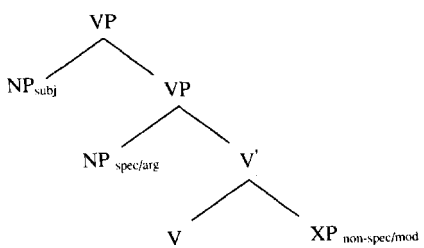
In general, movement out of a specific object is blocked, whereas it is possible out of a non-specific object.

Given such differences between the object types, the existence of a related structural distinction at some level must be considered.

4.1. Direct Objects and Syntactic Structure

I suggest that we consider the possibility that the level of d-structure is one level at which a distinction is found: specific and non-specific objects are in two different positions, as illustrated in (22).[18]

(22)



The non-specific direct object NP is in V-sister position; it and the verb thus form a V′. This V′ is analyzed and interpreted as a complex intransitive verb.[19] The specific direct object, on the other hand, is sister to V′; it does not enter into complex-verb formation. (Verb-raising to an INFL element yields the surface word order in both cases.)

Various linguists have offered evidence for positing distinct positions for different object types. Ghomeshi and Massam (1992), for example, argue

for a correlation between object types and aspectual focus in Persian and Niuean, among other languages. In their analysis, case and position differences correlate with aspectual differences between direct object types. They propose that, while canonical direct objects are in V-sister position (and receive unmarked case), some objects occur adjoined to V^0 (as the result of the juxtaposition of noun incorporation), and thus affect the aspectual interpretation of the sentence.

Mahajan (e.g., 1992) has argued for three object positions in Hindi. Non-specific objects are in V-sister position and specific objects are in one of two specifier positions (governed by Agr0). This difference correlates with case differences. In English, too, Mahajan argues, specific objects, as a result of movement, occupy a specifier position, i.e., a subject position. Thus, extraction from specific objects violates the CED, the Condition on Extraction Domains (see Huang, 1982). In this way the specificity effect on extraction from objects, illustrated by the contrast in (21), is accounted for.

Others have also argued that a distinction in object positions at s-structure accords with a specificity distinction, although at d-structure all objects are in complement position. Movement is for Case reasons or as a result of scrambling. For example, De Hoop (1992) notes that in Dutch, 'weak' (non-specific) objects must be in d-structure (complement) position and objects that scramble to pre-adverbial position must receive a 'strong' (specific) interpretation; this is illustrated by (23) (from De Hoop, 1992: 136).

(23) a. *dat de politie gisteren (de) taalkundigen opgepakt heeft*
that the police yesterday (the) linguists arrested has
'that the police arrested the linguists/linguists yesterday'
b. *dat de politie *(de) taalkundigen gisteren opgepakt heeft*
that the police the linguists yesterday arrested has
'that the police arrested the linguists/*linguists yesterday'

The specific NP *de taalkundigen* can scramble to pre-adverbial position; the non-specific *taalkundigen* must remain in complement position.

A similar approach is found in Diesing and Jelinek (1993), who note Johnson's (1991) analysis of Object Shift. Under this analysis, all nominal complements begin in V-sister position and must move to the specifier of either V or a functional category (possibly Agr0) in order to receive structural Case. It is Johnson's discussion of the facts of Scandinavian languages that is of particular interest here. Diesing and Jelinek point out that shifted (leftward-moved) full NPs in Icelandic must be definite or specific in interpretation. This is illustrated in (24b) (from Diesing and Jelinek, 1993: 23).

(24) a. *Hann las ekki bækur/bækurnar.*
he read not books/ books-the
'He didn't read books/the books.'
b. *Hann las bækurnar/*bækur ekki.*
he read books-the/ books not
'He didn't read the books.'

An existential indefinite, such as the bare plural *bækur,* cannot be shifted; the definite object *bækurnar* can be. Diesing and Jelinek argue that all quantified objects must raise out of VP by LF and move to the specifier position of an aspect phrase; definites and specifics are higher in the tree than indefinites and non-specifics.

So there is some support for an approach with two syntactic positions for the two object types. We also find in the literature a correlation between object types and types of case-marking.

In Mahajan and in De Hoop, as in Belletti (1988), there is a correlation between two types of objective case and different interpretations for the object NP in various languages. De Hoop, for example, proposes that weak (non-specific) NPs get weak Case and strong (specific) NPs get strong Case.

Mahajan argues that non-specific objects, in V-sister position, receive structural case under government by the verb; specific objects, in a specifier position, receive structural case from Agr0, either by spec-head agreement or under government.

Here, following Rapoport (1991), I assume that the non-specific object, as a modifier, does not need Case at all (although in some languages it may be case-marked for other reasons).

That no Case is required follows, too, as argued in Rapoport (1991), if we view the V′ as an incorporation structure, since noun incorporation can take the place of Case-assignment, according to Baker (1988). Certainly, an incorporation analysis makes sense, given the interpretation of the verb/ non-specific object structure, as well as the tendency of verbs to incorporate their non-specific objects (noted in Mithun, 1984; Hopper and Thompson, 1980), as in Hungarian and Turkish.

Under such an analysis, incorporation would be possible only when the incorporated element has the sole function of adding to the description of the activity.[20] In this way, incorporation can provide further motivation for the distinction in positions proposed above: as Baker argues, incorporation is possible from object, but not from subject position.

But whether or not incorporation does or must take place, the licensing requirements on the two object types differ, and as noted above, the non-specific object, functioning not as an argument but as a modifier, does not

need Case. Specific objects, on the other hand, act as arguments and so do need Case, or rather, the licensing that Case provides.[21]

A syntactic structural difference like that I have been discussing must originate in the lexicon. I turn now to a description of the underlying structure from which the direct object projects.

4.2. Object Positions and Lexical Structure

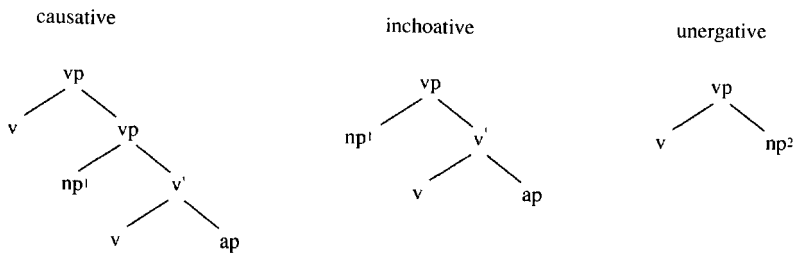
If the two types of direct object are in distinct positions in syntax, then this distinction must be found also at the level of lexical representation. (The previous discussion notwithstanding, it could also be the case that this difference is found *only* at the level of lexical representation. Assuming current work on lexical representation and its projection to syntax, e.g., Erteschik-Shir, 1993b; Hale and Keyser, 1987, 1991; Speas, 1990, it would not be surprising to find that two distinct lexical positions converge in syntax.) It would be both surprising and theoretically undesirable were two syntactic positions to be projected from a single lexical position.

I propose that there is a distinction between the positions occupied by specific and non-specific objects at lexical structure, or rather, that there are two possible positions for objects at lexical structure and each is associated with a particular interpretation. I will not go into detail here, but will sketch the outlines of such an approach to the lexical representation of objects, in which I assume much of the framework set out in Hale and Keyser's (1991) work on the syntax of lexical structure.

In Hale and Keyser, the lexical representation of a verb, the lexical relational structure (LRS), is itself a syntax. The verb projects a certain structure (which is also projected into the syntactic level). Each label in the lexicon is a universal category, although realization in individual languages may differ and there may be more than one categorial realization of a single lexical category in any one language. Each of the lexical categories is identified with a particular notional type: *v* is associated with the type event (dynamic); *n* denotes entities, instances; *a* denotes states, attributes; and the notional type of *p* is interrelation (spatial or locational, etc.). Lexical categories project unambiguous syntactic structures (i.e., binary branching at most) and only one intermediate (bar) level. Arguments are restricted to the complement and specifier positions in LRS representations.

In (25) are Hale and Keyser's lexical structures for causative, inchoative (ergative), and unergative verbs. (External arguments are not lexically represented.)[22]

(25)

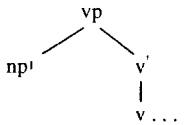


The first two structures are the respective projections of, for example, causative *break* (in which the application of move-α raises the adjective, the final state, into the higher causative verb position) and ergative *break* (whose syntactic representation results from the shorter conflation of the adjectival head with the verb). The np^1 position is reserved for the affected theme argument, the lexical-syntactic subject, which projects as an object in syntax.[23]

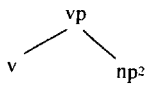
The third structure is that of unergative *laugh,* for example, the LRS object of which, *laugh,* is incorporated into the abstract v that heads the structure. This lexical incorporation, like the movement operations in the derivations of the other verb types, is constrained by syntactic principles. Since it is a syntactic process, incorporation does not apply to the np in specifier position; only elements in complement position can be incorporated.

Assuming this approach to a great extent, I propose that the np^1 position is the position from which specific object arguments are projected and that the np^2 (v-sister) position is that from which non-specific objects are projected. In (26) are the (partial) lexical structures that underlie the verb/specific object construction and the verb/non-specific object construction.

(26) a. verb/specific object



b. verb/non-specific object



(26a) underlies a VP containing a specific direct object, such as *broke the dish* or *broke a special/certain dish,* for example. (26b) underlies a VP containing a non-specific direct object, such as *broke a dish* (under the non-specific reading) or *broke dishes.*

The verb/non-specific object structure (26b) is identical to that of the unergative, incorporating verbs, in which the lexical object becomes part of the verb describing the activity. Here, too, the lexical object modifies the

event description (differing in that it always projects as a position in syntax). As in the case of unergative verbs (although at a different level), this lexical object joins with the head verb to form a complex intransitive verb.

A verb's direct object can be projected from either np position in (26). If it is projected from np^2 position, the object will be given a non-specific interpretation, that of a modifier. If it is projected from np^1 position, the object will be interpreted as specific, an argument of the verb. The distinction between specific and non-specific readings is not made in the lexicon; rather, there are two possible positions, and whichever is projected into syntax will determine the interpretation of the verb phrase.

This lexical view of the representation of object types has consequences for attempted extensions of the DP hypothesis (see, e.g., Abney, 1987; Speas, 1990). There have been inquiries (e.g., Rapoport, 1987; Stowell, 1989, 1991a) into the possibility of a DP–NP categorial distinction between noun phrases that are arguments and noun phrases that are predicates. For example, based on facts in Israeli Hebrew, in which there are no definite NP predicates, Rapoport (1987) argues that in a language with no indefinite article, indefinite noun phrases are NPs, while the presence of the definite article means that the phrase containing it is always a DP. Thus, in Hebrew there is the following division: DPs are arguments and NPs are (generally) predicates. (Stowell, 1989, also attempts such a division in terms of the articles found in noun phrase arguments and noun phrase predicates.)

But such a proposal does not extend to a language like English. For one thing, in such a view the definite article must always head a DP, which would require that definites always be arguments. Yet definites can be predicates; and indefinites can also be both predicates and arguments. So a proposal distinguishing definite noun phrases as both DPs and arguments will not succeed.

However, the analysis here does allow a categorial distinction to be made between specific and non-specific noun phrases. Given that, in general, different lexical positions can project as different syntactic categories, we can assume that objects projected from the np^1 position are DPs in syntax and objects projected from the np^2 modifier position are NPs. Thus, the same lexical np may be realized either as a (specific) DP or as a (non-specific) NP in syntax.[24]

The different licensing requirements (Case and agreement) on specific and non-specific objects are further motivated by a DP/NP distinction.[25] The nonexistence of a specific NP also has explanatory value under an incorporation analysis of the non-specific object. Specific DP direct objects cannot incorporate into the verb and so must be licensed differently.

Whether or not there is reason to adopt this categorial distinction for the two object types, there is reason, as I have shown, to assume that there are

two distinct lexical positions from which the two object types are projected. Under one view of the relevant syntactic structure, the two lexical positions project to the same object position in syntax. Under another view, discussed in section 4.1., a syntactic distinction correlates with the lexical distinction in object positions.

Two positions, then, are projected from the lexicon. Anything compatible with the interpretation of either position can appear there. A potentially non-specific NP, such as an indefinite, will receive a specific interpretation, that of an argument, if it appears in V′-sister position. If in V-sister position, an NP will be interpreted as a modifier. If an NP that can only be specific (e.g., a demonstrative or pronoun) appears in this position, it cannot receive a modifier interpretation only, given its additional function as an argument and a delimiter of the verb's action, and so it cannot be interpreted.

In conclusion, at the lexical level, the specific noun phrase and the non-specific noun phrase occupy distinct positions. This distinction corresponds to a difference in interpretation: the NP projected from the lexical subject position is specific, interpreted as an argument of the verb, and the NP projected from the lexical complement position is non-specific, interpreted as a modifier of the verb.

I have claimed that the non-specific object is one of a class of verb modifiers. I turn now to a discussion of other elements in this class and their syntactic position.

5. V-MODIFIERS AND THE V-MODIFIER POSITION

I have proposed that a particular position in the lexicon and in syntax underlies non-specific objects. I also noted above that in Hungarian, the modifying direct object is found left-adjacent to the verb. Other elements are found in this same position in Hungarian and exhibit the same syntactic behavior as the modifying object. Rapoport (1991) notes that just as indefinite objects can be incorporated in Hungarian, so can modifiers such as secondary predicates and adverbs. Consider the examples in (27) (from Szabolcsi, 1986).

(27) a. *Péter szomorúnak hitte/ tartotta Máriát.*
Peter sad-DAT believed/held Mary
'Peter believed/considered Mary sad.'

b. *Péter jól bánik Máriával.*
Peter well treats Mary-with
'Peter treats Mary well.'

In (27a), the small clause predicate *szomorúnak* 'sad' has been incorporated into the matrix predicator *hitte/tartotta* 'believed/considered.' In (27b), the selected adverb *jól* 'well' is incorporated (a process which affects non-selected adverbs as well). Szabolcsi claims that these elements, like the direct objects in (19b) and (19c), are verb modifiers.

Marácz (1989) offers more examples of the incorporation (at some level) of secondary predicates. An example of a resultative predicate, *péppé* '(to a) pulp,' incorporated into the verb is in (28b), compared here with (28a) (both from Marácz, 1989: 223).

(28) a. *Mari fozi a krumplit.*
Mary cook-AGR3SG the potato-ACC
'Mary cooks the potato.'
b. *Mari péppé fozte a krumplit.*
Mary pulp-TRANS cooked-AGR3SG the potato-ACC
'Mary cooked the potato to a pulp.'

Thus in Hungarian, the secondary predicate can behave like the non-specific direct object: both are interpreted as modifiers of the action of the verb, and both are found in the same syntactic position (left-adjacent to the verb).

I proceed to argue, adapting the analysis of Rapoport (1991), that in English, all V-modifiers, including the non-specific object, are projected from the same lexical position, the complement position. I claim, too, that all V-modifiers are projected to the same d-structure position, the V-sister position. I propose that this V-sister position in d-structure is the position of modification, and that all phrases in this position form complex predicators with the verb.

Various linguists have argued that certain non-argumental elements occupy the V-sister position that was once reserved exclusively for the verb's direct object. This position has been usurped, according to various analyses, by a variety of modifiers: (among others) adverbs (McConnell-Ginet, 1982), locative PPs and infinitives (Szabolcsi, 1986), small clause predicates (Larson, 1988a), the indirect goal argument (Larson, 1988b), infinitival complements of control verbs (Larson, 1988c), and selected (small clause, causative and resultative) secondary predicates (Rapoport, 1993a).

Each of these elements is a modifier of the verb, contributing to its description of the activity/event, whether by narrowing the action described or by completing the description of the action.

Such modification can be seen in the examples in (29).

(29) a. *Frankie hit the ball hard.*
b. *Sara treats Mara well.*

c. *Ellie hammered the metal flat.*
d. *Billie worked herself sick.*
e. *Josie makes Rosie nervous.*
f. *Smith considers Jones a genius.*

In (29a), for example, the manner adverb *hard* modifies the action of hitting; *hitting hard* describes an action narrower than does *hitting*. And in (29b) through (29f), the modifier is crucial to the interpretation of the action/state: the description is neither complete nor possible without it. *Treats well, hammered flat, worked sick, makes nervous,* and *considers a genius* are all complete descriptions of activities/states only when both the verb and the modifier are present. In all these cases, the modifier completes the description of the verb's activity. Manner adverbs, obligatory adverbs, and secondary predicates, then, are all V-modifiers.

Rapoport (1993a) proposes that such activity/event modification is the lowest level of composition of the VP. Thus, only elements that contribute to the modification of the verb (and the class is probably broader than outlined above) can appear in the V-sister position, the XP_{mod} position in the d-structure (22).

These modifiers, like the non-specific direct object, are projected from the complement position in a lexical structure like that in (26b) [or (30) below]. Both the verb and the modifier describe the action, and both together assign θ-roles.[26] Only when the activity description is complete can the verb (complex) assign θ-roles to its arguments. No θ-role assignment takes place between the two members of the complex, the two elements composing the V′ in (22), the d-structure underlying the sentences in (29). It is the V′, rather than the verb alone, that assigns a θ-role to ITS sister, the phrase in the NP_{arg} position in (22). In other words, the verb and modifier together take the surface object as an argument. I therefore assume, following the analyses in Chomsky (1955/75), Szabolcsi (1986), Larson (1988a, 1988b, 1988c), and Rapoport (1993a), that this V′ is a complex predicator, i.e., a complex θ-role assigner, and that it and its components are licensed as such.[27]

One V-modifier, as discussed above, is the non-specific direct object. It, too, appears in d-structure V-modifier position. Thus, the V′ formed by the verb and non-specific direct object noun phrase is similar to the V′ formed by the verb and the V-modifiers in (29).[28] This V′, too, is licensed and interpreted as a complex (although it has only an external θ-role to assign).

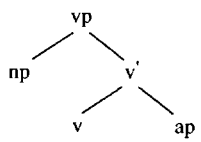
5.1. The Small Clause Predicate

Another element that appears in the V-sister modification position is the small clause predicate. The SCP is a modifier of the verb, completing its

description: *consider* in (29f) is not the complete description of the state; *consider a genius* is. Thus, the SCP, together with the matrix verb, forms a complex predicator.[29]

SCPs, then, like the other V-modifiers (including the non-specific object), are projected from the complement position in the lexical structure underlying the verb introducing them, the apposition in (30) (which is the same as the np^2 position in (26b) that underlies the non-specific object).

(30)



(30) underlies the d-structure of sentence (29f), as well as that of the other sentences in (29).[30,31] The V′ of (29f)'s d-structure, formed by the verb and the SCP, is thus as in (31).

(31) $[_{V'}\ [_{V}$ *consider*$]\ [_{NP}$ *a genius*$]]$

The small clause subject, *Jones* in (29f), is projected from its lexical position, the np in (30), to its syntactic position, the NP_{arg} position in (22). This NP is thus sister to its θ-role assigner, the V′. (Verb-raising to an INFL element yields the surface word order.)[32] In addition, syntactic as well as interpretive requirements are met by (22). The small clause subject, projected from the lexical subject position, is in a subject position in syntax; so subject condition effects and binding facts can be captured (see also Contreras, this Volume).

All V-modifier constructions are projected from the lexical structure in (30)/(26b), with the V-modifiers themselves being projected from the complement ap/np position. The d-structure of V-modifier complex-predicator constructions is as in (22). Any differences, such as θ-role assignment, among the various V′ complexes is due to the nature of the elements forming the complex.

Both Szabolcsi (1986) and Di Sciullo and Williams (1987) argue that the relation between the elements that here make up the V′ is not the same as that between a predicator and an argument; nor is the V-modifier to be considered a predicate. Here, though, the identification of a phrase as an argument or as a predicate is not central to its licensing. The V-modifier is licensed through composition with the verb (and indirectly through the assignment of its θ-role via the verb complex, if there is one to assign). The specific object is also licensed by a relation to the verb, albeit a different one. In each case, the verb selects a phrase; depending on the lexical

position of that phrase and thus how that phrase is licensed in syntax, the interpretation is derived.

Any phrase projected from the lexical complement position is interpreted as part of the description of the verb's action (or state or process). Thus, anything that can narrow or complete the verb's description of an event is a candidate for the d-structure V-sister position. What cannot perform this function is not. Both the verb/non-specific object and the verb/SCP constructions are V-modifier, complex-verb, structures. For both construction types, any noun phrase in V-modifier position is interpreted as a modifier. A noun phrase that has potentially both a specific and a non-specific reading will be given the latter reading in this position.

In a verb–object construction, as discussed above, a noun phrase that must be specific cannot be in this V-sister position since it cannot be interpreted as a V-modifier. Similarly, in a small clause construction, a specific noun phrase in V-sister position cannot be appropriately interpreted, and the sentence containing it is ruled out.

It is thus the nature of this V-sister modifier position, due to its relationship to the verb, that it be constrained by non-specificity: specific small clause nominal predicates, which appear in this position, are therefore disallowed. In this way, (5), the non-specificity restriction on the SCP, is explained. The ungrammatical small clauses of sections 2 and 3 are excluded by a much broader restriction, one having to do with the character of the position in which the SCP is found.

Thus, from the nature of the complex-predicator relation and the necessary properties of its components, the non-specificity constraint on the SCP is derived. Small clauses, then, do not require an idiosyncratic restriction, structure, or analysis.

6. CONCLUSION

This chapter argues that small clause predicates are restricted to non-specific phrases. It has been shown that such a restriction is due, not to the nature of the small clause construction itself, nor to that of the verb introducing it, but to the nature of the underlying position of the small clause predicate, the position that underlies the non-specific object as well.

A similarity in structure corresponds to a similarity in interpretation. Both the small clause predicate and the non-specific object are interpreted as modifiers of the verb. The SCP, the non-specific object, and other V-modifiers are licensed by entering with the verb into a complex-predicator

relation. The specificity restriction on the SCP, then, is now seen as evidence for a complex-predicator analysis of small clause constructions.

I therefore conclude that small clauses do not require specific conditions or a particular structural analysis, but fall easily into the broad class of V-modifier constructions.

ACKNOWLEDGMENTS

I am grateful to Anna Cardinaletti, Teresa Guasti, Nomi Shir, Karina Wilkinson, and the audience at the 1994 meeting of the Israel Association for Theoretical Linguistics for helpful discussion of the topics here and for useful comments. The work on which this paper is based benefited too from discussion with Ken Hale, Irene Heim, and those who attended my 1991 Lexicon Seminar talk at MIT and the 1991 meeting of the Canadian Linguistic Association.

REFERENCES

Abney, S. (1987). *The English noun phrase in its sentential aspect.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Baker, M. (1988). *Incorporation: A theory of grammatical function changing.* University of Chicago Press, Chicago.

Belletti, A. (1988). The case of unaccusatives. *Linguistic Inquiry* 19, 1–34.

Chomsky, N. (1955/75). *The logical structure of linguistic theory.* University of Chicago Press, Chicago.

De Hoop, H. (1992). *Case configuration and noun phrase interpretation.* Ph.D. dissertation, University of Groningen.

Di Sciullo, A. M., and E. Williams. (1987). *On the definition of word.* MIT Press, Cambridge, Mass.

Diesing, M., and E. Jelinek. (1993). The syntax and semantics of object shift. *Working Papers in Scandinavian Syntax* 51. Lund University.

Donnellan, K. S. (1966). Reference and definite descriptions. *Philosophical Review* 75, 281–304.

Doron, E. (1983). *Verbless predicates in Hebrew.* Ph.D. dissertation, University of Texas, Austin.

Enç, M. (1991). The semantics of specificity. *Linguistic Inquiry* 22, 1–25.

Erteschik-Shir, N. (1993a). *The dynamics of focus structure.* Unpublished manuscript, Ben-Gurion University of the Negev, Beer-Sheva.

Erteschik-Shir, N. (1993b). *Focus in the lexicon.* Unpublished manuscript, Ben-Gurion University of the Negev, Beer-Sheva.

Erteschik-Shir, N., and T. R. Rapoport (in preparation). *Lexical focus structure.* Ben-Gurion University of the Negev, Beer-Sheva.

Fodor, J. D. (1979). *The linguistic description of opaque contexts.* Garland Publishing, New York.

Ghomeshi, J., and D. Massam. (1992). A Typology of objects: Role and aspect. *Proceedings of the Canadian Linguistic Association.* Toronto Working Papers in Linguistics. University of Toronto.

Guasti, M. T. (1992). Incorporation, excorporation and lexical properties of causative heads. *The Linguistic Review* 8, 209–232.

Hale, K., and S. J. Keyser (1987). A view from the middle. *Lexicon Project Working Papers* 10. Center for Cognitive Science. Massachusetts Institute of Technology, Cambridge.

Hale, K., and S. J. Keyser. (1991). *On the syntax of argument structure.* Center for Cognitive Science. Massachusetts Institute of Technology, Cambridge.

Higginbotham, J. (1987). Indefiniteness and predication, in E. Reuland and A. ter Meulen (eds.), *The representation of (in)definiteness,* 43–70. MIT Press, Cambridge, Mass.

Hoberman, R. (1989). *The syntax and semantics of verb morphology in Modern Aramaic.* American Oriental Society, New Haven.

Hopper, P. J., and S. A. Thompson. (1980). Transitivity in grammar and discourse. *Language* 56, 251–299.

Huang, C.-T. J. (1982). *Logical relations in Chinese and the theory of grammar.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Johnson, K. (1991). Object positions. *Natural Language and Linguistic Theory* 9, 577–636.

Kornfilt, J. (1984). *Case marking, agreement, and empty categories in Turkish.* Ph.D. dissertation, Harvard University, Cambridge.

Larson, R. (1988a). Light predicate raising. *Lexicon Project Working Papers* 27. Center for Cognitive Science. Massachusetts Institute of Technology, Cambridge.

Larson, R. (1988b). On the double object construction. *Linguistic Inquiry* 19, 335–391.

Larson, R. (1988c). *Promise* and the theory of control. *Lexicon Project Working Papers* 23. Center for Cognitive Science. Massachusetts Institute of Technology, Cambridge.

Laughren, M. (1990). *Secondary predication as a diagnostic of underlying structure in Pama-Nyungan languages.* Unpublished manuscript, Massachusetts Institute of Technology, Cambridge, and Northern Territory (Australia) Department of Education.

Mahajan, A. (1990). *The A/A-bar distinction and movement theory.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Mahajan, A. (1992). The specificity condition and the CED. *Linguistic Inquiry* 23, 510–516.

Marácz, L. (1989). *Asymmetries in Hungarian.* Ph.D. dissertation, Rijksuniversiteit Groningen.

McConnell-Ginet, S. (1982). Adverbs and logical form. *Language* 58, 144–184.

Milsark, G. (1974). *Existential sentences in English.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Mithun, M. (1984). The evolution of noun incorporation. *Language* 60, 847–895.
Partee, B. H. (1972). Opacity, coreference, and pronouns, in D. Davidson and G. Harman (eds.), *Semantics of Natural Language,* 415–441. Reidel, Dordrecht.
Pollock, J.-Y. (1983). Sur quelques propriétées des phrases copulatives en français. *Langue Française* 58, 89–125.
Rapoport, T. R. (1987). *Copular, nominal, and small clauses: A study of Israeli Hebrew.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Rapoport, T. R. (1991). *Definitely arguments.* Paper presented to the Canadian Linguistic Association. Queen's University, Kingston.
Rapoport, T. R. (1993a). Stage and adjunct predicates: Licensing and structure in secondary predication constructions, in E. Reuland and W. Abraham (eds.), *Knowledge and Language, Volume II: Lexical and Conceptual Structure,* 157–182. Kluwer, Dordrecht.
Rapoport, T. R. (1993b). Verbs in depictives and resultatives, in J. Pustejovsky (ed.), *Semantics and the lexicon,* 163–184. Kluwer, Dordrecht.
Rapoport, T. R. (in preparation). *Specific objects: A case study in licensing theory.* Ben-Gurion University of the Negev, Beer-Sheva.
Reuland, E. (1988). Indefinite subjects. *Groningen Papers in Theoretical and Applied Linguistics* 1. Institute of General Linguistics. Groningen University.
Safir, K. (1987). What explains the definiteness effect?, in E. Reuland and A. ter Meulen (eds.), *The representation of (in)definiteness,* 71–97. MIT Press, Cambridge, Mass.
Speas, M. (1990). *Phrase structure in natural language.* Kluwer, Dordrecht.
Stowell, T. (1989). Subjects, specifiers, and X-bar theory, in M. Baltin and A. Kroch (eds.), *Alternative conceptions of phrase structure,* 232–262. University of Chicago Press, Chicago.
Stowell, T. (1991a). Determiners in NP and DP, in K. Leffel and D. Bouchard (eds.), *Views on phrase structure,* 37–56. Kluwer, Dordrecht.
Stowell, T. (1991b). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters in comparative grammar,* 182–218. MIT Press, Cambridge, Mass.
Szabolcsi, A. (1986). Indefinites in complex predicates. *Theoretical Linguistic Research* 2, 47–83.
Tenny, C. (1987). *Grammaticalizing aspect and affectedness.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Williams, E. (1985). *NP trace in theta theory.* Unpublished manuscript, University of Massachusetts, Amherst.
Yükseker, H. (1991). *Now you see it, now you don't: case marking in Turkish.* Unpublished manuscript, University of Toronto.

NOTES

[1]Excluded here is the role, title, or function interpretation of the definite predicate. See Fodor (1979) and Rapoport (1987) for discussion.

[2]Example (2a) is found in Stowell (1991a) and in Higginbotham (1987).

[3]I use 'NP' here to mean 'nominal phrase,' whether that phrase is assigned the category NP or DP. For now, the distinction is not important.

[4]Examples from Rapoport (1987).

[5]See Erteschik-Shir (1993a) for a comparison of uniqueness and discourse specificity.

[6]Unlike referential NPs, specific NPs are not inherently argumental (the same NP, depending on context, can have either a specific or a non-specific interpretation), so cannot be disallowed for the reasons discussed above.

[7]See Fodor (1979) for discussion of the speaker's responsibility.

[8]Partee (1972) demonstrates that the specific/non-specific ambiguity is not restricted to indefinite noun phrases or to opaque contexts. "The prominence of one or the other reading appears to depend on the relation between the significance of the description used in the noun phrases and whatever else is asserted in the sentence" (p. 418).

Fodor (1979), too, claims that the NPs themselves are not necessarily ambiguous between specific and non-specific readings and that the ambiguity has to do with the semantic relationship between the noun phrase and the rest of the sentence. Certainly, indefinite NPs are not ambiguous in every context. Erteschik-Shir (1993a) points out, for example, that the complements of individual-level verbs are always specific.

[9]And see Fodor (1979), who argues that the referential/attributive ambiguity is not the same as the specific/non-specific ambiguity, even though the notion of having someone in mind can be used in characterizing both.

[10]But see Fodor (1979), who argues, based on presuppositions of existence, that predicate nominals are not simply noun phrases used attributively. (I will not go into the facts of existential presupposition here. Both Partee and Fodor argue that the specific/non-specific ambiguity must be independent of the distinction between noun phrases with existential presuppositions and those without.)

[11]In Erteschik-Shir (1993a), the two ways in which an NP can be seen as specific are analyzed as involving the same discourse strategy.

[12]Enç argues that it is the linking of definite NPs that involves the identity relation, and that all definites, i.e., names, pronouns, and definite descriptions, are specific. However, given the attributive/predicative use of definite NPs, it is not the case that all definite NPs are specific.

[13]According to a minority of my informants, (12) improves with the main verb *consider;* (i) is grammatical.

(i) *There are lots of fools in this room.*
I consider Smith and Jones two of them.

I believe, though, that this is due to the fact that *consider* allows small clause readings not associated with the small clauses introduced by the verbs *think, believe,* and *find.* In general, small clauses must describe a characterization about which an opinion or judgment can be expressed, as can be seen in the contrast in (ii).

(ii) *I believe/think that she is a student/the president.*
**I believe/think her a student/the president.*

When no expression of an opinion can be involved, the small clause is unacceptable.

In (i), when *consider* is used in this strict judgmental sense, what is asserted when the second sentence is uttered is just that Smith and Jones are fools, not that Smith and Jones are two of the fools in this room. In fact, this sentence can be uttered if Smith and Jones are not even present in the room.

[14]The addition of the adjective in the SCP prevents the stressing of the weak quantifier, which can yield the disallowed quantifier reading.

[15]*Many,* though, is not a well-behaved weak quantifier. Even under its cardinality reading [aided in (i) by the addition of an adjective], it is disallowed in SCP position.

(i) **I consider all of you many incredible geniuses.*

Nor is this same NP acceptable in a main clause, as shown in (ii).

(ii) **All of you are many (incredible) geniuses.*
(Compare: *Smith and Jones are two incredible geniuses.*)

I offer no explanation for this here.

[16]I have claimed that the specific reading includes the non-specific reading. Fodor (1979: 118) argues that the specific reading, while not incompatible with the non-specific reading, does not entail it in opaque contexts.

[17]My claim is similar to De Hoop's (1992: 97) claim that objects that get weak Case (here, non-specific objects) are interpreted in some sense as part of the predicate, whereas objects that bear strong Case (specific objects) function like real arguments of the predicate. In Ghomeshi and Massam (1992), too, non-canonical (i.e., non-typically argumental) objects can act as modifiers.

[18]In (22), the underlying subject is in VP-adjoined position, following Laughren (1990), for example.

[19]Both Szabolcsi (1986) and Rapoport (1991) make this argument about indefinite direct objects: Szabolcsi for Hungarian, and Rapoport for a range of languages.

[20]An incorporation analysis would necessarily include the excorporation of the head verb, as in Guasti (1992), thus accounting for the morphological independence of the verb and the non-specific object.

[21]Specific NPs can receive Case through spec-head agreement, for instance.

[22]I am not presenting here the lexical representations of other verb classes. See Erteschik-Shir and Rapoport (in preparation) for a proposal of the lexical structures of various verb classes and an analysis of their interaction with certain syntactic phenomena.

[23]This affected theme is the argument that corresponds to an entity that undergoes a change of state (see Hale and Keyser, 1987; Rapoport, 1993b).

[24]Such a view requires the assumption of two determiner positions, a possibility proposed in Reuland (1988) and in Stowell (1989). Adapting Stowell's analysis, for example, the analysis here would place the determiner of a specific object under D in DP and the determiner of a non-specific object in a position adjoined to a projection of N in NP.

[25]See Rapoport (in preparation) for a discussion of the roles of case and agreement in licensing the specific object.

[26]Exactly what is involved in θ-role assignment (the term itself a shorthand for the association of syntactic positions with lexical positions) is a topic beyond the scope of this paper. See Di Sciullo and Williams (1987) and Rapoport (1993a) for discussion.

[27]Under a thematic view of predication (such as that in Williams, 1985; Rapoport, 1987), the resultative modifier or the second phrase of a small clause, for example, is not itself a predicate in that it does not itself assign a θ-role. This phrase, then, is not licensed by predication, but through complex-predicator formation. See Rapoport (1993a) for discussion of the licensing of the elements in a complex-predicator construction.

[28]I do not discuss here the interaction of the various verb modifiers or the analysis of such an interaction, which would include adjunction to V′.

[29]Both Rapoport (1987) and Stowell (1991b) argue for the LF formation of a complex predicator in small clause constructions. In Rapoport, the LF movement is required by a visibility condition on predicates; in Stowell, the conflict between the small clause argument and its predicate head is what forces the movement. Most of Rapoport's and Stowell's arguments for LF restructuring are met by the lexically-projected complex-predicator analysis.

[30]I assume that both AP SCPs, like *foolish,* and NP SCPs, like *a fool,* are projected from a lexical ap, i.e., the category representing attributes or states. (This ties in with views such as that of Pollock, 1983, in which the head of a predicative NP is reanalyzed as an adjective.)

[31]This same structure may underlie predicative copular constructions as well, with differences in the acceptability of various NP predicates being due to the necessary expression of an opinion or judgment in the small clause constructions (based on verbs like *find, think,* etc.), a restriction not shared by the parallel copular constructions. [(30) does not underlie equative copular constructions, in which both NPs are specific or referential.]

[32]This differs from the analysis in Rapoport (1993a), in which the small clause subject is generated to the right of its sister V′ and the surface word order is arrived at by extraposition of the small clause predicate.

This page intentionally left blank

TWO TYPES OF SMALL CLAUSES (TOWARD A SYNTAX OF THEME/RHEME RELATIONS)

EDUARDO RAPOSO*
JUAN URIAGEREKA†

**Department of Spanish and Portuguese*
University of California
Santa Barbara, California

†*Department of Linguistics*
University of Maryland at College Park
College Park, Maryland

1. INTRODUCTION

In this chapter we propose that the difference between stage and individual level predicates is not lexico-semantic, and is not expressed in thematic/aspectual terms. We study the apparent differences between small clauses with a so-called INDIVIDUAL and a STAGE level interpretation (which are selected by different types of matrix verbs) and argue that these differences are best expressed by way of purely syntactic devices. In particular, we argue that what is at stake are differences in information (theme/rheme) structure, which we encode in the syntax through different mechanisms of morphological marking. There are no individual-level predicates, but simply predicates which in some pragmatic sense 'are about' their morphologically designated subject. There are no stage-level predicates, but simply predicates which, rather than 'being about' their thematic subject, 'are about' the event they introduce. The distinction corresponds roughly to what Kuroda once called a categorical and a thetic judgment (a terminology we adopt): the former is about a prominent argument (for us, a CATEGORY), while the latter is simply reporting on an event. A minimalist grammar

Syntax and Semantics, Volume 28
Small Clauses

encodes differences of this sort in terms of morphological features. These features are checked in a designated site which interfaces with the performative components, where intentional structure is expressed. Having argued for this syntactic account, the chapter proceeds to showing a related semantic consequence. Thus we account for why it should be that categorical (individual level) predication introduces a standing characteristic of a category, while thetic (stage level) predication introduces a non-standing characteristic of a standard subject argument. In the minimalist model that we are assuming, it is axiomatic that semantics has no place in the derivational history of these matters, contra some recent work on the distinction of concern here. Our approach, thus, is blind to semantic motivation, although it is not immune to semantic consequence. Our main motivation in writing this chapter is that this is the correct order of things, and not the other way around.

2. TYPES OF PREDICATION IN SMALL CLAUSES

Higginbotham (1983) shows that Carlson's (1977) distinction between Individual-Level (IL) and Stage-Level (SL) predication holds systematically even inside the simplest syntactic predication: the small clause. This raises an intriguing question, if small clauses (SC) are as proposed by Stowell (1983) (1), which leaves little room for expressing structural differences.

(1) $[_{XP}NP\ [_{XP}Pred]]$

Raposo and Uriagereka (1990) in specifically Carlson's terms, and Chung and McCloskey (1987) in comparable terms, show systematic differences in the distribution of IL and SL SCs. Thus, only SL SCs can be pseudo-clefted (2), right-node raised (3), focus-fronted (4), or dependents of *what . . . but . . .* constructions (5). We illustrate this with Spanish, although the same point can be raised more generally in Romance and Celtic languages.[1]

(2) a. *Lo que noto es* [*a María cansada*].
what that note.I is to Maria tired
'What I perceive is Mary tired.'
b.**Lo que considero es* [*a María inteligente*].
what that consider.I is to Maria intelligent
('What I consider is Mary intelligent.')

(3) a. *Yo vi y María sintió a Juan cansado.*
I saw and Maria felt to Juan tired
'I saw and Maria felt Juan tired.'

b.**Yo creo y María considera a Juan inteligente.*
I believe and Maria considers to Juan intelligent
('I believe and Maria considers Juan intelligent.')

(4) a. *Hasta a Juan borracho vi!*
even to Juan drunk saw.I
'Even Juan drunk have I seen!'
b.**Hasta a Juan inteligente considero!*
even to Juan intelligent consider.I
('Even Juan intelligent do I consider!')

(5) a. *Qué iba a ver, sino a su padre borracho?*
what went.he to see but to his father drunk
'What could he see but his father drunk?'
b.**Qué iba a considerar, sino a su padre inteligente?*
what went.he to consider but to his father intelligent
('What could he consider but his father intelligent?')

Certain heads (e.g., perception verbs) take only SL SCs; others (e.g., opinion verbs), only IL SCs. In turn, the IL SC must be directly associated to the head selecting it, while this is not necessary for the SL SC, which can be displaced from the government domain of its head. So a complete treatment of these matters should ultimately explain (a) how selection is done in these instances [what does one select if the structure is just (1)?], and (b) why the two types of SCs behave differently with respect to their dependency on the head that selects them (see n. 12).

3. SOME RECENT PROPOSALS

An approach taken for SCs by Iatridou (1990) and Doherty (1992), and more generally for other predicates by at least Diesing (1992), De Hoop (1992), and Bowers (1992), builds on Kratzer's (1988) claim that only SL predicates introduce an event argument position *e* (a line suggested as well in Higginbotham, 1983). But it is not obvious what this means for SCs.

The first difficulty arises because it is not clear that there are pure IL or SL predicates. Thus, one can see or feel John finished as much as one can consider or declare John finished. In many languages *John is finished* may take a SL or an IL mark, such as an auxiliary or a given Case form in *John*. One is led to wonder whether the most rigidly IL or SL predicates (*I saw him angry* vs. *??I consider him angry; ??I saw him intelligent* vs. *I consider him intelligent*) are so rigid because of pragmatic considerations.[2]

But pragmatics aside, the grammar must provide a way in which a regular predicate may be taken as either a standing or a transient characteristic of its subject. This is the traditional intuition, however we may end up treating it. So a Kratzer-type approach forces us to systematically duplicate the syntactic representation of predicates like *finished, angry,* or *intelligent.* In Kratzer's terms, this entails that all predicates are ambiguously attached to phrase markers as in (1): either with or without an extra argument, whatever that means in a given theoretical implementation.

In fact, the syntactic expression of this systematic ambiguity is not without problems. The intuition that all variants of Kratzer's approach pursue is this: at D-structure the subject of an IL predicate is outside the lexical projection of this predicate. There are different ways of executing this, but mechanics aside, the question for SCs is: What does it mean for a subject to be outside a SC in D-structure? SCs are not VPs, but simple predication structures. To be outside a SC is not to be a part of the SC. So either our conception of these constructions as in (1) is incorrect, or else subjects for these elements are simply not outside their domain. More generally, within current syntactic views and particularly in the minimalist program of Chomsky's (1993), *all* arguments are projected within the lexical domain of a word, since there is no level of representation to project them otherwise. That is, there is no D-structure to say that argument Y of X is outside the projection of X; if Y is an argument of X, Y starts within the X′-shell associated to X.

Second, and more generally, it is unclear what it means for a predicate not to have a Davidsonian argument. The neo-Davidsonian project of Higginbotham (1985, 1987) is rather straightforward about this. Clearly, Davidson's original motivation for the event positions holds inside the simplest of SCs. Thus, one can consider Hitchcock brilliant, and raise the consideration vis-à-vis other Hollywood directors, only for his American movies, putting aside his sexism. All this can be predicated of the eventuality of Hitchcock's brilliance, and it is unclear how to add these circumstances otherwise—short of falling into the poliadicity that worried Davidson and motivated event arguments.[3]

Third, empirical problems arise. Diesing (1992) argues that Kratzer's approach is incorrect. Citing evidence from Bonet (1989), Diesing notes that in Catalan *all* subjects are VP-internal, including subjects of IL predicates. Bonet's argument is based on floating quantifiers, which following Sportiche (1988) she assumes originate VP-internally. Floated quantifiers can be VP-internal regardless of the nature of the predicate, as (6) shows.

(6) *The pigs are all stout.*

The floating quantifier in (6) tells us the underlying position of the subject, which must thus be internal to VP.

To address this issue, Diesing (1992) proposes two types of Infl. SL predicates have an Infl whose subject is base-generated in VP, with raising a possibility. IL predicates have an Infl that assigns a θ-role to its spec, with the import 'has the property *x*,' *x* being expressed by the predicate. The NP in this spec controls a PRO subject internal to VP, which gets the θ-role assigned by the V'. The floated quantifier in (6) modifies the PRO in VP. Note that Diesing's proposal alters the thematic relations by adding a θ-role to the structure. Each IL predicate that exhibits an adicity of *n* arguments is in effect of adicity n+1, with the 'subject' involving systematically two arguments in a control relation: an overt NP, and an extra PRO.

Following our (1990) proposal that SCs involve an Agr projection, Diesing's approach could be adapted to SCs as in (7).

(7) a. $[_{\text{AgrP}}$NP [agr $[_{\text{XP}}$PRO $[_{\text{XP}}$IL Pred]]]]
b. $[_{\text{AgrP}}$ [AGR $[_{\text{XP}}$NP $[_{\text{XP}}$SL Pred]]]]

(We use the notation agr vs. AGR to distinguish each type of inflection.) Here the structure of the SC itself is invariant [as in (1)], and what changes is the structure that selects this SC.

But difficulties arise for Diesing's approach when extending it to SCs. The idea is incompatible with standard analyses of (8a), taken from a similar example in Rizzi (1987). The clitic *me* 'to me' climbs from inside the predicate *fiel* 'faithful' up to the matrix clause. Climbing is local, which follows from the ECP (Kayne, 1991; Roberts, 1994; Uriagereka, 1994a). But if the clitic governs its trace in (8c), nothing prevents the PRO that Diesing hypothesizes from being governed from outside its SC.

(8) a. *Juan me es (considerado) fiel.*
Juan me is considered faithful
'Juan is considered faithful to me.'
b. __ *es (considerado)* [*Juan* [*fiel me*]]
c. . . . *me* . . . $[_{\text{AgrP}}$NP $[_{\text{XP}}$Agr [PRO [*fiel t*]]]]

That PRO is indeed (undesirably) governed when it is the subject of a complement SC is shown in the ungrammatical examples in (9). Whatever the ungrammaticality of governed PRO follows from, it is unclear why PRO in Diesing's (8c) would be allowed to be governed.

(9) a. *John tried* [[PRO *to be intelligent*]].
b.**John tried* [[PRO *intelligent*]].
c. *It seems* [*that* [*John is intelligent*]].
d. *John seems* [*t* (*to be*) *intelligent*].
e.**It seems* [PRO (*to be*) *intelligent*].

Consider also (10), a Dutch example discussed by De Hoop (1992).

(10) *Els zegt dat er twee eenhoorns intelligent zijn.*
Els says that there two unicorns intelligent are
'Els says that two (of the) unicorns are intelligent.'

De Hoop notes that in (10) the IL subject is VP-internal. These data, unlike Bonet's, cannot be explained away by positing a PRO inside VP: the specifier of IP is taken by an expletive.[4] (10) provides direct empirical evidence for assuming—contra Kratzer—that *all* subjects start internal to the predicate projection, and—contra Diesing—that there are no special *thematic* relations associated to IL predicates. Then, if the initial intuition is to be pursued, subjects of IL predicates must be *forced out* of the predicate projection in the course of the derivation.

In the minimalist project, this conclusion is necessary. There are no levels of D-structure or S-structure. So if the distinctions noted in the literature are real, they must be expressed at (or by) LF. We discuss this next.

4. A MORE TRADITIONAL APPROACH

In the spirit of Kuroda (1972), Schmitt (1993, in preparation) notes that IL predicates introduce a depiction of their subject, while SL predicates present their subject as an event participant (see also Suh, 1992, for Korean). For Schmitt, these two are different in aspectual terms, the former lacking aspect entirely. In her analysis, θ-roles are not assigned in the absence of aspectual dependencies, and hence IL dependencies are pure predications while SL dependencies are *n*-adic relations of a thematic sort. Although we believe there is something predicative to IL dependencies which is not so clear in SL dependencies, we do not believe that this is to be expressed in terms of θ-roles missing in the first. Otherwise, we have to again posit a systematic ambiguity of predicates appearing in the IL or SL mode. For us, all predicates are unique in having however many θ-roles they have, and if an extra predication of some sort is involved in IL instances, this is to be achieved in some other fashion.

For Herburger (1993a), which deals with the definiteness effect, it matters what the LF position of a subject vis-à-vis the event operator is. Although this is not axiomatic for her, in IL instances the subject has scope over the event operator, while in SL instances the event operator has scope over a weak subject, a matter that we ultimately build on. But Herburger's IL and SL predications have the same initial phrase marker; thus, it is not possible in her system to select one or the other type of SC. Second, for her

the LF site of scope-taking elements is a matter of QR. This raises a problem for subjects which are quantificational and take scope outside the event operator. Something like *everyone is available* does not have to invoke an IL reading.

De Hoop (1992) concentrates on morphological ways of signaling the IL/SL distinction. Her system is quite different from the one we plan to develop and goes into a semantic typology which we need not discuss.[5] But pursuing De Hoop's intuition that Case affects interpretation, we want to claim that subjects of IL and SL predicates are marked with a different form of Case. This recalls the well-known distinctions found in Asian languages that present topic markers, and is very welcome in the minimalist system where the LF mapping is driven by the presence or absence of given features of various strengths.

The gist of our proposal builds on an insight that both Kuroda (1972) and Milsark (1977) share: IL subjects are what the sentence is about. More generally, (a subclass of) topics are what the sentence is about. These 'aboutness' subjects are highlighted by the grammar in a special way: a morphological case marker, a phrasal arrangement, an intonational break, etc. We want to propose that this and nothing else is IL-hood: mere aboutness of a phrase which is appropriately (Case-)marked.

From this point of view the right split is not between IL and SL SUBJECTS. OBJECTS too can enter into this sort of relation, as is known from examples like the non-contrastive *Caesar, Brutus didn't particularly like.*[6] This is the way in which the grammar allows us to talk about Caesar when this element is a grammatical object. Interestingly, strong restrictions apply in these topicalizations. For instance, Fodor and Sag (1982) discuss the impossibility of indefinite topics (??*Someone or other, Brutus didn't particularly like*). Also, this sort of topicalization is much more felicitous with states than with active events, particularly if these are specified for space/time (??*Caesar, Brutus killed in the Senate yesterday morning*). This strongly suggests that, in the spirit of Chomsky (1977a, 1977b), we take topics to be subjects of a particular kind of predication, and that this predication has the semantic import of holding of its subject in a standing manner—that is, irrespective of the events in which this subject participates (and see n. 5). This looks like a description of IL predication, though it is a description of topicalization.

In sum, our intention is to construe IL predication as a subclass of topicalization. Topicalization itself is a predication, but to distance ourselves from other uses of this term, we reintroduce old terminology. We assume that the grammar encodes relations between predicables (PREDs) and categories (CATs) of various sorts, and that these need *not* be expressed in neo-Davidsonian terms. That is, we take *Caesar, Brutus didn't like* to have the same eventive structure as *Brutus didn't like Caesar,* although the

former invokes an extra predication between the scoped-out *Caesar* and the open expression left behind. More generally, we take something like *Brutus killed Celts* to be ambiguous between the obvious statement about what happened (say, at Brigantium in the first century B.C.) and an aboutness statement concerning Brutus: that was what Brutus engaged in. In the latter instance, we take *Brutus* to be scoped out to a position outside the scope of the event operator.

In order not to confuse matters with terminology from a different tradition, we adopt Kuroda's distinction between THETIC (T) (formerly, SL), and CATEGORICAL (C; formerly, IL) predications. An SL predicate is henceforth referred to as a Thetic-predicate and an IL predicate as a Categorical-predicate.

It is important to note also that we take topicalization to involve a particular site. Uriagereka (1994a, 1994b) argues for an F category encoding the point of view of either the speaker or some embedded subject, which serves as the syntactic interface at LF with the pragmatic systems.[7] We assume topicalization is to F because there are many predications that take place inside a regular sentence, but we take only one of those to be the main assertion's. Thus, consider *John likes everyone.* After QR, the open expression *John likes x* acts as a predicate. However, so does the open expression *y likes x,* one whose (topic) subject is *John.* In our proposal, the main assertion's in *John likes everyone* is not about *everyone* (that John likes them), but rather about *John,* the topic of the sentence (that he likes everyone). Basically, F is the designated position for the pragmatic subject which the sentence is about, regardless of other presupposed predications.

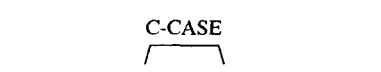
We have illustrated our account with normal predicates, but a similar approach is possible for SCs, assuming the structures we argued for in Raposo and Uriagereka (1990). As Doherty (1992) shows, different functional projections can introduce SCs. This is illustrated in (11) for Irish [we assume that although the facts may not be this obvious elsewhere, they still hold covertly with the syntax needed for (11)]. Note that the subject of a thetic SC (11b) receives a different Case than the subject of a categorical SC (11a). The latter is accusative—a default realization in Irish—while the former is nominative. The Agr projection introducing each SC is different as well: in the thetic SC we have a strong agreement element, the particle *ina* containing a subject clitic, while in the categorical SC, agreement is abstract (pronounceable only in identity predications). Auxiliary selection is different too: the categorical auxiliary *is* vs. the thetic auxiliary *ta.*

(11) a. *Is* *fhear e.*
is-CAT man he-ACC
'He is a man.'

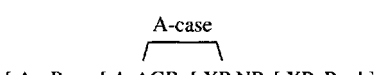
b. *Ta se ina fhear.*
is-THET he-NOM in-his man
'He is a man (now).'

Given these facts, several things follow. First, although SCs are always identical in structure, they are associated to two different sorts of Infl—in the spirit of Diesing's (1992) distinction. It is these inflectional elements (whatever their nature) that are selected by different heads—thus solving the selection puzzle. Unlike Diesing's Infls, ours do not introduce extra arguments, but simply entail two different forms of Case realization. The default Case associated to what we may call Categorical-agr (C-agr) marks an LF topic, while the regular Case associated to an Argumental-AGR (A-AGR) does not. We assume that pragmatic considerations demand that sentences always be about something, and thus even when an argument is not marked with the appropriate features to be in topic position, something else must be. We may think of thetic auxiliaries as the equivalent of topic markers for thetic predicates. Recasting traditional ideas, we assume that in this instance the predicate gains scope over the rest of the expression, which is thus about the predicate.[8]

From this perspective, SCs are just the simplest instances where the system presented here operates.[9] In the minimalist project, movements like the scoping out of material for aboutness purposes have a trigger in terms of appropriate morphological features, and a target where the features are checked. For this we assume the F position, whose spec is the landing site of aboutness phrases, among others. The appropriate features are assigned as in (12). Weak C-agr assigns C-CASE (12a), which is realized in the spec of FP as a default Case (accusative in Irish).[10] Strong A-AGR assigns a more standard A-case (12b), which is realized in various forms in different languages. The latter is the usual element that signals a θ-dependency.

(12) a.


(C predication)

b.


(T predication)

Though ultimately this is a technical matter, we may need to relax the visibility condition as in (13b), since many languages mark scoped-out arguments just with a C-case, which must suffice for the trace of this argument to be visible at LF. In turn, (13a) is added to restrict the kind of element

that can appear in a topic position: intuitively, only those elements which are appropriately marked can raise there.

(13) a. For X a lexical argument of Predicate Y, X is the SUBJECT of Y only if X is marked as a CATEGORY through C-CASE.
b. For X a lexical argument of Predicate Y, X is interpreted as an LF ARGUMENT of Y only if X receives Case [either C-CASE or A-case].

To illustrate the mechanics, reconsider (11). In both examples, there is a SC [*he* [*man*]]. In (11b), where the SC is associated to AGR *ina,* 'he' realizes nominative A-case (not C-CASE). This prevents the SC from being about a CAT *se* 'he.NOM,' given (13a). In contrast, in (11a), where the SC is associated with agr, *he* receives C-CASE, a default accusative in Irish. The SC in this instance can be about a CAT *e* 'he.ACC.' But although Irish marks relations in this particular way, other variants are conceivable—the default mark of C-CASE may be nominative or a topic marker.[11]

5. SOME SEMANTIC QUESTIONS

Our approach has consequences for two semantic issues. One is why subjects of categorical predicates are not weak quantifiers. For space reasons, we will not be able to elaborate on this topic now, but note that from our viewpoint the reason must be the same as why aboutness topics cannot be weak quantifiers.[12] The second question is why categorical predicates are taken as standing predicates of their subjects, while thetic predicates are transient.

As a point of departure for the second question, consider the proposal in Herburger (1993a). Following Higginbotham (1987), she assumes that all predicates, including N's, come with an event variable. If at LF the subject of a predicate is inside the scope of the event operator, this operator binds both the variable of the main predicate and that of the N. Thus in *a man is available* the event operator binds the event variable of *available* and the event variable of *man.* This translates as there being an event of availability, *at which* a man is the subject, as in (14).

(14) $\exists e$ [available(e) $\exists x$ [man (x, e) & Subject (x, e)]]

If the subject of a predicate is outside the scope of the event operator, the operator does not bind into the NP. Therefore, in *the man is intelligent* the event operator binds only the event variable of *intelligent.* This translates as there being a (unique) man for an event of intelligence, of which the man is the subject, as in (15).[13]

(15) [*The x:* man(x, e)] $\exists e$ [intelligent(e) & Subject(x, e)]

We will pursue a version of this approach, though not this one. It may seem that the mechanism just discussed gives us *intelligence* as a standing predicate, leaving *availability* as a non-standing predicate lasting while the man is at that event. However, take the situation raised in n. 5. Bobby Fischer is a genius (i.e., 'genial' in the obsolete sense of the word). Consider a logical form where we deny there being an event of geniality at which Fischer is the subject. This is the logical form that would result from having an LF in which the event operator has scope over the subject, resulting in a thetic predication—and denying that. The question is, when we say (*last night*) *Fischer wasn't genial,* is that *contradictory* with the statement *Fischer is genial?*

The answer is obviously no, but it is not clear what in the logical form yields this result. Thus, consider (16b), corresponding to the Spanish (16a) (we have substituted *the champion* for *Fischer* in order not to go yet into the semantics of names).

(16) a. *El campeón es genial pero no está genial.*
the champ is-C genial but not is-T genial
'The champ is genial but is not genial right now.'

b. [[*The x:* champ(x, e)] ∃e [genial(e) & Subject(x, e)]]
&~ [*Ee* [genial(e) [*The x:* champ(x, e)] & Subject(x, e)]]

(16b) conjoins two statements in such a way that a contradiction ensues. If geniality holds of the champ irrespective of his being in a given event (and that is what the first conjunct asserts), then geniality will hold of him at all events in which he participates (which is contradicted by the second conjunct). However, Spanish speakers find (16a) sensible.

Herburger (1993b) suggests that in this situation the first conjunct asserts something along the lines pursued by Chierchia (1986): the champ is *generally* genial, but not now. The contradiction then disappears. But this is not the way a predicate like *genial* is interpreted. To be *genial* you do not have to be generally genial—most geniuses are *rarely* genial. It is unclear (and irrelevant) what counts in making someone genial. Whatever that may be, it is not obvious that (16) can be explained away without complicating the semantics suggested in (14) and (15) for the C/T distinction.

To avoid the contradiction in (16b), we must modify the more general, categorical statement (which is falsified by the more concrete, thetic statement). Two ways come to mind. We change the predicate in these instances (which is what Herburger, 1993b, suggests); or we instead change the subject (which is what we plan to do). That is, a (trivial) way to avoid the contradiction in (16b) is to have the subject in each instance be a different subject. Suppose that we have a fine-grained semantics that allows us to distinguish Fischer at a given event from Fischer at some other event or irrespective of the event he participates in. Then we could avoid the

contradiction: geniality holds of Fischer decontextualized ('one' Fischer), and lack of geniality holds of Fischer in the context of some event ('another' Fischer).

Although syntactically straightforward, this approach may seem tricky from a semantic point of view: by 'splitting' Fischer this way we get into questions about what it means for 'Fischer' to be a rigid designator (in essence, to be Fischer).

Uriagereka (in preparation) addresses this matter, rejecting a treatment of Fischer as a mere constant or a label for an 'object,' by introducing Spanish examples of the sort in (17c).

(17) a. *En España hay mucho vino.*
'In Spain there's much wine.'
b. *En España hay mucho torero.*
'In Spain there's much bullfighter.'
c. *Hay Miguel Indurain para rato porque aun queda mucho Indurain por descubrir. De todos modos, el Indurain que más me sigue impresionando es el contra-relojista.*
'There's Miguel Indurain for a long time because there's still much Indurain to discover. In any case, the Indurain that still impresses me the most is the time-trialist.'

Some of the difficulties raised by (17c) or our approach to (16) can be addressed in the system discussed in Higginbotham (1988), who builds on insights of Burge (1974). Rigidity is not part of the nature of an expression, such as a name, but rather is a result of the linguistic system. In Higginbotham's proposal, predicates (including nominal predicates) introduce an event variable and also a free second-order context variable.[14] How this free variable is set is a matter that Higginbotham leaves open for speakers. It is perhaps a process involving cognitive mechanisms not unlike those involved in the contextualization of 'measured' mass terms, as the examples in (17) strongly suggest.[15] The point is, we appear to need notions such as 'bullfighter' or 'Indurain' as much as we need notions like 'wine,' although presumably each of these is 'measured out' differently (individual terms vs. mass terms, etc.).

If we are ready to distinguish Fischer at a given context and Fischer at some other context (or no context), a question to raise is what makes *that* Fischer. For us, this makes sense only as an epistemological question. In fact, it is relatively similar to that of what is to be known as wine, a bullfighter, and so on. All we need here is the assumption that speakers figure this out, however they do it. Furthermore speakers are capable of distinguishing that whatever it is that 'glues together' something as what it is does not entail that it has to be so unified in all events. Hence, it is of no concern

to us now what it is that makes the two sentences in (16) be sentences about specifically Fischer or the champ. In our terms, *Fischer* is a predicate, and so what makes Fischer Fischer is (perceived or imagined) 'Fischerhood.'[16]

The theoretical significance of all of this is found in two aspects. First, we need a mechanism for implementing the implied semantics.[17] Second, we crucially need context variables, for it is contexts that let speakers measure notions out in various ways. Context allows us to talk of a state of Indurain in (17c), a decontextualized Fischer or Fischer at an event in (16). Our plan now is to achieve the results sketched in (14) and (15) in terms of these context variables and not event variables.[18]

6. CONTEXTUAL DEPENDENCIES

In sentences of the form "S *is* P" we need at least two contexts. We need a context of S-hood corresponding to the subject, and a context of P-hood corresponding to the main predicate. Suppose further that contexts are set within other contexts, much as quantifiers have scope inside one another. If so, assuming that X is the context of the subject and Y is the context of the predicate, a sequence of contexts <X, Y> is interpreted differently from a sequence of contexts <Y, X>. The first of these sequences would introduce a context Y for predicate P within the context X for subject S. Conversely, the second sequence would introduce a context X of the subject within the context Y for the predicate.

As suggested before, let both arguments and predicates have the option of being scoped out to a topic site. Starting out with a structure S is P, suppose that the subject is in the LF topic site, as is the case in a categorical predication. Here the subject with context X has scope over the predicate with context Y in situ.

This has the effect of confining the range of the context of the predicate to that of the subject. A categorical assertion introduces the context of an individual for the context of a predicate. In contrast, the range of the context of the subject is not confined to the context of the main predicate. This is what results in the main predicate holding of the subject as a standing predicate, for it is a characteristic of this subject in a decontextualized fashion, not within the context of an event.

Consider next the LF for S *is* P where the predicate is in the LF topic site, as is the case in a thetic predication. The fact that thetic predicates are scoped out derives their transient character. The subject is inside the scope of the event operator, and now it is a subject whose context is confined to

the context of the predicate. Whatever predicate may hold of the subject, it will hold only of a subject at that event, not a decontextualized subject.[19]

There is one other empirical advantage to the turn we are taking. Just as in thetic predications the context of the subject is dependent on the context of the predicate, in categorical predications the context of the predicate is dependent on the context of the subject. This should have an effect on the interpretation of the predicate, as it does on the interpretation of the subject. In particular, a categorical predicate is dependent on the context of the subject in a way in which a thetic predicate is not, which translates into the canonicity that each sort of predicate exhibits. Thus, consider (18).

(18) a. *I consider the sea/the frog green.*
b. *I saw the sea/the frog green.*

In (18a) the green we consider to hold of the sea is typically different from that we consider to hold of frogs. (Sea green seems bluer than the gluey frog green.) However, in (18b) it may be the case that we saw the sea and the frog with the same light green, as a result of a spill—the typicality of the color is *not* invoked.

Since the context of *green* in the categorical (18a) is set for the context of *the frog* or *the sea,* we get a canonical green in each instance. But our account also predicts that only categorical predicates are canonical for their subject, because only these are within the context of the subject. A thetic assertion has the predicate outside the scope of the subject; it introduces the context of a predicate for the context of an individual. Whatever the characteristics green in (18b) may be has nothing to do with the subject of the sentence, according to fact.

Given the empirical adequacy of the account, consider a precise implementation. Context variables are free variables, whose values are set pragmatically by the speaker. The key word here is 'pragmatically': On the basis of what does the speaker set the value of a context variable? Minimally, background information is necessary. But more importantly for us, on-line information is also necessary. That is, the essence of a 'text' is that contextual decisions at point t in this text affect contextual decisions at point $t+n$, where $t+n$ succeeds t. We assume that this happens sentence-internally as well, with the context of whatever takes wide scope at LF setting up the context of what takes narrow scope.

To clarify, scope-taking at LF has nothing to do with context. Rather, it is triggered by such syntactic devices as the mechanisms discussed in (12) (for instance). However, as a result of these mechanisms, expressions end up having scope over other expressions, and when we go into the

intentional–conceptual levels bleeding LF to interpret structures, whatever decisions were made at LF in terms of scope have a bearing on the 'meaning' of sentences.

In concrete terms, we adapt the semantic interpretation proposed in Higginbotham (1988), following the schema in Burge (1974). For instance, (19b) is the categorical interpretation of (19a).[20]

(19) a. *The champ is genial.*
b. In any utterance of (19a) in which the speaker assumes a context X, such that X confines the range of *champ* to things x that Xx, for a context Y, such that Y confines the range of *genial* to events e that Ye, that utterance is true just in case:
[*The* x: champ(x, e) and Xx] *E*e [genial(e) and Ye & Subject(x, e)]

To quote Higginbotham, (19b) is taken to be

> the normal form for linguistic data about the truth conditions of whole sentences. If so, then truth values are to be thought of as predicated absolutely of utterances, and the contextual features on which interpretation may depend are to be enumerated in the antecedent of a conditional, one side of whose biconditional consequent registers their effects on the sentence as uttered. (p. 34)

The only thing that we are adding to the Burge/Higginbotham semantics is the assumption that contexts restrict contexts within their 'scope.' This assumption is explicit in other frameworks, such as file semantics of the sort Kamp (1981) or Heim (1982) develop, or in the 'dynamic binding' system in Chierchia (1992):

> The meaning of a sentence is not just its content, but its context change potential, namely the way in which a sentence can change the context in which it is uttered. The different behavior of indefinite NP's and quantificational elements is captured in terms of the different contribution they make to context changes. (p. 113)

Although the mechanics implicit in (19b) are different from those implicit in either a file semantics or a dynamic binding treatment of contexts, the conceptual point raised by Chierchia still holds for us, even sentence-internally.[21]

With Burge and Higginbotham, we also believe that contextual matters affect not just indefinites or quantificational elements, but also names and even events, as discussed in Schein (1993). Then something like the semantics in (19b) is necessary, and the main point that is left open is how

from a given LF we reach the details of the antecedent of the conditional in (19b).

There are two possibilities for this, both of which would work for our examples. Hypothesis A encodes contextual scope at LF, for instance in terms of May's (1985) scope principle.

(20) Let us call a class of occurrences of operators *C* a *S*-sequence if and only if for any *Oi, Oj* belonging to *C, Oi* governs *Oj*. Members of *S*-sequences are free to take on any type of relative scope relation. Otherwise, the relative scope of *n* quantifiers is fixed as a function of constituency, determined from structurally superior to structurally inferior phrases.

(20) is intended for standard quantification, but may extend to context second-order free variables under the assumption in (21).

(21) Given a structure . . . [. . .X*x*. . . [. . . Y*y* . . .] . . .] . . . , The value of Y is set relative to the value of X only if the operator *Ox* takes scope over the operator *Oy*.

Hypothesis B encodes contextual scope after LF. Assuming that syntactic LF representations are mapped onto some intentional-conceptual (post-LF) Logical Form encoding relations of the sort in (14) and (15), relative contextual specifications may be read off those representations. If this is the case, nothing as articulated as (20) or (21) would be at issue, and rather something more along the lines of traditional logical scope would determine that context at a given point serves as context for what comes next.[22]

7. QUANTIFICATIONAL SUBJECTS

There is still an important difficulty left: Why is it that the quantificational properties of the subject do not affect the C/T distinction—why doesn't (22) force a categorical interpretation?

(22) *Every man was available.*

On the face of it, this matter is not trivial. Higginbotham's context variables are introduced so as to provide a range of confinement for quantificational expressions like *every man* and the like. But note that if we were to care only about the context of the entire quantificational expression (henceforth

the *large* context of the NP), this would not help us in getting thetic readings. That is, in (22) the subject quantifier has scope over the event operator, thus yielding multiple events of availability. This presumably means that the 'large' context of the quantifier also has scope over the entire expression, as it should: the context of the restriction of *every man* (that is, the set of men) is confined to relevant men, so that the sentence means that for every relevant man, he was available. That is fine, but it is orthogonal to the point that each of the men in question was in a state of availability. In our system, for each relevant man there has to be a context (henceforth the *small* context) such that this small context is within the scope of the event operator, yielding a non-standing character for the predicate holding of each man.

From this viewpoint the issue is to get small contexts out of expressions introducing obviously only large contexts. Basically what we want is that the large context of the restriction of *every* be scoped out together with the determiner, without scoping out with it the small context somehow associated to the variable. There is a class of expressions where this is doable, as in (23).

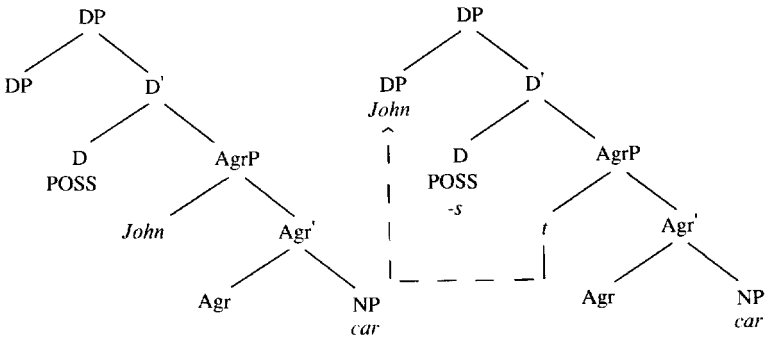
(23) *Every one of the men is available.*

Given the right syntax for partitive expressions, we may be able to scope out *every . . . of the men* and leave behind *one.* If this *one* brings its own context, we are on the right track. The intuition is that partitive expressions are transparent, representing their 'large' context through the partitive phrase *of/among the N* and their 'small' context in terms of the element *one.*

To put it conceptually: we do not take variables to range over anything 'real' in a philosophical sense. Variables are artifacts of the system that glue predicates together. What gets 'existence,' 'reification,' or 'measures' into the system are certain classifiers. In partitive expressions, we see this directly, with the *one* predicate being responsible for (literally) 'chunking' or 'measuring out' some contextually determined set (say a set of men) into 'ones.' As a regular predicate, *one* itself is contextualized.

Syntactically, the head of a partitive expression is *one,* and *of/among the N* is attached at a different level in a phrase marker. Uriagereka (1993) proposes a syntactic analysis that captures these facts, building on an analysis of possession by Szabolcsi (1983) for Hungarian, assumed by Kayne (forthcoming) for English. In their structures, a possessive DP is more complex than a regular DP, involving a relation ('possessor,' 'possessed'). *John's car* implies that John has a car (assigned), which translates, for reasons we will not go into, to the syntax in (24) (see nn. 23 and 24).

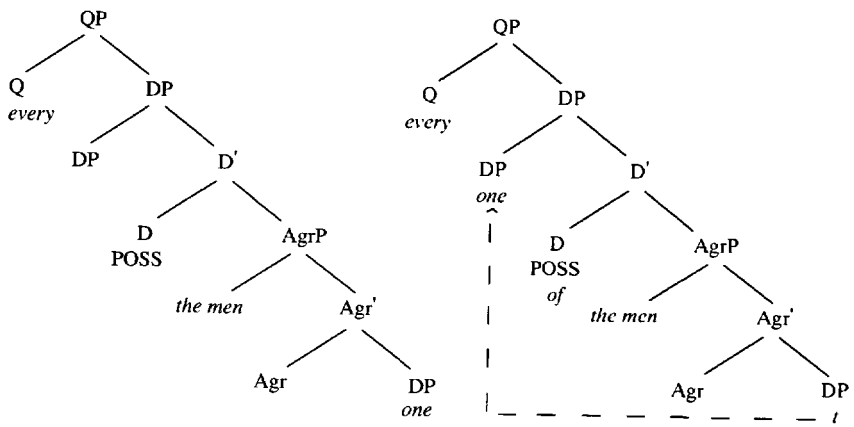
(24) a. Initial PM b. After Move = α c. PF: *John's car*



Uriagereka's analysis suggests that in partitive structures, the definite DP plays the role of the 'possessor' while the indefinite NP plays the role of the 'possessed.' *One* in *every one of the men* is to *the men* what *car* in *John's car* is to *John*. *Every one of the men* implies the men include one(s).[23]

The advantage of this syntax is that it provides us with a phrase marker where *the men* and *one* occupy entirely different nodes as 'possessor' and 'possessed.' In turn, the entire 'possessive' DP can be the restriction of a determiner like *every* in (25).[24] What is crucial there is that *one*, which is in the spec of the possessive DP in the overt syntax, may move autonomously. Hence it is able to topicalize to FP, or to 'reconstruct' to a VP-internal subject position, all of it at LF. Assuming that *one* moves around with its own context, we will get a structure which gives us the right meaning. In particular, *every one of the men* means something like every instance of a partition of *the men* has an associated *one*. We get variable men because we are partitioning the set of relevant men in ones, each corresponding to a part of the set, as in (25).

(25) a. Initial PM b. After Move-α c. PF: Q *one of the men*



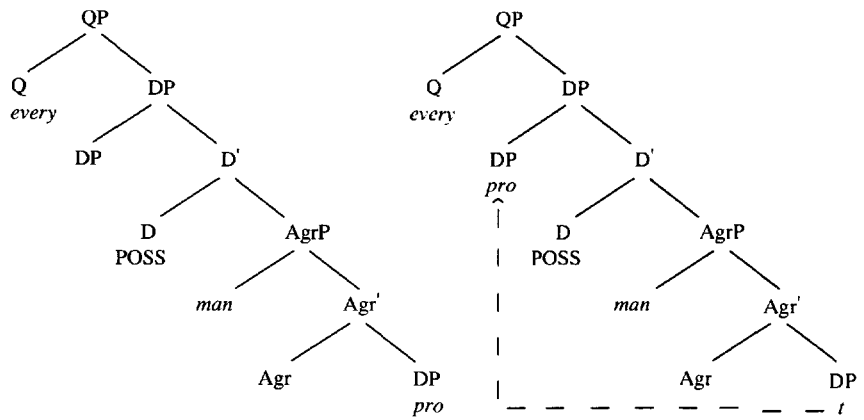
Even if this QP undergoes QR in (23), we can still use *one* with its associated small context to 'reconstruct' inside the scope of the event operator, so that the small context is set in terms of the context of the event, as in other instances of thetic predications.

Once the syntax in (25) is motivated for partitives, we may use it to separate the Q element, with its large context, from the 'variable' obtained by predicating *one* of something.[25] This is a reified 'variable' which brings its own context, since it is conceived as a different thing from that which we take to be the object this 'variable' is a part of. Once we divorce the quantifier from its 'variable,' and the latter has its own context, the rest of the account follows directly—except for the relatively minor point that (22) does not exhibit an overt partitive format.

However, given our conception of 'reference,' we are virtually forced to go into reifiers if we want to invoke any reference (even quantificationally) for expressions which otherwise invoke pure mental spaces. Hornstein, Rosen, and Uriagereka (1994) suggest extending an idea along the lines in (25) to expressions which do not come in a partitive format. The intuition to understand this (cognitive) extension comes from the examples in (17). Gil (1987) shows that in many languages regular NPs are 'built around' mass terms, which get reified into bits and pieces of different sorts through classifiers. It is hard to see what else can be done for (17b) or (17c).

The question is what the 'classifiers' are that reify such notions as 'bullfighter' or 'Indurain' in (17). Consider (26).

(26)a. Initial PM b. After Move-α c. PF: *every man*



We can only conjecture that an empty (*pro*) classifier does the job. And note that we are committed to saying that *every pro man* means something quite different from the standard *every man:* in *every man* the values for the variable are not reified, while in *every pro man* they are. Since the thetic *every man is available* must, if we are correct, involve *every pro man,* it is

perhaps the case that this sentence does not mean something like 'every possible man is available,' but rather 'every actual man is available.'[26]

Consider in this respect the Spanish (27), involving a bare N.

(27)?**Mucho soldado está disponible.*
'Much soldier is available.'
(cf. *'Muchos soldados estan disponibles,'* OK with plural markers)

Expressions like *mucho soldado* 'much soldier' are not possible as subjects of thetic predications. Assuming that *mucho soldado* is a clear instance of quantification over a standard, non-reified variable, the fact that (27) is ungrammatical can be explained as a result of the fact that there is no thetic logical form for the expression. The quantifier *mucho* forces QR outside the scope of the event operator, and since there is no separate, reified variable with its own small context to be left inside the scope of the event operator, expressions with subjects of this sort must be categorical, something which is pragmatically very odd for a predicate like *disponible* 'available.'[27] This suggests that the analysis for (22) as in (26) is on the right track.

ACKNOWLEDGMENTS

Parts of this material were presented at GLOW in Lund, and at colloquia at the University of Rochester and the CUNY graduate center, as well as at a seminar at the University of Maryland. We appreciate generous comments from all these audiences, as well as from our students and colleagues. We also appreciate comments from an anonymous reviewer and the editors of this volume.

REFERENCES

Bonet, E. (1989). *Postverbal subjects in Catalan.* Unpublished manuscript, Massachusetts Institute of Technology, Cambridge.

Bowers, J. (1992). *The structure of stage and individual level predicates.* Unpublished manuscript, Cornell University, Ithaca, N.Y.

Burge, T. (1974). Demonstrative constructions, reference, and truth. *The Journal of Philosophy,* 71, 205–223.

Carlson, G. (1977). *Reference to kinds in English.* Ph.D. dissertation, University of Massachusetts, Amherst.

Chierchia, G. (1986). *Individual level predicates as inherent generics.* Unpublished manuscript, Cornell University, Ithaca, N.Y.

Chierchia, G. (1992). Anaphora and dynamic binding. *Linguistics and Philosophy* 15, 111–183.

Chomsky, N. (1977a). *Essays on form and interpretation.* North Holland, New York.

Chomsky, N. (1977b). On Wh-movement, in P. Culicover, T. Wasow, and A. Akmajian (eds.), *Formal syntax,* 71–132. Academic Press, New York.

Chomsky, N. (1993). A minimalist program for linguistic theory, in K. Hale and S. J. Keyser (eds.), *The view from Building 20,* 1–52. MIT Press, Cambridge.

Chung, S., and J. McCloskey (1987). Government, barriers, and small clauses in Modern Irish. *Linguistic Inquiry* 18, 173–237.

De Hoop, H. (1992). *Case configuration and noun phrase interpretation.* Ph.D. dissertation, University of Groningen.

Diesing, M. (1992). *Indefinites.* MIT Press, Cambridge.

Doherty, C. (1992). *Clausal structure and the Modern Irish copula.* Unpublished manuscript, University of California, Santa Cruz.

Fodor, J. D., and I. Sag (1982). Referential and quantificational indefinites. *Linguistics and Philosophy* 5, 355–398.

Gil, D. (1987). Definiteness, noun phrase configurationality, and the count–mass distinction, in E. Reuland and A. ter Meulen (eds.), *The representation of (in)definiteness,* 254–269. MIT Press, Cambridge.

Guéron, J. (1980). On the syntax and semantics of PP extraposition. *Linguistic Inquiry* 11, 637–78.

Heim, I. (1982). *The semantics of definite and indefinite noun phrases.* Ph.D. dissertation, University of Massachusetts, Amherst.

Herburger, E. (1993a). Focus and the LF of NP quantification, in U. Lahiri (ed.), *Proceedings from SALT III,* 77–96. Cornell University Press, Ithaca, N.Y.

Herburger, E. (1993b). *Davidsonian decomposition and focus.* Unpublished manuscript, University of Southern California.

Higginbotham, J. (1983). The logic of perceptual reports: An extensional alternative to situation semantics. *The Journal of Philosophy* 80, 100–127.

Higginbotham, J. (1985). On semantics. *Linguistic Inquiry* 16, 547–594.

Higginbotham, J. (1987). Indefiniteness and predication, in E. Reuland and A. ter Maulen (eds.), *The representation of (in)definiteness,* 43–70. MIT Press, Cambridge.

Higginbotham, J. (1988). Contexts, models, and meanings, in R. M. Kempson (ed.), *Mental Representations,* 29–48. Cambridge University Press, Cambridge.

Hornstein, N. (1990). *As time goes by.* MIT Press, Cambridge.

Hornstein, N., S. Rosen, and J. Uriagereka. (1994). Integral existentials. *UMD Working Papers in Linguistics,* 2, [to appear in the proceedings of WCCFL '95].

Iatridou, S. (1990). About Agr(P). *Linguistic Inquiry* 21, 551–76.

Kamp, H. (1981). A theory of truth and semantic interpretation, in Groenendijk et al. (eds.), *Truth, interpretation, and information,* 1–41. Foris, Dordrecht.

Kayne, R. (1991). Romance clitics, verb movement, and PRO. *Linguistic Inquiry* 22, 589–646.

Kayne, R. (1993). Toward a modular theory of auxiliary selection. *Studia Linguistica* 47, 1, 3–31.

Keenan, E. (1987). A definition of existential determiner, in E. Reuland and A. ter Meulen (eds.), *The representation of (in)definiteness,* 286–317. MIT Press, Cambridge.

Kratzer, A. (1988). *Stage-level and individual-level predicates.* Unpublished manuscript, University of Massachusetts, Amherst.

Kuroda, Y. (1972). The categorical and the thetic judgment: Evidence from Japanese syntax. *Foundations of Language* 9, 153–185.

Lasnik, H., and M. Saito. (1992). *Move alpha.* MIT Press, Cambridge, Mass.

May, R. (1985). *Logical form.* MIT Press, Cambridge.

Milsark, G. (1977). Towards an explanation of certain peculiarities of the existential construction in English. *Linguistic Analysis* 3, 1–30.

Raposo, E., and J. Uriagereka. (1990). Long-distance case assignment. *Linguistic Inquiry* 21, 505–537.

Raposo, E., and J. Uriagereka (in preparation). *Functional projections in Iberian Romance.* Unpublished manuscript, University of California, Santa Barbara, and University of Maryland, College Park.

Rizzi, L. (1986). On chain formation, in H. Borer (ed.), *The syntax of pronominal clitics. Syntax and Semantics* 17, 65–95. Academic Press, New York.

Roberts, I. (1994). Long head movement, case, and agreement in Romance, in N. Hornstein and D. Lightfoot (eds.), *Verb movement,* 207–242. Cambridge University Press, Cambridge.

Schein, B. (1993). *Plurals and events.* MIT Press, Cambridge.

Schmitt, C. (1993). *Ser* and *estar:* A matter of aspect. *North East Linguistic Society Proceedings* 22, 411–425. University of Massachusetts at Amherst.

Schmitt, C. (in preparation). *Aspect and the syntax of the noun phrase.* Ph.D. dissertation, University of Maryland, College Park.

Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19, 425–449.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.

Suh, S. (1992). The distribution of topic and nominative-marked Phrases in Korean: The universality of IP structure. MIT Working Papers in Linguistics 16, 207–221.

Szabolcsi, A. (1983). The possessor that ran away from home. *The Linguistic Review* 3, 89–102.

Uriagereka, J. (1988). *On government.* Ph.D. dissertation, University of Connecticut, Storrs.

Uriagereka, J. (1993). Specificity and the name constraint. *UMD Working Papers in Linguistics* 1, 121–143. College Park, Md.

Uriagereka, J. (1994a). Aspects of clitic placement in Western Romance. *Linguistic Inquiry* 25, 79–123.

Uriagereka, J. (1994b). An F position in Western Romance, to appear in K. Kiss (ed.), *Discourse Configurational Languages.* Cambridge University Press, Cambridge.

Uriagereka, J. (in preparation). *Remarks on the syntax of nominal reference.* Unpublished manuscript, University of Maryland, College Park.

Zwart, J. W. (1989). *The first case.* M.A. thesis, University of Groningen.

NOTES

[1]Some of these examples are somewhat marginal in English, perhaps because Case realization in English in the small clause subject is not through a dative marker, as in Spanish.

[2]Nominals seem like purely individual-level predicates, as in (i).

(i) ??*I saw him (already) a man.*
(ii) *ele está um homem*
he is-sl a man

However, Schmitt (1993) notes that (ii) is perfect in Portuguese, with the import of 'he has turned into a man.' This suggests that the difficulty with (i) in English is not deep, but perhaps again a result of Case theoretic matters (see n. 1).

[3]Kratzer (1988) claimed to provide evidence that certain IL structures are more constrained for modification purposes than comparable SL structures are.

(i) a. *Most people are scared in Sarajevo.*
b. *Most people are black in Louisville.*

(ia) can be true of most of the inhabitants in Sarajevo or of most of the people that happen to be there. In contrast, Kratzer takes an example like (ib) to be true only of the inhabitants of Louisville, not the people that happen to be there. However, Schmitt (1993) points out that there may be a pragmatic factor involved here. Thus, consider (ii).

(ii) *Most children are intelligent in Central High School.*

(ii) is clearly ambiguous, apparently in the same way that (ia) is: it can mean that most children in that school are intelligent, or that when in that school any child actually stands out as intelligent. There may be a number of pragmatic reasons for this.

[4]A reviewer points out that, in instances of this sort, the subject may precede negation and some adverbs. If this is optional, the point still holds for the option where the subject does NOT precede negation or the adverbs. The reviewer also notes that PRO could be inside VP with the lexical subject occupying some intermediate projection in a more articulated clausal structure. A structure of this sort is explored in Chomsky (1993), but since Chomsky's assumptions are different from Diesing's (e.g., for Chomsky PRO must be licensed in terms of null Case in TP), the more articulated structure would have to be independently motivated.

[5]De Hoop works within a montogovian system partly enriched in DRT terms (Heim, 1982; Kamp, 1981). We assume neither, and instead work our proposal out in a neo-Davidsonian system. One other semantic proposal that we will not go into here is Chierchia (1986), which analyzes the IL/SL distinction in terms of an implicit genericity operator for IL predications. This sort of approach runs into difficulties with (i), from Spanish.

(i) *Bobby Fischer es genial, pero no estuvo genial en Yugoslavia.*
'Bobby Fischer is a genius, but he wasn't a genius in Yugoslavia.'

This is a very typical instance where auxiliaries *ser* and *estar* can be used to distinguish the standing nature of a characteristic vis-à-vis its transient state. It is one of Fischer's standing characteristics that he has genius, but that doesn't mean that he cannot have a bad day (to be considered a genius, whether one is generally a genius is irrelevant). Conversely, consider (ii).

(ii) *Soy triste de tanto estarlo.*
'I'm sad from being that so much.'

This asserts that being in a general state of sadness makes one sad in a standing manner. If the latter (expressed through *ser*) presupposed the former (expressed through *estar*), then (ii) would be uninformative—which it is not. Thus, the generality of a given characteristic for a subject (in any trivial interpretation of what generic might mean) is neither a necessary nor a sufficient condition for its standing character.

[6]In English this has to be read with a particular ('New York') intonation. That is, there is a variety of topics that are entirely irrelevant for our purposes. We are just concerned with those which do not introduce emphasis, contrast, focus, etc., but are neutral starting points for a sentence.

[7]A proposal of this sort was explicitly made in Chomsky (1977b), with a slightly different machinery and assumptions. See also Lasnik and Saito (1992) for a different alternative in terms of adjunction, and for references. Raposo and Uriagereka (in preparation) argue for a principle along the lines of (i), responsible for obviation facts, referential clitic placement, and others.

(i) A is referentially presented from the point of view of the referent of B iff B specifies a minimal domain which includes A.

From this perspective, what drives processes of fronting to the vicinity of a subject (which is to be responsible for a given judgment) is the need to place the raised material in the minimal domain (essentially, the binding domain) of the responsible subject. If (i) is correct as an LF principle, it may be immaterial whether the landing site of the fronting is a spec (e.g., the spec of F) or an adjunction site à la Lasnik and Saito. However, it may be the case that (i) is an interface condition of the post-LF mappings, in which case it would indeed matter whether at LF a feature-checking mechanism drives the relevant movements (which would argue for a separate category like F). We will proceed assuming F for concreteness and because of the issues to be discussed immediately below.

[8]See below on this. To insist, this operation is NOT a result of QR or any semantically driven mechanism, pace Herburger (1993a), where the intuition is taken from—and see also Guéron (1980).

[9]A reviewer raises the question of whether the F position is inside the small clause. The answer must be no, assuming the simplicity of these objects. The F position is needed solely for the pragmatic subject to land on at LF. In all instances, it is outside the periphery of the clause, be it small or regular.

[10]But nominative in Romance, for instance. We adapt this idea from Zwart (1989). Note that *realizing* a default Case does not mean that the Case is *assigned*

by default. Assignment is in the usual way, but default realization emerges in peripheral sites.

[11]Similarly, as is well known, the realization of A-case may be morphological or in terms of government by a Case assigner. Redundantly (or alternatively), the entire structural process may be signaled through a given auxiliary.

[12]Raposo and Uriagereka (in preparation) relate the matter of why categorical predicates are strong to Higginbotham's (1985) observation that PRED(CAT) relations do not hold internal to NPs, see (i).

(i) a. *Mary is a mother.*
b. *Mary's mother*

(ib) cannot express the relation in (ia) between *Mary* and *mother.*
We suppose that (ii) is true.

(ii) In a PRED(CAT) relation, CAT is anchored in time.

Information matters involving themes/rhemes are speaker (or point-of-view) dependent. Points of view express through time their actualization of categories of which something is predicated.

We also assume a syntactic condition on anchoring, as in (iii).

(iii) A anchors B only if A governs B.

In the spirit of Uriagereka (1988) and Hornstein (1990), (iii) may itself follow if all relations of grammar hold under locality.

Conjectures (ii) and (iii) make a prediction: PRED(CAT) relations hold under government by a time operator. Given this corollary, consider (iv).

(iv) a. [*Mary's* (**essence of*) *mother*] *convinced John to listen.*
b. [*That Mary is/was a mother*] *convinced John to listen.*

The subject of (iva) has no time operator to govern the predication relation, and so it cannot introduce an aboutness relation.

This corollary also predicts that categorical SCs are not separated from the verb that selects them [recall (2) and (5)]. The verb carries the Tense that enters into a governing relation with the SC. If the SC is displaced out of the governing domain of this verb, the PRED(CAT) relation will not be sanctioned, as desired.

Finally, we assume (v), essentially from Fodor and Sag (1982).

(v) Predicables hold of Actuals.

Plausibly, few things count as actual (although absent a theory of reference, this is an intuitive claim). We would put in that class reified elements (*the one/pro car that . . .*, see section 7), prototypical expressions (*the automobile*), abstract nouns (*beauty*), and perhaps kind or generic expressions (*Americans, an American*). These are the sorts of elements which can be in the extension of a predicable. Furthermore, suppose that actualization is done in human language through time (vi), as seems natural.

(vi) Actuals are mapped to time.

(vi) is taken to implement the realistic intuition that no two entities (events) share the same time. We take (vi) to be part of semantics and (vi) to be part of pragmatics. Now the element of which a real predicate holds is a reified element, or a prototype, or a kind, or an abstract notion. We take this to yield familiar Milsark effects, which need not affect our syntactic account. In particular, indefinites, weak quantifiers, and existential bare plurals are not subjects of categorical predicates. For us this paradigm follows, in Milsark's original terms, from the fact that categorical predicates force the actualization of their subject. Hence, unspecific subjects of all sorts will not be interpretable as aboutness (pragmatic) subjects, which we take to be the reason why topics in general must be specific—or actual in our sense.

[13]There is a complication with this approach. Consider (i).

(i) *A former world champion raped a beauty contestant.*

The predicate here is thetic, which means the variable in *former world champion* must be bound by the event operator. Presumably this means that the rapist was a former world champion at the event of raping. However, this is not necessary. Thus, suppose that the rapist was world champion at the time of the event, although he is not now. The speaker may choose to refer to him as a former world champion, and rightly so for he is not a champion any more. It is not entirely clear how *former* is interpreted outside the event of raping if the event variable of the noun is bound by the event operator. If this is indeed a problem, it will cease to be an issue once we develop the contextual system we propose below. We must note also that a reviewer asks whether N's come with an event variable even when N is not a predicate. In this system, though, every N is a predicate at some level, even if not necessarily the main predicate. This is true even for names (see below).

[14]Noam Chomsky points out that even the use of these variables may be dubious, if we take variables to invoke anything 'real.' We share the skepticism, but we sketch a system below where, in fact, variables are not real, but mere artifacts of the system.

[15](17a) introduces a standard mass term in an existential context. But Spanish allows this also for count nouns, such as *torero* 'bullfighter' (18b). [A more standard form of (18b) exists with *many* instead of *much,* but the properties of this structure are significantly different.] In fact, even names such as *Indurain* in (17c) can appear in what look like mass contexts.

[16]A reviewer is concerned with the meaning of *Fischer* in (i).

(i) *Fischer is our best friend.*

If *Fischer* is a predicate, what is *our best friend?* The latter is the main predicate of the assertion. But surely there are many other predicates here, including *our* and *best.* The difference between all these is how they are bound. We take it that *Fischer* is bound by a rigidity operator internal to the projection of the subject, and hence its predicative status does not carry over to the main assertion. For the mechanics, see Uriagereka (in preparation), as well as for various references on the topic at large.

[17]We will not address this here, though it is actually crucial in addressing Chomsky's worry expressed in n. 14. If there is a point of departure between our view and Higginbotham's, it is precisely the matter of 'ultimate reference.' Reacting against an intensional system of the sort proposed in montogovian approaches, Higginbotham takes (an appropriately complicated form of) *man(x)* to refer, while we do not. We do share the skepticism about the montogovian treatment, which only compounds to the limit the problem raised by extensional referential systems. We do not believe, though, that there should be any 'reference' to objects. Higginbotham seems ready to accept a more complex theory of reference for mass terms in work in progress, which in fact has inspired much of our approach. We feel that this view about mass should be extended to all other expressions, treated as mental spaces of some sort. For discussion of these matters, see Uriagereka (in preparation).

[18]A reviewer is concerned about the difference between the notions of context and event. Our system is essentially building on Schein's (1993) on this. We take context variables to be predicated of event variables—hence the two are of a different order. Note, incidentally, that we are not suggesting that we should get rid of event variables (this would not make any sense from our perspective). Rather, event variables are not the mechanism to deal with the issue of the transience of thetic predications, and for that we need context variables.

[19]In fact, this is the essence of Herburger's insight, now reinterpreted in minimalist terms enriched with a realistic semantics.

[20]X*x* means that X holds as a predicate of *x*.

[21]In fact, even within simplex sentences like (i).

(i) *Every golfer hit the ball as if he was going to break it.*

Incomplete definite descriptions such as *the ball* in (i) need a previous context for their uniqueness to hold. That is, (i) in its most salient reading means that every golfer hit the ball that he hit as if he was going to break it. The content of 'that he hit' is expressed for us through a free context variable. Crucially, the value of this variable must be set in terms of a context associated to each of the hitting events (see Uriagereka, 1993).

[22]The hypotheses make different predictions. A predicts that context is determined hierarchically, whereas B predicts that context is determined linearly. However, both approaches make their prediction with respect to highly elaborate LF or post-LF representations, and not overt structures. Hence, for our purposes now it is immaterial which of the hypotheses holds, since at LF we scope out the element which anchors subsequent contexts. This element is both hierarchically superior and linearly precedent vis-à-vis the element whose context it is intended to set.

[23]Note the quasi-grammatical paraphrase of (i) in (ii).

(i) *Amazingly, The Beatles included Ringo, who is therefore one of the Beatles and the luckiest man alive.*

(ii) ?*Amazingly, The Beatles had Ringo, who is therefore one of the Beatles and the luckiest man alive.*

For Szabolcsi or Kayne, sentences like *John has a brother studying physics* and *?There is a brother of John's studying physics* have a similar source, roughly (iii).

(iii) [BE [*John* [*a brother*]]]

Each sentence is derived by way of either *John* or *a brother* raising for various reasons. Hornstein, Rosen, and Uriagereka (1994) interpret the relation [*John* [*a brother*]] as a primitive, categorical, 'possession' SC, and extend these possessive relations to a number of related instances. See also Keenan (1987) for very similar ideas.

[24]The main point of Szabolcsi's analysis is to show the independence of 'possessors' vis-à-vis 'possessed.' Uriagereka (1993) also discusses the need to ensure that in an expression like *every one of the men is available, every* can take as a restriction the sort of structure in (25), and still have the same truth values as *every man is available,* where the restriction is much simpler. The issue is of no relevance to us now; it remains a fact that this paraphrase holds, and it cannot be explained away by reducing *every one of the* to a determiner (see Keenan, 1987). Syntactically, this is unacceptable.

[25]Note, however, that if we pursue this line, we would have to adapt (24) and (25) accordingly, since the *one* element that reconstructs is not obviously quantificational. Alternatively, we may need to take Hypothesis B discussed in the previous section.

[26]Although this gloss is extremely misleading, particularly since it is not intended in terms of possible worlds. As Schein (1993:106) points out, the notion of possible men can be achieved through a modal operator. If so, even if it is possible to say 'every possible soldier was available' (we think it is), this does not entail that these are not reified soldiers. If Schein's modal operator is possible, then the sentence may mean something like 'in any way there could be soldiers, every one of them is available.' This is irrelevant to our point and simply shows that the sentence we are looking for (and may not find in English) does not involve terms like 'possible soldier' and the like.

[27]While this sort of quantifier is fine in object position, it is strange also as the subject of a bare, categorical predication, as in (i).

(i) ??*Mucho soldado no es inteligente.*
'Much soldier is not intelligent.'

Schmitt (in preparation) notes that this sort of sentence improves in contexts that favor a generic reading, like (ii).

(ii) *En España, mucho soldado no sabe por qué está en la mili.*
'In Spain, much soldier doesn't know why he is on the service.'

The degraded status of (i) may reduce to why indefinites are not good as subjects of categorical predications. As discussed in n. 12, this for us follows from the fact that (non-generic) categorical predications hold of 'actuals.' The non-reified variable by hypothesis associated to this sort of quantifiers is not 'actual.'

PARTICIPLE-BASED SMALL CLAUSE COMPLEMENTS OF FÅ 'GET' IN NORWEGIAN

KNUT TARALD TARALDSEN

ISL
Universitetet i Tromsø
N-9037 Tromsø, Norway

1. INTRODUCTION

In a sentence like *We consider John incompetent,* it seems clear that the extended projection associated with the adjective stops below the verb. This is because *consider* assigns a thematic role to its sister, and thematic roles are only assigned to complete extended projections. Thus, if *John incompetent* is a constituent, it is small clause in the sense that it is a complete extended projection not containing a finite or infinitival verbal form.

It is not equally clear that the extended projection of the past participle does not include the entire clause in auxiliary + past participle constructions like *There was a man shot* or *Bill has written a book,* since the auxiliary does not seem to assign any thematic role to its sister. The auxiliary might be analyzed as a functional category within the extended projection of the participle. On this view, the participle does not project a small clause in auxiliary + past participle constructions. The opposite view would maintain that the extended projection of the participle is in fact closed below the auxiliary even though it receives no thematic role. This position seems preferable if we find the same functional categories occurring both above and below the auxiliary, given the hypothesis that a functional category at most occurs once in any extended projection.

The topic of this chapter is a construction in which the verb *få* 'get' combines with a participle phrase in Norwegian. At first glance, the participle phrase might seem to be a clausal argument to a verb with causative mean-

Syntax and Semantics, Volume 28
Small Clauses

ing. I will argue, however, that *få* does not have thematic structure. It is basically an aspectual variant of the auxiliary *ha* 'have,' and the syntax and semantics of the small clause–like construction can be fully explained by extending an analysis of auxiliary + past participle constructions.

On the other hand, the analysis I am about to present relies on the assumption that the extended projection of the past participle contains functional categories that also occur above the auxiliary, e.g., Agr_S, Agr_O, and an element comparable to C. Thus, if my proposal is on the right track, it favors the second of the two analyses of auxiliary + past participle constructions mentioned above. The past participle is associated with an extended projection constituting a clausal complement of the auxiliary even though there is no thematic role assigned to it.

2. SOME DATA

Like *ha* 'have,' the Norwegian verb *få* 'get' occurs in sentences like (1)–(2), where its subject is assigned a possessor θ-role.

(1) *Jens* ***har*** *en bil.*
John has a car

(2) *Jens* ***får*** *en bil.*
John gets a car

The semantic difference between (1) and (2) has to do with aspect. *Ha,* but not *få,* is stative. Thus, (1) describes the situation resulting from the event talked about in (2).

Få also combines with a participle construction in two ways, as in (3)–(4).

(3) *Jens fikk reparert* ***bilen.***
'John got repaired the car.'

(4) *Jens fikk* ***bilen*** *reparert.*
'John got the car repaired.'

Meaningwise, (3) appears to be essentially an aspectual variant of (5), on one reading.

(5) *Jens* ***har*** *reparert bilen.*
'John has repaired the car.'

In particular, the subject of the finite verb is in each case understood to bear the 'agent' role determined by the participle. (3), on this reading, is the inchoative version of (5).

However, (3) also has another reading, where the subject of *fikk* does not correspond to the agent linked to the participle. On this reading, (3) has the causative-like interpretation of (6).

(6) *John had the car fixed.*

This reading is unavailable for (5), i.e., when the participle construction is combined with a form of the 'auxiliary' *ha* 'have.' On the other hand, it is the only interpretation available to (4). Two questions arise from these observations: Why is the causative-like interpretation impossible with *ha*? In what way does the position of the object of the participle determine the thematic interpretation of the subject of *få*? In this chapter, I address only the latter question, which splits into two subquestions: Why is the subject not interpretable as the bearer of the participle's agent role, when the object precedes the participle? What is the source of the subject's θ-role on the causative-like reading? In the next section, I first present some preliminary considerations bearing on the choice of analysis. Then I present a specific analysis in some detail. The final section takes up some problems and presents a few speculations as to what the solutions might look like.

3. PRELIMINARY OBSERVATIONS

Before I start presenting the details of the analysis, it is useful to consider the main motivation for the choice of strategy to be implemented in subsequent sections.

3.1. Blocking Effect of Preposed Object

Since the subject of the auxiliary is assigned the agent role induced by the participle in sentences like (5), it is reasonable to assume that its chain originates in the Spec-VP position, as in (7); cf. Kayne (1993).

(7) ***Jens** har . . . [$_{VP}$ **t** reparert bilen].*

It is equally natural to make the same assumption for the reading of (3) where the subject of *fikk* is linked to the agent role assigned by the participle. Correspondingly, one is led to suspect that the fronting of the object seen in (4) places the object in a position where it intervenes between Spec-VP and the landing site of the subject so that movement of an agentive DP is blocked by some version of "minimality" (or "shortest move"), as in (8).

(8) *Jens fikk . . . **bilen** . . . [$_{VP}$ t reparert . . .*

This line of reasoning would suggest that the subject of *fikk* in (4) originates outside the participle projection, most probably in the Spec-VP projected by *fikk* itself. Its θ-role would then be assigned by *fikk,* which would have at least two distinct θ-grids associated with it, one in which a causer role is assigned to the subject and one which assigns the subject no θ-role at all. This, however, is clearly not an optimal result, on theoretical grounds. One would, whenever possible, assume that each lexical entry is associated with a single set of thematic properties.

3.2. Få Assigns No θ-role to Its Subject

The claim that the subject of *fikk* is never the external argument of *fikk* itself receives support from the fact that sentences like (3)–(4) fail to passivize even on the causative-like interpretation; cf. (9).

(9)**Bilen ble fått reparert (av Jens).*
car-the became got repaired (*by John*)

This follows from the familiar generalization that verbs passivize only if they take external arguments, provided *fikk* cannot take an external argument.[1] Furthermore, examples like (10) show that the θ-role associated with the subject in sentences like (4) is not invariant in the way one would expect if it were assigned by *få.*

(10) *Jens fikk bilen ødelagt.*
'Jens got the car destroyed.'

On the most natural reading, the subject of (10) is not interpreted as bearing the causer role. Rather, it seems to have the same experiencer-like interpretation as the dative clitic in French sentences like (11).[2]

(11) *Je **lui** ai cassé la voiture.*
I him have wrecked the car

The contrast between (4) and (10) suggests that the subject's θ-role is really determined by the participle even when the subject is not associated with the participle's agent role. Thus, I will assume that *få* does in fact have a single set of thematic properties. It never assigns a θ-role to Spec-VP. The subject originates inside the participle projection in all *få*-sentences, but not necessarily in its Spec-VP position, to which the 'agent' role is assigned. When it is not associated with the participle's 'agent' role, it is assigned an 'experiencer' role by the participle. I shall take it that all verbs can assign an 'experiencer' role; but, as we shall see, it will in general be difficult to

provide syntactic licensing for an 'experiencer' argument. As we see in passive sentences, the past participle form of an agentive verb may choose not to associate the 'agent' role with a syntactic constituent.

If the 'experiencer' role is of the 'benefactive' variety, there may be a pragmatically grounded inference to the effect that the subject of *få* identifies the causer of the event. But if the experiencer is understood to be of the 'malefactive' kind, as in (10), this inference does not arise. As a consequence of this hypothesis, our analysis must provide a way of explaining why the blocking effect of the preposed object in (4) and (8) is restricted to movement of agentive DPs (from the participle projection's Spec-VP position).

3.3. Disappearing First Objects

This conclusion is reinforced by certain other observations. First, we note that the verb *tilsende* 'send' has two obligatory objects, as in (12).

(12) *Jens har tilsendt *(Kari) pengene i posten.*
John has sent *(Catherine) money-the in mail-the

Consider now the interpretation of (13)–(14).

(13) *Kari fikk pengene tilsendt i posten.*
Catherine got money-the sent in mail-the

(14) *Kari fikk tilsendt pengene i posten.*
Catherine got sent money-the in mail-the

Here, *Kari* cannot be understood as bearing the 'agent' role assigned by the participle, nor a 'causer' role, or, on our analysis, an 'experiencer' role determined by the participle. It can only have the 'goal' role that the participle assigns to its first object in (12). Why should this be so? The obvious answer is that since the first object is obligatory with *tilsende,* it is represented by an empty category in (13)–(14), and this empty category must be analyzed as a trace linked to the subject of *fikk,* i.e., *Kari.* But this means that the subject of *fikk* in fact can originate inside the (extended) projection of the participle even when it does not correspond to the DP bearing the participle's 'agent' role. Note, moreover, that there are independent reasons to believe that experiencers have significant properties in common with indirect ('dative') objects such as the first object in (12), in particular with respect to Case-assignment. I return to this issue below.

There are also verbs like *frata* 'confiscate' which differ from *tilsende* precisely by not being able to lose their obligatory first objects in the *få*-construction, as in (15)–(17).

(15) *Jens har fratatt *(Kari) passet.*
John has confiscated *(Catherine) passport-the

(16) **Kari fikk passet fratatt.*
Catherine got passport-the confiscated

(17) **Kari fikk fratatt passet.*
Catherine got confiscated passport-the

This fact does not weaken the conclusion drawn from (12)–(14). It will, however, be necessary to formulate our account of (13)–(14) in such a way that (16)–(17) can be excluded.

3.4. Få : bli = have : be

Another consideration favoring this conclusion concerns the relationship between *få* and *bli* 'become.' In Norwegian, *bli* is the auxiliary used with participle projections in passive sentences, as in (18).

(18) *Bilen* ***ble*** *reparert.*
car-the became repaired

The relation between *få* and *bli* seems similar to the relation between *have* and *be.* As we have seen, the subject of *få* may correspond to the participle's external argument or an experiencer. *Bli* does not have this option; cf. (19).

(19) **Jens* ***ble*** *ødelagt bilen.*
John was destroyed car-the

Conversely, *bli,* but not *få,* allows the participle's object to raise to its subject position. So, (18) contrasts with (20).

(20) **Bilen* ***fikk*** *reparert.*
car-the got repaired

According to Kayne (1993), *have* is essentially *be* with an incorporated preposition. Given the parallelism between the pairs *have/be* and *få/bli,* that analysis suggests that *få* is just like *bli* except that there is an incorporated preposition. Then *få,* like *bli,* would not assign an external θ-role, implying that its subject always originates within the participle projection.

4. THE ANALYSIS

We are now in a position to evaluate a specific analysis that would provide an answer to the question why (4) only supports an interpretation in which the subject of *fikk* is not associated with the 'agent' role induced by the participle.

4.1. Outline

The preposed object in (2) and (8) agrees with the participle in number and gender in those dialects that have participle agreement in general. We may take this to mean that it occupies a Spec-Agr_XP at some stage of the derivation, with X ranging over number and gender. The participle adjoins to Agr_X to license its agreement morphology, on Chomsky's (1993) assumptions.

A second DP coming out of the VP cannot cross over Spec-Agr_XP, given minimality/shortest move, unless Agr_XP is the complement of Y such that (a) Spec-YP is an accessible A-position, and (b) Agr_X adjoins to Y. Since non-agentive DPs actually do move across Spec-Agr_XP, I take it that Agr_X adjoins to Y.[3] So, Spec-YP must be inaccessible to agentive DPs (DPs originating in Spec-VP). It is natural to relate this to the way the DP in Spec-YP interacts with Y under a theory of Spec/head licensing. In particular, let us assume that in general, a Spec is an A-position if and only if the corresponding head agrees with it (with respect to a designated subset of its features);[4] cf. Rizzi (1991). Then, Spec-YP will be inaccessible to agentive DPs with respect to chain-formation, if Y necessarily fails to agree with such DPs. We want the inaccessibility of Spec-YP to block the ascent of an agentive DP just in case Spec-Agr_XP is filled by a different DP.

4.2. Experiencer Subjects in Icelandic

Spec-YP must be accessible to experiencer arguments. This asymmetry between experiencers and agentive arguments recalls the properties of the subject position in Icelandic sentences with nominative objects, as in (21)–(22).

(21) *Okkur líkar bókin.*
we-D like-3SG book-the-N
'We like the book.'

(22) *Við keyptum bókina /*bókin.*
we-N bought-1PL book-the-A /*-N
'We bought the book.'

A nominative object like *bókin* in (21) only occurs when the subject is oblique (i.e., dative or genitive). As (22) illustrates, a nominative subject is incompatible with a nominative object. It seems that oblique subjects always correspond to experiencers, never to agentive arguments; cf. Sigurðsson (1989). In sentences like (21), the verb may agree with the nominative object, as in (23); but this kind of agreement is restricted to number, cf. (24)–(25).

(23) *Okkur líka /-r bækurnar.*
we-D like-3PL /-SG books-the-N
'We like the books.'

(24) *?Henni leiddist /?-ust við.*
she-D was-bored-by-3SG /?-PL we-N
'She got bored with us.'

(25) **Henni leiddumst við.*
she-D was-bored-by-1PL we-N
'She got bored with us.'

According to Taraldsen (1994), Agr_S is actually an amalgam of two independent functional heads, Agr_P (person agreement) and Agr_N (number agreement). Since the oblique subject occupies Spec-Agr_P, the nominative object can only induce Spec/head agreement on Agr_N. As the nominative object can be shown to raise to Spec-Agr_N only when there is agreement, but not when the verb is singular by default (see Taraldsen, 1994), the nominative Case on the object cannot in general be licensed in Spec-Agr_N. Rather, Agr_N is linked to the nominative object in a chain-like relation such that the pairing default Agr_N/nominative object corresponds to an expletive/argument chain-link, while agreeing Agr_N relates to the nominative object as a moved element relates to its trace. In either case, we have the result that the presence of a nominative argument will prevent Agr_N from agreeing with another constituent of the clause, e.g., the subject.

Nominative subjects and oblique subjects alike are licensed in Spec-Agr_P. Adapting a proposal by Bittner and Hale (1993), we might say that they are actually licensed by government from C. Note, however, that even though DP_i in Spec-Agr_P, is governed by C in (26), the chain initiated at the trace position is still not licensed, unless Spec-Agr_P is an A-position.

(26) C $[_{AgrPP}$ DP_i Agr_P . . . t_i . . .]

If Spec-AgrP is an A′-position, DP_i is not the head of the (A-)chain containing t_i, and its fate is therefore irrelevant to the licensing of that chain.

Above, I suggested that Spec-X is an A-position just in case X agrees with the phrase in Spec-X. Suppose now that Agr_P is activated for Spec/head agreement only if it incorporates an active Agr_N, where by "active Agr_N" is meant an occurrence of Agr_N free to agree with Spec-Agr_P (see Taraldsen, 1994, for a more detailed proposal along these lines). Then, Agr_P will not be able to agree with Spec-Agr_P when there is a nominative object, and so, Spec-Agr_P is not an A-position when the object is nominative. It follows that the subject chain fails to be licensed (by having its head governed by C) in the presence of a nominative object.

From this we derive the result that nominative subjects are incompatible with nominative objects. However, adjustments must be made to accommodate oblique subjects. A particular solution is suggested by rethinking the question of why agreement should play a role in determining whether a Spec-position is an A-position or not. Current approaches would have it that what defines a Spec-position as an A-position is a feature-checking relation between the Spec and the corresponding head. Agreement would simply be a reflex of this relation. Since the person and number features of an oblique subject do not seem to check against those of the head, there being in general no matching effect, this assumption incorrectly predicts that oblique subjects are in A′-positions.

The alternative I have in mind is based on the intuition that a Spec position is an A-position to the extent that its sister X′ can be successfully predicated of it. Suppose predication is possible only when the position of the free variable within the predicate is identifiable on the basis of morphosyntactic properties of either the head of the predicate or the argument itself. If the subject is not oblique, the element in Spec-Agr_P does not identify the position of the corresponding variable. This is because a non-oblique subject's Case-inflection is not determined by the position of its trace, the variable inside the predicate. Therefore, the head of the predicate must have its features co-indexed with the trace of the subject, as in (27).

(27) $C\ [_{Agr_PP}\ DP_i\ Agr_{Pi}\ \ldots\ t_i\ \ldots]$

From this point of view, Spec/head agreement is the effect of Agr_P identifying the trace of the element in the Spec-position.[5]

Oblique subjects, on the other hand, carry the fingerprints of the lexical elements selecting their Case-features. Hence, Agr_P need not, and therefore cannot (by principles of economy of representation), pick up the features of the subject's trace. Therefore, there is no feature agreement between Agr_P and an oblique subject. Yet, Spec-Agr_P is an A-position in this case, since predication applies successfully.

4.3. Remarks on Case and Subject/Verb Agreement

Since the assumptions leading to this analysis of Icelandic subject/verb agreement will be used again to provide an account of the Norwegian sentences exemplified in (4), it may be useful to develop them somewhat further before proceeding. In particular, I would like to clarify one aspect of the account offered to explain the lack of agreement with oblique subjects vs. the obligatoriness of agreement with non-oblique subjects.

According to that account, the identification of the variable position inside Agr_P', construed as a predicate on an oblique subject, is identified on the basis of Case-features. Conversely, a non-oblique subject does not identify the corresponding variable, because it does not inherit Case-features from a position inside Agr_P' (its trace). This suggests that Agr_P in (27) succeeds in identifying the variable not just because it is co-indexed with it (as is also the subject itself), but rather because it shares Case-features with it, as would an oblique subject. This conclusion, however, seems to have the following two corollaries: (a) a DP-position P_K below Agr_P, but higher than the position where object DPs are Case-marked, is associated with some Case-feature K, and (b) Agr_P contains a pronominal element incorporated from P_K.

As for consequence (a), it is observed in Taraldsen (1994) that two facts about Icelandic syntax seem to call for a distinction between Case-licensing, which is essentially blind to the value of Case-features, and the assignment of a particular Case. On the one hand, oblique subjects, even though Case-marked in situ, must move to the subject position to be Case-licensed (by C, according to our account), exactly like non-oblique subjects. On the other hand, nominative objects occurring in sentences like (21) share significant properties with non-nominative objects. In particular, they are possible in infinitival clauses, unlike nominative subjects (except when the matrix subject is oblique). This suggests that nominative objects are Case-licensed just like all other objects in active sentences (say, by the V), except that their Case-feature is selected in a different way.

According to Taraldsen (1994), the Case-feature of a nominative object is selected by Agr_N under government. Adopting that proposal here, we may now say that the position P_K of corollary (a) is Spec-Agr_N. Given an appropriate definition of 'government,' Agr_N will then select the value 'nominative' for the Case-feature of the DP in Spec-Agr_N.

Corollary (b) now amounts to saying that the nominative DP in Spec-Agr_N must be a pronoun subsequently incorporating into Agr_P. This is in accordance with Taraldsen's (1992) claim that subject/verb agreement is always the reflex of pronoun incorporation. Given the structure in (28), we may explain subject/verb agreement.

(28) . . . Spec Agr_P Spec Agr_N . . . DP_i . . .

Suppose Agr_N has properties inducing an EPP-effect with respect to Spec-Agr_N, e.g., it has "strong" N-features, in the sense of Chomsky (1993). Then, some DP must appear in Spec-Agr_N prior to s-structure/"Spell-out." A priori, there are two options: some DP, say, DP_i in (28), moves to Spec-Agr_N from another position, or an expletive is inserted. However, one may assume that one alternative is more costly than another one. In particular, assume that the movement option is more costly than expletive insertion, as suggested by Chomsky (1993). Then, the insertion option must be chosen provided it leads to a converging derivation.[6] Thus, at some stage of the derivation from (28), we will have (29).

(29) . . . Spec Agr_P **pro** Agr_N . . . DP_i . . .

Since DP_i therefore does not visit Spec-Agr_N in the course of the derivation, it will not carry with it the Case-feature associated with that position (it is assigned to *pro* instead), and cannot itself identify the variable position in the predicate from Spec-Agr_P.

Why must *pro* incorporate into Agr_P? Again, economy considerations seem to provide an answer, which actually makes it redundant to stipulate that the variable position can be identified by a pronominal element incorporated into the head of the predicate, but not by a resumptive pronoun in the variable position itself, a priori a plausible option. Let us assume that the minimal structure matching Agr_N's strong N-features must be selected for insertion into Spec-Agr_N. This will be a DP where D lacks a complement, i.e., a subordinate N-projection. Then there will be no N carrying appropriate inflection that might sanction D's V-features (in Chomsky's, 1993, sense) by adjoining to it. Therefore, the D incorporates into Agr_P where it is licensed by the verbal inflection once the V has adjoined to Agr_P.

When a derivation converges only if some DP_x is moved to a licensing position, expletive *pro*-insertion no longer competes with movement. Hence, DP_i can legitimately move to Spec-Agr_P, giving (30).

(30) . . . **DP_i** Agr_P **pro** Agr_N . . . t_i . . .

The expletive pronoun *pro*, which incorporates into (the amalgam of Agr_N and) Agr_P, must agree with DP_i in person and number, because it must correspond to the variable heading the chain that eventually links the argument DP_i to its trace when predication applies.

4.4. Norwegian Experiencers as Oblique DPs

Returning to the problem of accounting for the properties of Norwegian sentences like (4), I would now suggest equating the functional head

previously called Agr_X with Agr_N, in the sense of the analysis of Icelandic just outlined. Recall that in those dialects where past participles show morphological agreement, the participle, in sentences like (4), in fact agrees with the preceding object DP in number (and gender), but not in person.

If we build this assumption into Kayne's (1993) account of auxiliary switch, a sentence like (4) should look like (31), where, as in Kayne (1993), the extended projection of a past participle is a special kind of DP whose head has the properties of a P.[7]

(31) *Jens fikk* $[_{DP}$ Spec P $[_{AgrPP}$ Spec Agr_P $[_{AgrNP}$ ***bilen*** Agr_N . . . *reparert* . . .

Here, the position called Spec-YP in preliminary discussion corresponds to Spec-Agr_P. From earlier discussion, we know that to leave DP, the extended projection of the participle in Kayne's (1993) analysis, *Jens* must touch down in Spec-Agr_P, after having crossed over Spec-Agr_N (filled by *bilen*). Since *Jens* ultimately moves to an A-position, however, this yields an instance of IMPROPER MOVEMENT, unless Spec-Agr_P is an A-position.

However, if *Jens* does not carry with it a Case-feature assigned within Agr_P', a matching variable position in Agr_P', the predicate, will be identified for *Jens* only if Agr_P contains a pronoun Case-marked in Spec-Agr_N, picking out Spec-Agr_N as the relevant variable site. Correspondingly, Spec-Agr_P is an A-position with respect to *Jens,* by our definition, only if there is such a pronoun incorporated into Agr_P. But this condition cannot hold, since Spec-Agr_N is filled by the fronted object, *bilen,* and consequently cannot hold the variable to be linked with (the trace of) *Jens.* Therefore, Spec-Agr_P is not an A-position for a raising non-oblique subject in (31) or any other structures where Spec-Agr_N is occupied by the object.

Suppose, however, that *Jens* has oblique Case. Then, the variable position inside Agr_P' is identified by the Case-marking on *Jens,* when *Jens* occurs in Spec-Agr_P, as in the Icelandic sentences with oblique subjects discussed above. Hence, predication is successful, and Spec-Agr_P is an A-position, by our criterion.

In short, when we combine the minimality considerations from section 3 with the right definition of A-position and analyze sentences like (4) as in (31), we see that the well-formedness of such sentences should depend on whether or not the subject of *få* is oblique (at the relevant point of the derivation).

The assumption that *Jens* can be oblique in (4) becomes possible, even though there is no visible morphological reflex of oblique Case in Norwegian, because it can be shown on independent grounds that the syntactic importance of oblique Case is independent of its phonetic visibility (or interpretability). The crucial observation is that the contrast between

Icelandic sentences (21) and (22) is reproduced in infinitival clauses like (32)–(35), even when the subject is phonetically null, as in (32)–(35).

(32) *Hann taldi mér líka bókin.*
he-N believed-3SG me-D like book-the-N
'He believed me to like the book.'

(33) *Hann taldi mig hafa keypt bókina /*bókin.*
he-N believed me-A have bought book-the-A /*-N
'He believed me to have bought the book.'

(34) *Hann vonaðist til að líka bókin.*
he-N hoped-3SG to to like book-the
'He was hoping he would like the book.'

(35) *Hann vonaðist að keypa bókina /*bókin.*
he-N hoped-3SG to buy book-the-A /*-N
'He was hoping to buy the book.'

In the ECM-sentences (32)–(33), we see the embedded subject taking accusative Case if it is non-oblique, while oblique subjects retain their Case, as in finite clauses. The object's Case is the nominative just in case the subject is oblique, exactly as in finite clauses. Thus, we want to extend the analysis of (21) vs. (22) to their infinitival counterparts, which is reasonably straightforward provided one is willing to say that Agr_P and Agr_N occur in infinitival clauses too, although here, we see no morphological reflexes in the verbal inflection. In the control sentences (34)–(35), the embedded subject must be PRO. If we want to maintain our account of the distribution of nominative objects, we must say that PRO is oblique in (34), but not in (35). Since PRO has no phonetic representation, however, this entails separating the syntactic properties of oblique Case from its PF-visibility.

It seems that oblique subjects are never bearers of an agent role in Icelandic. In fact, they appear to originate either as experiencers or objects of the main verb. Transposing to Norwegian, we would therefore expect that *Jens* can be oblique in (4) when it is an experiencer, but not when it bears the agent role induced by the participle. When we add this to the previous conclusion that (4) has a well-formed analysis just in case *Jens* is oblique, we correctly predict that (4) is acceptable only when *Jens* is interpreted as bearing an experiencer role assigned by the participle.

4.5. A Sample Derivation

I will assume that an experiencer is assigned oblique Case by the verb inducing its thematic role. Without trying to elucidate the details of this

process, let us follow step by step a derivation of (4) starting from the point (36) at which oblique Case has been selected for the experiencer linked to the participle.

(36) . . . BE [$_{DP}$ Spec P [$_{AgrPP}$ Spec Agr_P [$_{AgrNP}$ Spec Agr_N . . .
reparert Jens bilen . . .

When the direct object, *bilen*, has reached Spec-Agr_NP, the experiencer crosses over it to arrive in Spec-Agr_PP. Assuming that Agr_N has adjoined to Agr_P, this step (37) of the derivation respects the principle of shortest move.

(37) . . . BE [$_{DP}$ Spec P [$_{AgrPP}$ ***Jens***$_i$ Agr_P [$_{AgrNP}$ *bilen*$_k$ Agr_N . . .
reparert t_i t_k . . .

Since an experiencer is oblique, Spec-Agr_P counts as an A-position with respect to *Jens*. Thus, it may move on to another A-position without inducing an improper movement violation, i.e., its chain can be extended further. This is of critical importance to the outcome of the derivation, because *Jens* is not Case-licensed in the participial Spec-Agr_P.

At this point, *Jens* could move either to Spec-DP or directly to a position in the projection of BE (provided P, the head of DP, adjoins to BE). We shall first see (38) what happens when *Jens* moves to Spec-DP, returning later to the second option (toward the end of 4.6).

(38) . . . BE [$_{DP}$ ***Jens***$_i$P [$_{AgrPP}$ t_i Agr_P [$_{AgrNP}$ *bilen*$_k$ Agr_N . . .
reparert t_i t_k . . .

By Kayne's assumptions, Spec-DP is not an A-position, unless P incorporates into BE (yielding a *have*-type auxiliary, ultimately *fikk*). Since Spec-DP must be an A-position in order for *Jens* to be able to move to a higher A-position in (38), we expect P to incorporate, with the desired effect on the selection of the auxiliary, assuming that Spec-DP, with P as its head, is not an A-position even when filled by an oblique DP. This operation can be taken to have a side effect, which I will now investigate.

4.6. The Morphophonemic Interpretation of Oblique Case

As I have already pointed out, oblique Case has no morphophonemic interpretation in Norwegian. Let us assume that this implies that any oblique Case feature reaching PF is a source of ill-formedness. Then *Jens* must be able to lose its oblique Case-marking in the course of the derivation from (38). It is tempting to attribute this to the relation between an oblique DP in Spec-DP and P, the head of DP, plus the incorporation of P into BE.

Intuitively, there is a relation between oblique Case and the P which allows the oblique Spec-DP to be analyzed as a dependent of the P. If P incorporates into BE, the oblique Case feature goes with it.

Basically, the logic of this idea corresponds to Kayne's proposal as to why incorporating P into BE has the effect of making Spec-DP analyzable as an A-position: after incorporation, the element in Spec-DP has only those properties that follow from its being governed by BE, not those that would reflect the relations holding between P and Spec-DP. If, at the stage of the derivation reached in (38), *Jens* is analyzed as oblique only by virtue of the Spec/head relation with P, it will follow from this basic assumption that *Jens* is not analyzed as an oblique DP subsequent to P-incorporation. Thus, the only new element we must add to Kayne's analysis to implement the idea described above is that *Jens* can be analyzed, in (38), as being oblique only by virtue of the relationship between Spec-DP and P, although the source of the oblique Case-marking on *Jens* actually is the V assigning its thematic role, i.e., the participle. It seems fairly natural to attribute this to Spec/head agreement: when the oblique DP *Jens* has reached Spec-DP, as in (38), it finds itself in a configuration of Spec/head agreement with respect to P. If we take the feature content of P to include that of the oblique Case feature, adopting a common idea about the relatedness between oblique Cases and prepositions, then (38) is actually a case of (partial) Spec/head agreement (at least from the representational point of view). So it is sufficient to assume, as a general principle, that whenever a phrase A in Spec stands in an agreement relation with a head H with respect to the property Π, Π may be interpreted as being dependent on H. This principle will have the effect that whenever H incorporates into a higher head, A may lose the property Π.[8]

If this analysis is viable, we can maintain that no DP may reach PF bearing oblique Case, as I already have suggested. This, in turn, would imply that the experiencer DP *Jens* cannot exit the participial DP in (37) without first passing through Spec-DP, although it is not necessarily a consequence of the principle of shortest move, when P incorporates into BE.

It is difficult to construct a strong empirical argument in favor of the contention that oblique Case causes PF-ill-formedness in Norwegian. However, a possible line of argument would start from the observation that oblique DPs do not license number agreement in languages related to Norwegian. On the other hand, there are dialects of Norwegian where at least participles show agreement in number (and gender). Suppose we can construct a sentence where an experiencer subject of *få* + Vpp could trigger number agreement on a higher participle. Then we expect the participle to agree with it if and only if it is not oblique. Furthermore, if the agreement is obligatory, it means that an experiencer subject of *få* + Vpp is never oblique after it has left the participial DP. This would be an effect of

Spec/head agreement between Spec-DP and P plus P-incorporation, as claimed above, if and only if an oblique DP can only escape from the participial DP via its Spec. But this seems to follow only if a DP cannot be oblique at PF in Norwegian, to the extent that it does not appear to be a consequence of shortest move or other general principles of syntax. The relevant test sentence would look like (39).

(39) ***Hans slektninger ble ansett å ha fått Jens arrestert som hevn.***
his relatives were considered to have got John arrested as revenge

In the varieties of Norwegian where participles show number agreement, the participle corresponding to *ansett* 'considered' would obligatorily have the plural ending *-e* in (39) just in case the experiencer *hans slektninger* 'his relatives' is not oblique when it reaches the Spec-Agr_N position above *ansett*. Unfortunately, it has proven close to impossible to construct sentences like (39) in the relevant dialects. This is because verbs with properties of *anse* are in general considered alien to most dialects. To the extent that informants offer reliable judgments, however, they invariably want the participle *ansett* with the plural ending, giving a certain amount of empirical evidence in favor of the hypothesis that Norwegian DPs must get rid of oblique Case before reaching PF.

If oblique DPs cause derivations to crash at PF in Norwegian, it would seem natural to think that this is because there is no morphophonemic realization of oblique Case in this language. Note that this hypothesis apparently amounts to saying that oblique Case is a feature value on a functional head K with strong head features, in Chomsky's (1993) framework. This means that a phonologically uninterpretable collection of morphosyntactic features will enter the PF-component, unless a lexical head bearing appropriate Case inflection adjoins to K. Since no Norwegian noun or pronoun has inflection matching oblique Case, the latter condition can never be satisfied.

It is potentially embarrassing to this view that the argument based on (39) can be replicated when the experiencer subject of *få* + Vpp is PRO, i.e., the agreement judgments on (40) correspond to those given for (39).

(40) *Hans slektninger ønsker ikke å bli ansett å ha fått Jens arrestert.*
his relatives want not to be considered to have got John arrested

(41) . . . ***PRO å bli ansett å ha fått Jens arrestert.***

Since PRO is a silent DP, the unpronounceability of a functional head inside it should perhaps not be expected to crash the derivation at PF. We will leave this question open for now.

4.7. Oblique Case in the Double Object Construction

By present assumptions, the first object of the participle, bearing the 'goal' role, must be oblique at the point at which it reaches the Spec-Agr_P of the participle projection in the derivation of (13), repeated here.

(13) *Kari* *fikk pengene* *tilsendt i* *posten.*
Catherine got money-the sent in mail-the

Adopting a VP-shell analysis for double object constructions, we might say that an oblique Case, more specifically the dative, is assigned to the Spec-position in the lowest VP, as in (42).

(42) . . . $[_{VP1}$ Spec V_1 $[_{VP2}$ **DP** V_2 (DP) . . .
|
dative

Then the first object of *tilsendt* in (13), i.e., *Kari,* becomes a dative in its base position and stays dative until it has reached Spec-DP and the P head of the participle projection has incorporated into BE. By (42), the first object must start out as a dative in (16) too, repeated here.

(16) **Kari* *fikk passet* *fratatt.*
Catherine got passport-the confiscated

Yet (16) is ungrammatical, in contrast to (13). We may account for this by enforcing the presence of a P taking the lower VP-shell as its complement in the source structure for (16), viz., (43).

(43) . . . $[_{VP1}$ Spec V_1 $[_{DP}$ Spec **P** $[_{VP2}$ **DP** V_2 (DP) . . .
|
dative

If the oblique DP must move out of VP_1, it must pass through Spec-DP. Even if P adjoins to V_1, the oblique DP cannot move directly to a position beyond Spec-VP_1. So, since Spec-VP_1 is taken by the argument bearing the 'agent' role, it must first move to Spec-DP. This induces a relation of Spec/head agreement between the oblique DP and P. Since V_2 must move to V_1, P must first adjoin to V_1. Alternatively, V_2 picks up P on its way to V_1. Either way, P winds up adjoined to V_1, i.e., we have the incorporation effect described earlier for P head of a participle DP and P. Therefore, the underlying oblique DP loses its dative Case in Spec-DP in (43).

As a consequence, the first object of *fratatt* will behave like any non-oblique DP, e.g., an agent argument, at the point at which it reaches Spec-Agr_P. Spec-Agr_P, accordingly, will not be an A-position with respect to it. In other words, (16), on the relevant derivation, is ungrammatical for the same reason that (4), repeated here, is ungrammatical with *Jens* interpreted as the bearer of the participle's 'agent' role.

(4) *Jens fikk* ***bilen*** *reparert.*
'John got the car repaired.'

An argument to which the 'agent' role is assigned never occurs in the position marked dative by (42). So a DP bearing the 'agent' role is oblique at no stage of the derivation. The first object of *fratatt,* on the other hand, starts out as an oblique DP, but loses its oblique Case-marking as it moves up the tree.

4.8. There is a Covert Expletive in (3)

The fact that (14) and (17) contrast in exactly the same way as (13) and (16) has a consequence for the analysis of sentences like (3), all repeated here.

(14) *Kari fikk tilsendt pengene i posten.*
Catherine got sent money-the in mail-the

(17) **Kari fikk fratatt passet.*
Catherine got confiscated passport-the

(3) *Jens fikk reparert* ***bilen.***
John got repaired car-the

A priori, Spec-Agr_N might be either empty or filled by a null expletive in the extended projection of the participle in (3), as in (44).

(44) . . . [$_{DP}$ Spec P [$_{AgrPP}$ Spec Agr_P [$_{AgrNP}$ **Spec** Agr_N *reparert Jens bilen* . . .

If Spec-Agr_N is empty, *Jens* may move to Spec-DP without passing through Spec-Agr_P. If Spec-Agr_N hosts a null expletive, however, the derivation must be exactly as assumed for (4): *Jens* passes through Spec-Agr_P, which is an A-position with respect to oblique DPs. (Spec-Agr_N must of course always be empty when the DP moving up is the one bearing the 'agent' role.)

Suppose Spec-Agr_N is empty in (45).

(45) . . . [$_{DP}$ Spec P [$_{AgrPP}$ Spec Agr_P [$_{AgrNP}$ **Spec** Agr_N *fratatt Kari passet* . . .

Then, *Kari* should be able to move first to Spec-Agr_N and then to Spec-DP, without passing through Spec-Agr_P (assuming Agr_P moves to P), so that its not being oblique at this stage of the derivation would not cause the derivation to fail. Hence, (17) is predicted to be grammatical, contrary to fact.

If, on the other hand, Spec-Agr_N is filled by a null expletive, *Kari* must move to Spec-Agr_P to reach Spec-DP, and (17) is expected to be ungrammatical for the same reason as (16). Therefore, we assume that Spec-Agr_N must be filled by a null expletive whenever the direct object does not move there (except, as noted, when there is an 'agent' DP raising out of the participle projection).

Swedish offers fairly direct evidence in favor of this hypothesis. Swedish, like many Norwegian dialects, has visible number agreement on the participle in sentences like (4). On the other hand, Swedish differs from all varieties of Norwegian by distinguishing, in certain conjugation classes, between the neuter singular form of the participle and its default form. The verb *skriva* 'write,' for instance, has the neuter singular form *skrivet* and the default form *skrivit,* as in (46)–(47).

(46) *Det blev* ***skrivet/*-it*** *många böcker.*
it became written-NEUT.SG /*-Ø many books

(47) *Jens har* ***skrivit/*-et*** *många böcker.*
John has written-Ø/*-NEUT.SG many books

In Norwegian dialects with visible participle agreement, the default form is always equal to the neuter singular form.

In a Swedish sentence like (3), with the subject of *fick* 'got' interpreted as an "experiencer," the participle must have the neuter singular form, not the default form, as in (48).

(48) *Jens fick* ***skrivet/*-it*** *många bøcker.*
John got written NEUT.SG /*-Ø many books

This is immediately explained if in fact Spec-Agr_N must contain a null expletive with which the participle agrees, precisely as it agrees with the overt expletive *det* 'it' (neuter singular) in (46).

If Spec-Agr_N must contain a covert expletive in (45), the next question is why this should be so. Suppose there is an EPP-like effect associated with Spec-Agr_N. If the second object, *passet* 'the passport,' moves to Spec-Agr_N or a (null) expletive is inserted, we have the kind of situation discussed above, where the first object must move through Spec-Agr_P but cannot, since it is not oblique. If, on the other hand, the first object itself moves to Spec-Agr_N, we may appeal to economy considerations, starting from the observation that (49), with auxiliary *bli* 'become' instead of *få* 'get,' is grammatical.

(49) *Kari* ***ble*** *fratatt passet.*
Catherine became confiscated passport-the

Adapting Kayne's (1993) proposal, I will take it that *bli* 'become,' like *være* 'be,' does not incorporate a preposition. Thus the participle phrase cannot be a DP headed by P in (49). I will assume that the extended projection of the participle stops at the Agr_NP node: Agr_N must be included, since the participle will show obligatory number (and gender) agreement in dialects with overt participle agreement. Agr_P cannot be included if, like Kayne, we want to maintain that the presence of the P (projecting to DP) is forced by an Agr_P-node.

On these assumptions, the grammaticality of (49) shows that there is a way of licensing all arguments of the participle in the common source structure of (17) and (49) without extending the extended projection of the participle beyond Agr_NP, if the first object itself moves to Spec-Agr_N. Hence, we may presume that a principle of economy of representation (also implicit in Kayne's analysis of the *have/be* alternation) excludes (50), where the extended participle projection reaches DP, in favor of the more parsimonious representation underlying (49).

(50) . . . $[_{DP}$ Spec P $[_{AgrPP}$ Spec Agr_P $[_{AgrNP}$ ***Kari***$_i$ Agr_N *fratatt* t_i *passet* . . .

Therefore, an expletive must have been inserted into Spec-Agr_N in (45), and, by the same token, in the structure underlying (3). I return to the question why the expletive is required in section 5.2.

4.9. Experiencers and Syntactic Licensing

The DP bearing the 'experiencer' role in (3)–(4) must, like the first object of *tilsendt* in (13)–(14), start out in the Spec-position of a lower VP-shell, so that (42) will assign oblique Case to it. The common source of (3) and (4) must look like (51).

(51) . . . $[_{VP1}$ Spec V_1 $[_{VP2}$ ***Jens*** *reparert bilen* . . .
dative

In the derivation of (3), a null expletive is inserted into Spec-Agr_N, above VP_1. In the derivation of (4), *bilen,* the second object, is moved to Spec-Agr_N. In each case, the DP associated with the 'experiencer' role, *Jens,* is raised first to Spec-Agr_P, which is an A-position for oblique DPs, then to Spec-DP. In Spec-DP, the oblique DP enters into an agreement relation with P, so that it loses its oblique Case when P incorporates into BE. Then *Jens* exits the extended projection of the participle, the DP, to move to a position in the extended projection of the auxiliary (now *fikk*), eventually Spec-Agr_P.

Crucially, (51) differs from (43) by not having a P between the two VP-shells. In this respect, (51) is like the structure underlying (13)–(14). Because of this, a DP assigned the experiencer role in a configuration like (51) will always be able to surface when a participle combines with *få*, but nowhere else, given that oblique Case must not reach PF in Norwegian. Moreover, the distribution of oblique DPs in Icelandic tells us, as already noted, that even oblique DPs must eventually be licensed in the same set of positions as licenses non-oblique DPs. Thus, if the extended projection of a verb can only contain a number of licensing positions equal to the number of strictly subcategorized arguments plus the "subject positions" Agr_P and Agr_N, we expect non-subcategorized experiencers to be possible only when they can have access to Agr_P, i.e., only when the main verb is either ergative or passivized, like the past participle following *fikk* in (3) (on the non-agentive reading of the subject) and (4). So, the distribution of "free" experiencers is expected to be severely limited even in languages where oblique Case has a PF-interpretation.

Since almost any transitive verb can appear in the participle position in sentences like (3)–(4), we conclude that every verb has the syntactic and semantic resources for forming base structures like (51) and assigning the 'experiencer' role to the DP in Spec-VP_2. Thus, having an optional experiencer seems to be a latent property of all verbs which, for independent reasons, is realized only in the *få* + participle construction.

5. REMAINING PROBLEMS AND SOME CONJECTURES

We still need to clarify certain issues regarding the licensing properties of Agr_N and the relation between Agr_N and Agr_O. No firm conclusion will be reached, but the following speculations might prove useful to further research.

5.1. Three Questions

The position Spec-Agr_N Case-licenses a DP in sentences like (4), and, if earlier assumptions are correct, even in (3) (a null expletive). On the other hand, I have also taken Spec-Agr_N to be the position from which a DP exits the extended participle projection in passive sentences with the auxiliary *bli* 'become.' The latter assumption would seem to presuppose that Spec-Agr_N does not Case-license a DP in sentences with *bli*. Thus, the question arises how the Case-licensing capacity of Spec-Agr_N depends on other syntactic properties of the clause (Question 1).

In sentences where a participle combines with *ha* 'have,' there must be a Case-licensing position to the right of the participle, i.e., below the position where the participle surfaces; cf. (5), repeated here.

(5) *Jens* ***har*** *reparert* ***bilen.***
John has repaired car-the

In fact, there may be two Case-positions following the participle, as in (15) repeated here.

(15) *Jens har fratatt Kari passet.*
John has confiscated Catherine passport-the

The second of these is active also in passive sentences with *bli* and in sentences with *få* with experiencer subjects, as in (49), repeated here, and (52).

(49) *Kari* ***ble*** *fratatt* ***passet.***
Catherine became confiscated passport-the

(52) *Jens* ***fikk*** *fratatt Kari* ***passet.***
John got confiscated Catherine passport-the

I will refer to the second Case-position after the participle as K_3 ('Case-position 3'). I will assume that a DP in this position is Case-licensed in the same way in all three clause types mentioned above without trying to determine the exact nature of the licensing mechanism.

The first Case-licensing position after the participle, K_2, is active only in combination with *ha* or *få* with a subject associated with the participle's 'agent' role. In other cases, the (first) object must move to Spec-Agr_N (and onward, with auxiliary *bli*) or else link to an expletive in Spec-Agr_N. We would like to know why this is so (Question 2).

Finally, note that a DP associated with the participle's 'agent' role may not move to Spec-Agr_N. If it could, we would get (53), with the extended participle projection terminating at Agr_NP, for reasons discussed above.

(53) **Jens ble fratatt Kari passet.*
John was confiscated Catherine passport-the

Question 3: Why should that be?

5.2. Agr_N and Agr_O

Leaving aside for the moment the question of why Spec-Agr_N is Case-licensing under *få* 'get' but not under *bli* 'become' (Question 1), we will say that Spec-Agr_N is active just in those contexts where it either Case-licenses

a DP (with *få*) or serves at an exit position for a DP leaving the extended participle projection (with *bli*). Given this choice of terminology, we have that Spec-Agr_N is active in just those contexts where K_2 is not (in combination with *bli* or *få*), and vice versa (in structures where an 'agent' DP is trying to escape from the participle phrase). At first blush, one might be tempted to account for this by identifying K_2 with Spec-Agr_N. The fact that the first object appears in different positions in (4) and (5) might conceivably be attributed to the participle raising to a lower position in (4) than in (5). Apart from the fact that this hypothesis would be inconsistent with the analysis offered in preceding sections, we note, however, that a DP preceding the participle, as in (4), induces number (and gender) agreement (in the relevant dialects), but a DP following the participle, as in (5), does not. Hence, I shall assume that Spec-Agr_N and K_2 really are different positions.

Given this, we must try to capture the complementarity between Spec-Agr_N and K_2 by setting up some form of communication between the two positions. In essence, we should have a system where Spec-Agr_N must tap K_2's licensing resources to act as a host for some DP. The following is a set of suggestions as to how one might implement this idea.

Let us assume, largely for the sake of explicitness, that K_2 corresponds to Agr_O in standard minimalist analyses. Both Agr_N and Agr_O have N-features, keeping to minimalist terminology, that must be matched against appropriate DPs in Spec-positions. This is the source of EPP effects. Agr_N and Agr_O can both undergo head movement, however, and they can only license their N-features in the position of the head of their chains. Thus, the N-features of Agr_N or Agr_O must be checked off against the Spec of the head to which they adjoin, if they move away from their base positions.

I shall assume that Agr_O may move to Agr_N. Agr_N, on the other hand, may move to Agr_P. In the first case, the N-features of Agr_O must be checked against Spec-Agr_N. In the second case, the N-features of Agr_N must be checked against Spec-Agr_P.[9] Clearly, if either one or the other of these two movements must take place in every converging derivation, we have the result that Spec-Agr_N and Spec-Agr_O are never both accessible in the same structure.

Agr_N and Agr_O presumably also have V-features. The V-features of X are licensed just in case a V bearing appropriate inflection adjoins to X. Suppose now that the system of verbal inflection is defective in the sense that there is no inflection licensing the V-features of Agr_N except when Agr_N merges with Agr_P (as a result of Agr_N-to-Agr_P) or Agr_O (as a result of Agr_O-to-Agr_N). Then we have the situation described immediately above. (54) and (55) are the only permissible forms (with "+" indicating left adjunction).

(54) . . . Spec Agr_N + Agr_P . . . Spec Agr_O VP . . .

(55) . . . Spec Agr_O + Agr_N . . . VP . . .

In (54), Spec-Agr_O is accessible, but Spec-Agr_N is not. In (55), it is the other way around. Which form is selected in any particular situation will depend on the number of arguments originating inside the VP and their syntactic properties. To illustrate, let us assume that the head of the VP is a transitive verb with the two arguments DP_1 and DP_2. Suppose DP_2 is licensed in Spec-Agr_O. Then we must have a structure like (54), where DP_1 is licensed in Spec-Agr_P. If DP_2 is licensed in Spec-Agr_N, on the other hand, we must have a structure like (55), where DP_1 can be licensed only if the structure also contains Agr_P above Agr_N, and Spec-Agr_P is an A-position with respect to DP_1, i.e., only if DP_1 is oblique, given that Agr_N does not merge with Agr_P in (55).

If the sentence is passive, and DP_1 corresponds to the 'agent,' it will have no relevant syntactic representation. Hence, only DP_2 can license the N-features of Agr_N and Agr_O, which therefore must merge, giving rise to a structure like (55). DP_2 can either license the relevant N-features by raising to Spec-Agr_N or it can do so by licensing an associated expletive in Spec-Agr_N. If DP_1 is oblique, it cannot license the N-features of Agr_N, since oblique DPs do not license Spec/head agreement with respect to number; cf. section 4.2. Hence, the N-features of Agr_N must be licensed by DP_2, as in passives, i.e., Agr_O must adjoin to Agr_N, producing another instance of (55). Either DP_2 can license Spec-Agr_N directly, by moving there, or else it licenses it indirectly, by linking up with an expletive in Spec-Agr_N.

These considerations, if correct, provide answers to Questions 2 and 3. Essentially, in passives with *bli* or in sentences where *få* takes an 'experiencer' subject there are not enough appropriate argument DPs to license the N-features of both Agr_N and Agr_O unless Agr_O merges with Agr_N (answer to Question 2). In sentences where a DP assigned the participle's 'agent' role must raise out of the extended projection of a transitive participle, Agr_N must merge with Agr_P, since Spec-Agr_O must be used to license the object DP. Like Kayne (1993), we must assume that superficially intransitive verbs with 'agent' subjects really have covert objects to generalize this conclusion to all verbs with agentive subjects (answer to Question 3).[10]

5.3. When Does Agr_N License Case?

As for Question 1, it seems necessary to assume that Spec-Agr_N's capacity for Case-licensing depends on the presence of P or Agr_P in the extended projection of the participle. Both are present when the auxiliary

becomes *få* 'get,' but not when it is *bli* 'become.' A possible analysis, whose ramifications remain to be explored, would start out from Bittner and Hale's (1993) suggestion that Case-marked phrases are projections of a special functional category K. If some constituent needs Case for visibility reasons, it must be embedded in a projection of K. In general, it must in fact be a complement of K. Suppose now that the P heading a participle's extended projection is an instance of K. Suppose also that Agr_PP, but not Agr_NP, belongs to the class of constituents that must combine with K. As a first result, we could then explain why P must be present in the extended projection of the participle whenever Agr_P is, a dependency which is stipulated in Kayne (1993).

From this point of view, the extended projection of the participle headed by P is a KP which is licensed the same way as any direct object of a verb. Agr_PP is visible by virtue of being the complement of K. Suppose we could say that even the DP in Spec-Agr_N, although clearly not a complement of K, is licensed by bearing the required structural relation to K.

In fact, Bittner and Hale (1993) also propose that nominative subjects are in fact K-less DPs associated with the occurrence of K heading the clause (C, in their analysis). Perhaps this analysis can be extended to DPs in Spec-Agr_N. Such an extension would have to overcome two problems, however. The relation between the P heading the participial DP and Spec-Agr_N does not seem sufficiently local, given the intervening Spec-Agr_P and Agr_P. And the Case associated with Spec-Agr_N is not the nominative; see (56).

(56) *Jens fikk henne /*hun arrestert.*
John got her / *she arrested

The latter fact could possibly be attributed to the way the morphological reflex of Case is determined. In particular, one might speculate that the morphological Case-marking, reflecting the presence of K, must in this case be associated with the DP in Spec-Agr_N rather than with some piece of the verbal inflection, as might conceivably be the case in clauses with nominative subjects.

As for the first problem, the non-locality of the P/Spec-Agr_N relation, I do not even have a speculation to offer at this point.

6. CONCLUSION

Insofar as the analysis presented above is on the right track, it appears that a certain class of participle phrases which one might initially be led to

analyze as small clause complements of a causative verb (*få* 'get') are more profitably viewed as closely related to participle phrases combining with auxiliaries in compound past tenses or passive sentences.

The success of the analysis would also provide support for the view that participle phrases have a rich internal structure determined by a set of functional heads similar to those occurring in finite clauses, a view advocated recently by Kayne (1993). Hence, it would also support the view that the extended projection of the participle is closed below the auxiliary even though it does not correspond to a semantic argument of the auxiliary. In this sense, past participles always form small clauses.

REFERENCES

Bittner, M., and K. Hale. (1993). *Ergativity: Towards a theory of heterogeneous class.* Unpublished manuscript, Rutgers University, New Brunswick, N.J., and Massachusetts Institute of Technology, Cambridge.

Chomsky, N. (1993). A minimalist program for linguistic theory, in K. Hale and S. J. Keyser (eds.), *The view from Building 20,* 1–52. MIT Press, Cambridge, Mass.

Kayne, R. S. (1993). Toward a modular theory of auxiliary selection. *Studia Linguistica* 47, 1, 3–31.

Rizzi, L. (1991). *Proper head government and the definition of A-position.* Paper presented at the GLOW Colloquium, Leiden.

Sigurðsson, H. A. (1989). *Verbal syntax and case in Icelandic.* Ph.D. dissertation, University of Lund.

Szabolcsi, A. (1992). Subordination: Articles and complementizers. Unpublished manuscript, University of California, Los Angeles.

Taraldsen, K. T. (1992). *Agreement as pronoun incorporation.* Unpublished manuscript, University of Tromsø, Norway.

Taraldsen, K. T. (1994). *On agreement and nominative objects in Icelandic.* Unpublished manuscript, University of Tromsø, Norway.

NOTES

[1]This argument is perhaps weakened by the fact that the synthetic "-s passives" seem marginally possible with *få,* as in (i).

(i) ?*Biler fås reparert her hver dag unntatt søndag.*
cars get+s repaired here every day except Sunday

[2]This is also true of the reading of (i) where *Jens* is not linked to the participle's agent role.

(i) *Jens fikk ødelagt bilen.*
Jens got destroyed car-the

In (10) and (i) alike, the subject can also be interpreted as bearing a causer role, in the appropriate pragmatic context, i.e., where it really is a benefactive, on the text analysis.

[3]Alternatively, Spec-XP and Spec-YP, for YP a complement of X, are equidistant with respect to ZP when X is inert with respect to the checking of N-features. The analysis in section 5.1 will force us to select this option.

[4]If Spec-CP and C may agree on a value of a feature [α wh], for instance, this should still not make Spec-CP count as an A-position.

[5]This analysis probably evokes the use of λ-operators to form predicates. It is an open question whether there is any significance to the (partial) parallelism.

[6]If the derivation fails to converge on the most economical option, moving an argument DP to Spec-Agr_N becomes legitimate. I claim below that the object DP is in Spec-Agr_N in sentences like (4), where the object DP can only be licensed in Spec-Agr_N, according to the proposal presented in section 5.1. As for Icelandic sentences like (23), there are reasons to believe that the object only raises to Spec-Agr_N at LF; cf. Taraldsen (1994).

[7]Given the striking parallelism between DP and CP pointed out by Szabolcsi (1992), one might equally well think of the participial DP in (31) as a special kind of CP. We may ignore here the assumption that *fikk* should be a "spell-out" for the complex P+BE (BE representing an abstract copula), which in turn might be adjoined to a head representing the aspectual properties; cf. the possibility that *become* might come from *come (to) be* by head-movement.

[8]This may perhaps lead to an analysis of P-stranding. Suppose a DP governed by a P always has an oblique Case and must remain governed by the P unless it gets rid of the oblique Case. To achieve this, it must move up through the Spec of a functional P with which it can be interpreted as being in a relationship of Spec/head agreement, and the P must incorporate into a V. This claims that stranding involves the incorporation of a P (before "spell-out") without implying (incorrectly) that a lexical P incorporates into the governing V (before "spell-out") when P-stranding occurs.

[9]This implies that Agr_N does not raise to Agr_P in the extended projection of the participle in sentences like (3) or (4). Hence, we must appeal to the alternative account mentioned in n. 3 to allow the experiencer DP to raise to Spec-Agr_P across Spec-Agr_N under a theory of shortest move.

[10]Intransitive (unergative) verbs occur productively in sentences like (3), such as (i).

(i) *Hun fikk skreket i siste øyeblikk.*
she got screamed in the last moment

But they only seem to allow for an agentive reading of the subject of *få*, a fact for which my analysis offers no explanation.

This page intentionally left blank

III

THE INTERNAL STRUCTURE OF SMALL CLAUSES

This page intentionally left blank

ON THE FORMAT FOR SMALL CLAUSES

MICHAL STARKE

Département de Linguistique
Université de Genève
1211 Genève 4, Switzerland, and
Max Planck Institut
10117 Berlin, Germany

1. THE LAST X-PARTICULAR RULE

What is R(α; β) such that <α; β> is interpreted as propositional in *Phil found the* $\underline{\textit{fondue}}_{\alpha}$ $\underline{\textit{too liquid}}_{\beta}$, but not in *Phil found the* $\underline{\textit{too liquid}}_{\beta}$ $\underline{\textit{fondue}}_{\alpha}$, and such that it is an argumental proposition in the first example, but an adjunct proposition in *Phil ate the* $\underline{\textit{fondue}}_{\alpha}$ $\underline{\textit{cold}}_{\beta}$?

1.1. Small Clauses and Construction-Particular Rules

The central issue behind R concerns the amount of permitted variation in syntactic structure: virtually every analysis assumes that the underlying syntactic structure of the proposition associated to R differs from the underlying syntactic structure of the corresponding inflected proposition, as in (1).[1]

(1) a. *Phil found* $[_{AP}$ *the fondue too liquid.*$]$.
b. *Phil found* $[_{CP}$ *that* $[_{IP}$ *the fondue* $[_{VP}$ *is* $[_{AP}$ *too liquid*$]]]]$.

1.2. From Surface Idiosyncrasies to Abstract Regularities

The recurrent pattern in syntactic research of the last half century has been a drive from surface *x*-particular analyses (language-, construction-, lexeme-particular) to abstract *x*-independent accounts.

This has for instance been the fate of X-bar theory.

Syntax and Semantics, Volume 28
Small Clauses

(i) No X-bar; initially any generable syntactic structure was a possible syntactic structure, with, by and large, unrestricted *x*-particular variation.
(ii) FLEXIBLE X-bar theory; syntactic structure is only composed of one basic type of unit, XPs, with some (limited) possibilities for *x*-particular settings (typically head-initial vs. head-final, varying across languages and constructions).
(iii) RIGID X-bar theory; basic units allow for no *x*-particular variation, i.e., are totally *x*-independent; a stage currently under investigation (Kayne, 1994; Brody, 1994; Chomsky, 1994).

While X-bar constraints strongly regiment XP-internal configurations, they leave the variation in structure above XP largely open:

(2) Is there any constraint on possible . . . $[_{XP_i}\ [_{XP_j}\ [_{XP_k}$ . . . sequences?

The contemporary answer to this very much corresponds to the second, "flexible" stage of X-bar theory.

(i) At first, non-minimal projections were allowed to stack without particular constraint.
(ii) Since the postulation of multiple FUNCTIONAL PROJECTIONS, it is uncontroversial (though largely implicit) that syntactic structure is composed of larger scale units (variously called CLAUSE, COMPLETE FUNCTIONAL COMPLEX, EXTENDED PROJECTION, etc.), reflecting the fact that functional projections associated to a lexical element always c-command that element, or that the complementizer is always the highest projection of the clause, etc.[2]

Exactly as in the second stage of X-bar theory, a limited amount of both language-particular and construction-particular variation on possible XP sequences is widely assumed. Studies such as Laka (1990), Ouhalla (1991), and Zanuttini (1991) all assume language-particular variation in the order or number of projections associated to a particular construction (negation).

Construction-particular variation is assumed by virtually every analysis of small clauses (SCs): a given proposition corresponds to two distinct syntactic structures, varying with the construction, with the structure corresponding to SCs not attested otherwise.[3]

This variation in underlying syntactic structure is (among) the last unprincipled *x*-particular variation, i.e., the last *x*-particular rule, assumed in syntactic theory.[4] From the historical perspective, the natural question is then: Is *x*-particular variation in underlying syntactic structure needed?

For SCs, the syntax of the particles occurring between the subject and the predicate of the SC not only gives arguments to the effect that SCs are not

'bare lexical projections,' section 2, but explicitly suggests that the answer should be parallel to that for X-bar theory: after the second stage comes a third, *x*-independent stage which allows no variation in underlying syntactic structure, sections 3–4.

(3) a. *Phil found* $[_{CP}$ $[_{IP}$ *the fondue* $[_{VP}$ $[_{AP}$ *too liquid*]]]].
b. *Phil found* $[_{CP}$ *that* $[_{IP}$ *the fondue* $[_{VP}$ is $[_{AP}$ *too liquid*]]]].

2. PARTICLES

In several cases, R is associated to a particular morphology. In a propositional complement to *regard,* for instance, α and β must be separated by the morpheme *as; Phil regarded the fondue as too liquid* but not **Phil regarded the fondue too liquid.* In the absence of R, no such morpheme is possible: *Phil is regarding the (*as) big (*as) wall.*

2.1. Particles Are Selected by the Verb

In German, the interaction between V and the particle is both productive and semantically minimal, as in (4).

(4) a. *Ich* ***betrachte*** *es* ***als***/* *für*/*Ø *gut.*
b. *Ich* ***halte*** *es* **als*/ ***für***/*Ø *gut.*
c. *Ich* ***finde*** *es* **als*/ **für*/ ***Ø*** *gut.*
I consider it as/ for/ Ø good

Similar paradigms obtain across languages; examples from French and Italian are the first two lines of (5a–d), respectively.[5]

(5) a. *A* ***traite*** *B* ***de*** *lâche.*
A ***tratta*** *B* ***da*** *codardo.*
A calls B OF coward
b. *A* ***trouve*** *B* ***Ø*** *lâche.*
A ***trova*** *B* ***Ø*** *codardo.*
A finds B Ø coward
c. *A* ***prends*** *B* ***pour*** *un lâche.*
A ***prende*** *B* ***per*** *un codardo.*
A holds B FOR a coward
d. *Ca* ***se présente*** *t* ***comme*** *un cauchemar.*
Questo ***si presenta*** *t* ***come*** *un incubo.*
this itself presents as a nightmare

Although less productively, and subject to some caution, the same paradigm obtains in English, given ***take x for y*** as in *he takes you for a fool;* ***regard x as y*** as in *Phil regarded the fondue as too liquid;* and finally ***find x ø y,*** as in *he finds you very brave.*

To take a non–Indo-European language, the pattern is reproduced in Hebrew: *hem* ***mac'u*** *'et Dani* ***ø*** *'ašem* 'they judged Dani ø guilty' versus *hem* ***vašvu*** *'et Dani* ***le*** *xaxam* 'they considered ACC Dani LE smart.'[6]

If predicative adjective (/noun phrase) constructions are small clauses, and clauses divide into argumental and adjunct, all the examples in (4)–(5) feature argumental SCs.[7]

Although tests for argument vs. adjunct SCs are rather scarce, the following two seem to be valid one-way implications: (i) a shift in the meaning of V between . . . *V object* . . . (*I will consider this offer*) and . . . *V object* Adj_{pred} . . . (*I consider this offer illegal*) entails a complement SC; (ii) an ambiguity of the type . . . NP_i *V* NP_k $Adj_{pred_{i/k}}$ . . . (*John*$_i$ *observed* *Mary*$_k$ *drunk*$_{i/k}$) entails an adjunct SC, the ambiguity stemming from different controllers of the null subject of the adjunct SC.

In all the above examples there is a sharp difference in the meaning of verb with or without the predicative adjective. Compare, e.g., the German pair *er hält diesen Apfel in seinem Hand* 'he holds this apple in his hand' and *er hält diesen Apfel für sehr schlecht* 'he holds this apple for very bad,' i.e., 'He considers this apple very bad.'[8]

On the other hand, none of the above examples is ambiguous: the predicative adjective/noun cannot be understood as predicated of the root subject.

The configuration to derive is thus apparently (the arrow indicates selection) as in (6),[9] where SC is an argument of V, V selects the particle (PRT), and SC-Su is θ-dependent on Pred.

(6) . . . V [$_{\text{argument}}$ Su PRT Pred] . . . .

The fact that PRT is selected by V, and thus an independent syntactic unit, entails that SC contains more than one XP.

2.2 PRT in Bare Lexical Projections

The hypothesis that SC is a bare lexical projection (bare LP) rests on three basic tenets:

(a) The predicate is the head of SC (Pred = L^0)
(b) The subject is in the specifier of the lexical projection (Su = specLP)
(c) There are no functional projections in Small Clauses (no FP in SC)

The conjunction of these three assumptions, [$_{LP=SC}$ [$_{Spec}$ *subject*] [$_{L'}$ [$_{L^0}$ *Pred*]]], is not coherent with the fact that SC contains (an independent) PRT,

selected by V^0. There is no representational space for PRT between the subject (specLP) and the predicate (L^0). By reductio ad absurdum, some of the three hypotheses have to be abandoned.[10]

Still keeping with the construction-particular hypothesis ("no FP in SC"), how can the bare LP approach be adapted? Either the first (Pred = L^0) or the second (Su = specLP) hypothesis needs to be rejected.

In the first case, the analysis of SC becomes (7a) with PRT = L^0. In the second case, X-bar theory has to be slightly stretched, to host multiple elements to the left of the head, (7b).[11]

(7) a. $[_{LP}\ [_{Spec}$ Subject$]\ [_{L'}[_{L^0}$ PRT$]$ Pred$]\ ]$
b. $[_{LP}\ [_{Spec/adjunct}$ Subject$]\ [_{Spec}$ PRT$]\ [_{L'}\ [_{L^0}$ Pred$]]]$

Among the multiple problems of assuming that PRT = L^0 in SC, (7a), the most immediate is probably that of adjacency. If Pred is the sister complement of PRT, strict adjacency should hold between the two elements. This is a false consequence.

To take one example, Cardinaletti and Guasti (1993) conclude that negation in SC is not constituent negation, but rather that *neg* is an independent XP in . . . *su* PRT *neg pred* . . . , an unrepresentable fact if (7a) was correct. Similar but maybe less controversial arguments hold of adverbs.

Thus, keeping only the second and the third hypotheses of the bare LP approach again leads to lack of coherence with facts. To keep the "no FP in SC" assumption, the only remaining possibility is to reject the second assumption, "Su = specLP."

Stretching the X-bar unit, XP, to accommodate both PRT and Su in pre-X^0 positions, (7b), leads to several types of problem.

First, this would leave the selection relations, (6), and the concomitant strict ordering, as mysteries: v^0 would have to select PRT in specLP across Su, and L^0 in turn should select Su across PRT. As a byproduct, this scenario would also force the abandonment of the otherwise fruitful hypothesis that subjects always originate as specifiers of lexical categories.

Second, this scenario is not compatible with extraction possibilities; it forces movement of an XP such that XP has leftover segments in situ, see below. Finally, and maybe most importantly, such a scenario necessarily entails that PRT is a maximal projection in specLP (it cannot be adjoined, given the minimal assumption that adjoined categories cannot be selected); but PRT does not behave as a specifier in SC, but rather as a head, section 3.

In short, keeping the "no FP in SC" hypothesis while taking PRT into account at best necessitates undesirable changes in several parts of syntax (movement theory, X-bar theory, θ-theory), and, at worst, is unimplementable.

If SCs do contain FPs, e.g., $[_{SC}\ Su_i\ .\ .\ .\ [_{F^0}\ PRT]\ [_{XP}\ t_i\ delicious]]$, all the problems disappear: there is no need to stretch X-bar theory, selection relations remain local, PRT may be represented as a head, etc.

Constituency tests uniformly indicate that PRT forms a constituent with Pred. Clefting: *it was* [*as a total failure*], (*not as a mere accident*), *that Phil regarded the fondue; wh*-movement: [*pour qui*] *est-ce que tu me prends?* 'for who is-it that you take me?,' cf. section 3.1 on P-stranding); and also coordination: *Phil regards the fondue not only* [*as a total disaster*] *but also* [*as the worst thing he ever ate*] or . . . [*as a total disaster*] *and* [*as the worst thing he ever ate*].

It has often been noted that displacement of Pred is difficult to reconcile with the bare LP approach (Williams, 1983; Kitagawa, 1985), but the concomitant displacement of PRT renders the problem all the more acute: the displaced constituent must be a larger unit, comprising at least two independent entities.

Such a displacement is compatible with neither of the two above scenarios (PRT = L^0 and X-bar stretching): both would imply displacement of a projection of X (X' or XP), leaving stranded segments of the projection of X behind (the segment dominating the spec or the adjoined position hosting Su), $[_{LP_i}\ PRT\ Pred]\ .\ .\ .\ [_{LP}\ Su\ t_i]$. Such stranding is ruled out.

On the other hand, no such problem occurs if SC contains FPs: the subject and the particle need not be in the same FP (cf. section 6).

Finally, the distribution of floated quantifiers is difficult to reconcile with any form of the bare LP approach (assuming Sportiche, 1988, for the syntax of FQ). Although marginal, post-PRT floated quantifiers on the subject, *the rat considers the kids as all hopeless cases,* are judged acceptable.[12]

This is impossible to represent in scenario (7a), where PRT = L^0. In (7b), it would require displacement of Su from specLP to an adjunction position to LP, leaving FQ behind. Not only is this an otherwise unattested configuration, but above all it would force PRT to be adjoined to LP (with Su in specLP), where it could not be selected by V^0, under any reasonably restrictive assumptions on selection (a sine qua non for syntax). Both (7a), i.e., abandoning the first tenet of the bare LP approach, and (7b), i.e., abandoning the second, are incompatible with FQ on SC-Su. The only solution is to abandon the third: there are FPs in SC.[13,14]

Again, all problems trivially disappear if SC contains FPs (section 6.3).

From the outset, the syntax of SC-PRT disconfirms the claim that radical construction-particular variation in syntactic structure must be admitted for pairs such as *I find this exciting* and *I find that this is exciting.* It is not the case that one but not the other requires functional projections. Both do.[15]

Is there, perhaps, a compelling reason to postulate distinct types or numbers of functional projections in the two cases? A more precise investigation of the identity of PRT again runs against such *x*-particular claims.

3. PREPOSITIONS

3.1. Similarities between SC-PRT and P

What is PRT? It bears a striking resemblance to prepositions: not only is PRT often homophonous with a preposition, but both P and PRT are cross-linguistically invariant with respect to case and ϕ-features, and semantically (and in some languages morphologically) distinct from other invariant morphemes.

Cases of homophony cut across languages: *for* in English, *für* in German, *de, pour* in French, *za* in Slovak, *le* in Hebrew, etc.

Homophony with a preposition does not, however, entail being a preposition. In at least two cases, elements are homophonous with prepositions but do not seem to be best analyzed as P^0: the English infinitival *to,* and particles in particle verbs, V-PRT (e.g., *take x in*).

Cross-linguistically, one test strongly puts together SC-PRT and P^0, against both infinitival *to* and V-PRT: stranding.

Stranding of prepositions is possible in English (and in some Scandinavian languages, e.g., Swedish), but not in Romance or in German, cf. (8).[16]

(8) a. ***Who*** *did you vote* ***for?*** (English)
b.**Qui* *as-tu voté* ***pour?*** (French)
c.**Chi* *hai votato* ***per?*** (Italian)
d.**Wen* *stimmst du* ***für?*** (German)

Exactly the same holds of SC-PRT : SC-PRT may be stranded in English (and in Swedish) but not in Romance or in German, as in (9).

(9) a. ***Who*** *do you take me* ***for?***
What *do you consider him* ***as?***
b.**Qui* *me prends tu* ***pour?***
Qu'* *est-ce que tu me considères* ***comme?*
c.**Chi* *mi prendi* ***per?***
Cosa* *mi consideri* ***come?*
d.**Was* *hältst du mich* ***für?***
Was* *betrachtest du mich* ***als?*

The grammatical versions of the Romance and German examples require pied-piping: *pour qui me prends-tu? per chi mi prendi?* and *als was betrachtest du mich?*

On the other hand, SC-PRT differs from V-PRT with regard to stranding: while stranding of the former is limited to English, stranding of the latter is allowed in all languages under discussion (the status of German V-PRT is somewhat controversial), as in (10).

(10) a. ***What** did you throw* ***away?***
b. ***Qu'** est-ce que tu as foutu* ***loin?***
c. ***Cosa** hai buttato* ***via?***
d. ***Was** wirfst du* ***weg?***

Finally, SC-PRT also differ from the infinitival marker with regard to stranding: the first but not the second may be stranded: *what do you regard him as* vs. **what do you want to?*[17]

(11) Stranding:

	English	French	Italian	German
Prepositions	+	−	−	−
SC-PRT	+	−	−	−
V-PRT	+	+	+	(+)
infinitival *to*	−			

Such a perfect covariation between P^0 and SC-PRT, against V-PRT and *to*-infinitive, prompts an analysis of SC-PRT in terms of X^0 similar to prepositions, perhaps P^0s.[18]

If SC-PRT are heads, there must be more than one maximal projection in small clauses, independently of extraction of predicates, of floating quantifiers, and of other "space-limitations" arguments presented in section 2.2. Since the SC contains two X^0s, the (lexical) predicate-head and the SC-PRT head, and since no XP may have two heads, the SC minimally includes two projections: *what do you regard* [$_{YP}$ *as* [$_{XP}$ *delicious*]].

Now since displacement entails that *as delicious* forms a constituent excluding the subject (section 2.2), the small clause constituency tests must individuate a projection above YP: *regard* [$_{ZP}$ *the fondue* [$_{YP}$ *as* [$_{XP}$ *delicious*]]].

3.2. Dissimilarities between SC-PRT and P

Literally taking SC-PRT for a preposition, *regard* [$_{ZP}$ *the fondue* [$_{PP}$ [$_{P^0}$ *as*] [$_{XP}$ *delicious*]]] leads to severe problems (even ignoring the status of the subject position).

If SC-PRT is a P^0, the bracketed sequences in (12) have the same status.

(12) a. *Tu votes* [$_{PP}$ *pour le principal responsable de la purge*].
you vote for the main one responsible of the purge
b. *Tu le tiens* [$_{PP}$ *pour (le) principal responsable de la purge*].
you him hold for the main one responsible of the purge

But the two structures strongly contrast with regard to extraction: neither *wh*-extraction nor cliticization is possible from the simple prepositional

phrases, but both types of extraction are allowed in the predicative construction, as in (13)–(14).

(13) a.**De quoi est-ce que tu votes* [*pour le principal responsable t*]?
of what is-it that you vote for the main one responsible
b.?***De quoi*** *est-ce que tu le tiens* [*pour (le) principal responsable t*]?
of what is-it that you him hold for the main one responsible

(14) a.**Tu* ***en*** *votes* [*pour le principal responsable t*].
b.?*Tu l'* ***en*** *tiens* [*pour (le) principal responsable t*]?
you (him) of.it vote/hold for the main one responsible

Second, even ignoring ZP above, . . . *il le tient* [$_{PP}$ *pour* [$_{AP}$ *responsable* . . . poses a systematic selection problem: (a) P selects AP, an otherwise unattested fact; (b) since V selects a proposition, PP must be interpreted as propositional at LF, again an otherwise unattested fact.[19]

4. COMPLEMENTIZERS ACROSS CATEGORIES

4.1. Two Types of Prepositions

Both problems in section 3.2 stem from the homogeneous treatment of prepositions as projecting PPs. As argued by Vergnaud (1974), this is an inadequate theory of prepositions. A more adequate treatment distinguishes two types of prepositions: "dummy" functional prepositions and full lexical prepositions, the first being a functional projection associated to the noun, as in *proud* [$_{FP}$ *of* [$_{DP}$ *the* [$_{NP}$ *monument* (i.e., inside the nominal "clause," "extended projection," etc.), while the second is a full lexical projection in its own right taking a "clause," "complete functional complex," "extended projection," etc. as complement: [$_{PP}$ *après* [$_{CP}$ *que tu partes* . . . (cf. also Starke, 1993).

The two types of prepositions rather systematically correlate with different morphosyntax and distinct semantics. Functional prepositions are "light morphemes," often phonological clitics, while lexical prepositions are full words. Functional prepositions have a fuzzy semantics (often dubbed "mere case-markers"), while lexical prepositions typically have a rather clear core meaning.

Even limiting oneself to these two simple criteria, SC-PRTS clearly pattern with functional prepositions and not with lexical ones. The clearest cases

are the Romance *de* (and possibly *à*, cf. n. 5) and the Hebrew *le*, all light morphemes, standardly treated as dummy case markers. English *for* is also standardly treated as a functional preposition, for independent reasons.[20]

Such a distinction solves, in principle, both the above problems. If SC-PRTs are assimilated to functional prepositions, there is no principled reason why extraction out of FP should be impossible (when FP is not an adjunct), and none of the selection problems arise: there is no PP selecting AP, and there is no PP interpreted as propositional.[21]

4.2. What Does It Mean to Be a *Functional* Preposition?

Rather trivially, it entails that the "preposition" is part of the set of functional elements associated to a lower lexical head, rather than being the head of its own "clause," "complete functional complex," "extended projection," etc.

Apart from the above, functional prepositions have three salient properties.

Functional prepositions can be associated with (i.e., be in the "clause," "complete functional complex," "extended projection" of) diverse lexical heads, verbal and nominal, as in (15).[22]

(15) *Pierre a peur* [***de*** *devenir responsable* [***de*** *tous les oignons.*
Pierre is afraid **of** to.become responsible **of** all the onions

Functional prepositions systematically occur as the highest element of their "clause" ("complete functional complex," "extended projection," etc.).

In nominal units they c-command the highest functional elements (universal quantifiers, determiners, possessives, demonstratives, etc.), as in . . . *proud* [*of all the kids* . . . , and its word-for-word French counterpart . . . *fier* [*de tous les enfants* . . . .

Exactly the same holds of infinitivals, in which functional prepositions c-command not only negation and adverbs, but also the subject of the infinitival, when realized, as in European Portuguese in (16).

(16) a. *Pierre a peur* [***de*** NE PAS *partir.* (French)
Pierre has fear [of not not leave
b. *O Pedro tem medo* [***de*** ELA *se ir embora.* (Portuguese)
the Pedro has fear [of her self go away

As a third property, functional prepositions are typically the only functional head directly selected by the lexical element c-commanding them but located in a distinct "clause," *obliger* [*à partir* 'force A to.leave,' but *empêcher* [*de partir* 'prevent DE to.leave.'

How can one formalize the fact that functional prepositions occur in several different contexts (nominals, infinitives, and others) with similar properties across contexts?

4.3. Complementizers

Since in each case the functional preposition must realize a (high) functional head, the minimal hypothesis, it would seem, is that the high(est) functional projection is identical in all these contexts: i.e., there is one high functional projection, call it ΨP, which occurs in both nominal phrases and infinitival phrases, with Ψ^0 realized by functional prepositions such as *de*.

Apparently, (the content of) ΨP is in complementary distribution with (the content of) CP: functional prepositions do not occur in finite clauses, and complementizers do not occur in infinitivals or in nominals. Furthermore, CP and ΨP have the same properties: they occur as the highest functional projection associated to a lexical head, and are typically realized by semantically fuzzy light morphemes.

As proposed by Rizzi (1982), Kayne (1984) for infinitivals, and extended to nominals by Starke (1993), Cardinaletti and Starke (1993), this complementary distribution of similar elements is maximally elegantly captured if they are all complementizers. Being complementizers they have similar properties, but complementary distribution (two complementizers cannot cooccur in one and the same clause).

(17) a. [$_{CP}$ ***que*** *Jean pèlera les oignons*
that Jean will.peel the onions
b. [$_{CP}$ ***de*** *peler les oignons*
of to.peel the onions
c. [$_{CP}$ ***de*** *tous les oignons*
of all the onions

If functional prepositions, i.e., complementizers, are a uniform class in nominals, infinitivals, and finite clauses, "functional prepositions" in SCs are one more instance of this functional category.[23]

(18) *il le traite* [$_{CP}$ ***de*** *fou*]
he him calls DE a madman

This conclusion is overtly expressed in languages such as Korean (19), in which the SC-PRT *is* the complementizer, providing empirical evidence that the above reasoning is somewhere around the right track.[24]

(19) a. *Suna-nun* [*Minsu-lul yongliha.ta.**ko***] *yoki-nun-ta.*
Suna.TOP Minsu.ACC intelligent.DEC.C^0 consider-PRES-DEC
'Suna considers Minsu intelligent.'

b. *Suna-nun* [*Minsu-ka ku ch'aek-ul ilk-oss-ta-**ko***] *malha-oss-ta.*
Suna-TOP Minsu-NOM that book-ACC read-Past-Dec-C^0 say-Past-Dec
'Suma said that Minsu read that book.'

SC-PRT = C^0.

4.4. The Format of SC

If SCs are CPs, not only do they contain a functional projection (sections 2.2, 3.1), but they contain the full set of functional projections (under the standard hypothesis that there can be no "holes" in structure, i.e., that the presence of a high functional projection entails the presence of all the projections it is taken to dominate; this follows, among others, from the systems of Grimshaw, 1991, and Rizzi, 1993).

With small clause particles as complementizers, all the facts discussed above fall into place: small clause particles are selected by the verb, as are other complementizers; and small clause particles form a constituent with the predicate: CP. No "space" problem exists; the syntax of floated quantifier can be maintained as is.

Without entering into the details of the syntax of P-stranding, this process seems to be a property of full lexical prepositions [as shown by Romance, where stranding is found only with (a subset of) lexical prepositions], and the fact that all prepositional complementizers may strand in English, may arise from a process blurring the distinction between the two classes (e.g., reanalysis between the functional preposition and the matrix lexical head, along the lines of Hornstein and Weinberg, 1981). Finally, the fact that extraction is possible out of CP is the unmarked case; it is rather the opaqueness of some nominal contexts that must be accounted for (cf. n. 21).

The fact that functional prepositions, alias complementizers, occur across all types of clauses (extended projections), with parallel properties in each case, leads toward exactly the contrary of an *x*-particular account.

Not only do small clauses not provide evidence for construction-particular variation of underlying syntactic structure, but their inspection leads to the opposite hypothesis: all syntactic structure is built from one and only one type of "CLAUSE" (or complete functional complex, extended projection, etc.), irrespective of the categorial nature of the predicate, the type of construction, or the identity of the language. It is thus not surprising that nominals, infinitivals, small clauses, and full clauses all have a parallel internal structure, with a topmost CP and a lowermost LexP.

Just as structure must be built out of uniform X-bar units, structure is built out of uniform "clausal" units; i.e., syntactic structures are constructed of a (categorically underspecified) universal CLAUSAL SKELETON.

5. BE

5.1. The Nature of Predication in SC

Functional projections are "associated to" a lexical element, which they c-command. What is the lexical element present in small clauses?

While adjectival predicates are often treated as $[_{C^o}$ *as* . . . $[_{AP}\ Adj^0$, such a representation is inadequate for nominal (and prepositional) small clauses, such as *I consider him Mary's best friend* : the predicate is already a complete "clause" (extended projection). In the absence of PRT, it might be maintained that predication here is a relation strictly between two maximal projections, maybe with one adjoined to the other in order to respect constituency tests (e.g., Moro, this Volume, among others). But this is incompatible with the presence of PRT, as in *I regard John as my best friend.* PRT cannot be between the adjoined subject and the DP onto which the subject is adjoined, since heads cannot occur between an adjunct and the adjoinee. On the other hand, PRT cannot be inside DP, trivially. An adjunction structure is thus excluded.

The only representation compatible with these facts is that which assumes a null head, taking the DP/PP predicate as a complement $[_{C^o}$ *as* . . . $[_{LEXP}\ Lex^0\ DP/PP]]$ (cf. section 6 for the position of subjects and section 2.2 for the fact that PRT cannot be Lex^0).

Once this conclusion is clear for nominal and prepositional SCs, the unmarked (or "simpler") hypothesis is that it holds also for adjectival SCs: it would necessitate some argument to postulate two distinct underlying structures for what otherwise seem to be similar constructs. In the absence of such an argument, it will be tentatively assumed that SCs consist minimally of $[_{C^o}$ *as* . . . $[_{LEXP}\ Lex^0\ DP/PP/AP]]$.[25]

Two paradigms, syntax–semantics agreement mismatches and predicate types, indicate the existence and the nature of a null predicate: a null copula, BE (cf. also Stockwell, Schachter, and Partee, 1973; Borkin, 1973; Kitagawa, 1985; Aarts, 1992, for similar proposals; and Ruwet, 1978, for its counterpart in absolute constructions).

Agreement between the subject and the predicative XP in small clauses exactly mirrors that between the subject and the predicative XP in copulas. Not only in the trivial cases of nominal and adjectival predicates, as in the English *I consider John as a good actor/*actress* or in the Slovak (20), but also more to the point where syntactic and semantic gender differ. In the latter cases, mismatches are resolved exactly identically in SC and in copular sentences.

(20) *považujem Mári-u* *za velmy pekn-ú*
I.consider Mary-FEM.ACC for very pretty-FEM.ACC (Slovak)

When the subject is semantically feminine but syntactically masculine, as in (21) (where *le président* refers to a semantically feminine entity, but a grammatically masculine N^0), it triggers optional agreement with nominal predicates, but obligatory agreement with adjectival predicates. The same state of affairs holds in copular sentences, (21), and in small clauses, (22) (both from French).

(21) a. ***Le président***$_{woman}$ *est* *un acteur/* *une actrice.*
the$_{masc}$ president is an actor an actress
b. ***Le président***$_{woman}$ *est trop* ***vieux/*** ****vieille.***
the$_{masc}$ president is too old$_{masc}$ old$_{fem}$

(22) a. *Je considère* ***le président***$_{woman}$ *comme* *un acteur/* *une actrice.*
I consider the$_{masc}$ president as an actor an actress
b. *Je trouve* ***le président***$_{woman}$ *trop* ***vieux/*** ****trop vieille.***
I find the$_{masc}$ president too old$_{masc}$ too old$_{fem}$

Exactly the same holds of semantically masculine by syntactically feminine nouns, often found in insults.

The range of predicates admitted by small clauses is identical to that admitted by copular sentences: adjectival phrases, noun phrases, and prepositional phrases.[26]

Both these similarities would be accidental without BE, while the co-occurrence of nominal/prepositional predicates with PRT would simply be undepictable.

5.2. Some Consequences of the Null Verb

If the predicate of the small clause is a null BE, small clauses are (structurally) full clauses, headed by a (null) verbal predicate, and projecting up to a complementizer: [$_{CP=SC}$ PRT [. . . [$_{VP}$ BE AP/DP/PP]]]. There is no significant structural difference between small, infinitive, or finite clauses. Impoverishment, if any, lies in the content of nodes, not in their absence, section 7.3.[27]

A prominent, if not THE prominent, question of the research on SCs has been to establish conditions on predication, such that it obtains also in the absence of an overt verb. If SCs involve a covert V^0, the necessary and sufficient condition on predication is the presence of a verbal head in a given structural relation to its "subject" (assuming the presence of a verbal head in nominalizations, perhaps via a SC).

Finally, Kayne (1993) proposes another, very similar, use of the null copula: realized *have* and *be* always originate in a null copula. This null copula takes as complement a DP which has a (functional) preposition as

its highest functional head. A realized *have* is the realization of the complex head formed by incorporation of P^0 into the null BE, while *be* is the realization of the pure null BE.

The DP with a functional preposition as its highest functional head can now be understood as a standard case of (nominal) CP, with the functional preposition as C^0 (section 4.3). In the present terms, the complement of BE is a SC (as often assumed), with PRT, i.e., C^0, incorporating into the matrix BE to form *have*. In other words, *have* and *be* are underlying . . . BE [C^0 . . . BE].

But now three cases arise, instead of the original two: the underlying BE is realized as *be,* as *have,* or not at all. This may be integrated into Kayne's approach through a slight change of assumptions: a perfect covariation is assumed between two properties in the process of triggering the *be/have* distinction, incorporation of P^0 into C^0 and concomitant spec–head agreement between P^0 and its specifier. To derive the required tripartition, these two properties need to be separated.

The abstract copula is realized only in contexts in which it c-commands a potential incorporee. Inversely, the abstract copula remains silent where no potential incorporee obtains (in usual argument and adjunct SCs). To capture this asymmetry, it suffices to assume that BE is realized ONLY IF the complementizer (i.e., the "functional preposition") is incorporated into it. Both *be* and *have* are the result of incorporation of C^0 into BE.

The distinction between *be* and *have,* on the other hand, now stems from the presence vs. absence of spec–head agreement between C^0 ("functional preposition") and specCP: incorporation of an "agreed" C^0 yields *have,* as in Kayne's original proposal, but *be* stems from the incorporation into BE of a non-agreed C^0.[28]

6. SUBJECTS

6.1. The Foot of the Chain

Given the preceding internal structure of SC, i.e., . . . *V* [$_{CP}$ *PRT* [$_{FP}$ . . . [$_{VP}$ *BE Pred*] . . . , the subject originates in specVP, as is the case otherwise (reflecting the θ-dependence of the subject on a SC-internal predicate), . . . *V* [$_{CP}$ *PRT* [$_{FP}$ . . . [$_{VP}$ *Su BE Pred*] . . . .[29]

6.2. The Head of the Chain

The surface order differs from that postulated in section 6.1. Why? The null answer seems again appropriate: everything happens as in a full clause,

modulo the content of the nodes. VP-internal subjects are not associated to case. A chain is thus created between the thematic subject position and the closest case-position.

Since it precedes PRT, i.e., C^0, the head of the subject-chain in *he regards this meal* [$_{C^0}$ *as . . .* [$_{VP}$ *t a real treat*] could be either in specCP, or outside CP.

The German and Romance *wh*-chains illustrated in section 3 rule out the first option: the head of the subject chain cannot be in specCP, cf. (23).

(23) a. ***De quoi*** *as-tu* *traité* ***Jean?*** (French)
OF what have you called John
b. ***Als was*** *betrachtest du* ***ihn?*** (German)
AS what consider you him

Since PRT is fronted, the whole CP has been displaced. If the subject were in specCP, it would have to be fronted along with the *wh*-constituent, contrary to fact. The subject is therefore outside CP, which entails that there exists a position above CP and below the verb, . . . *V SU* [$_{CP}$ *PRT* [. . . [$_{VP}$ *t BE . . .* . In other words, there is a limited verb displacement, also in English.[30]

The same is shown, although somewhat marginally, by quantifier floating: *John regards the kids all* [$_{C^0}$ *as a nuisance*. Since *the kids all* does not form a constituent, *the kids* cannot be in specCP.

The non-internal-to-CP case-needing subjects of small clauses thus occur outside CP in a case position intermediate between the verb and CP. The matrix specifier involved with accusative case is standardly taken to be specAgroP, as in (24).[31]

(24) . . . V_i [$_{AGR_OP}$ SU_k t_i . . . [$_{SC=CP}$ PRT . . . [$_{VP}$ t_k BE Pred]]]

A welcome consequence is the unification of SC subjects with raising subjects, exceptional case-marking (ECM) subjects, and subjects of tensed clauses: all are displaced from specVP to the first case-assigning specAgrP: from specVP to the dominating specAgr$_s$P in tensed clauses, from specVP to the matrix specAgr$_o$P in both small clauses and ECM constructions (e.g., Chomsky, 1993), and from specVP to the matrix specAgr$_s$P for raising verbs.[32]

6.3. Intermediate Links

Does the subject chain directly link specAgr$_o$P and specVP, or is there an intermediate link in between? A robust, albeit surprising, contrast in quantifier floating constructions indicates the presence of an intermediate trace in specCP.

While it is cross-linguistically possible both to Q-float from the subject of a SC, and to wh-question the predicate of a SC, as in (25), it is mysteriously not possible to combine these two apparently independent processes, as in (26).

(25) a. *He finds the kids all very strange.*
b. ***How strange** did he find the kids t?*

(26) ****How strange** did he find the kids all t?*

The same triplet obtains in French and German, with the counterparts of (25) acceptable, but the combination of the two unacceptable, as in (27).

(27) a.****Comment** trouves-tu ces fromages tous t?* (French)
b.****Wie** findest du diese Käse alle t?* (German)
how do you find these cheeses all

From the impossibility of "P-stranding" with SC-PRT (sections 3.1, 6.2), it follows that *wh*-movement of the "predicate" is really a *wh*-movement of the whole CP (if any constituent below CP were allowed to *wh*-move, PRT would be strandable). The explanation of the mysterious incompatibility of *wh*-movement of the predicate and floating quantifier on the subject now follows trivially if FQ is inside SC, i.e., inside CP: if FQ is inside CP, and CP is *wh*-fronted, FQ cannot be left behind.

When the SC-complementizer (SC-PRT) is overtly realized, the floated quantifier may occur (marginally) to the left of the complementizer, (28a), but may still not be stranded in *wh*-questions, (28b), yielding gibberish instead.[33]

(28) a. *Il considère ces enfants tous [comme des bons exemples de vertu].*
b.****Comme quoi** est-ce qu'il considère ces enfants tous t?*
as what is-it that he considers these kids all

Not only is the pre-complementizer FQ inside CP (see above), but it must occupy specCP, the only position inside SC which precedes SC-PRT. The subject chain is thus minimally formed of . . . $V\ SU_k$ . . . [$_{CP}$ t_k *PRT* [. . . [t_k *BE Pred*] (There may of course be other subject traces CP-internally, below the complementizer).[34]

7. (COMPLEX) PREDICATES

Finally, what *is* the difference between small and other clauses? Some more speculative results are presented in this section, from the case of the predicate (strictly speaking, of the object of the null predicate), to the content of the functional heads and the semantics of the matrix verbs.

7.1. Case on "Predicates" of Argument SCs

7.1.1.

In Slovak, where case-marking is overt both on nouns and adjectives, argument SCs are of two types: (i) under *za*-verbs, with the SC-PRT ZA and accusative case on the predicate, (29a); (ii) with raising verbs, with the $\emptyset$-PRT and nominative case on the predicate, (29b).[35]

(29) a. *Pavol považuje Mári-u za . . .dobr-ú ziačk-u/*
P.-NOM considers Maria-ACC for good-ACC student-ACC/
. . .poctiv-*ú*.
honest-ACC

b. *Mári-a*$_i$ *sa mi zdá* [t_i *unaven-á*].
M.-NOM REFL to.me seems tired-NOM

7.1.2.

The SC-PRT *za* independently occurs as a preposition, requiring an accusative complement in a variety of semantic contexts, as in (30).

(30) a. *On tam bol za Mári-u.*
he there was for Mary-ACC
'He went there instead of Mary.'

b. *On hlasoval za Mári-u.*
he voted for Mary-ACC

7.1.3.

Given the above, the case on the predicate could covary either with the case of the subject (*za*-verbs take SCs with accusative subject and predicate, raising verbs take SCs with nominative subject and predicate), or with the presence of the preposition (*za*-verbs take SCs with *za* and an accusative predicate, raising verbs take SCs without *za*, and nominative predicates).

Passivised transitive SC-verbs disambiguate the two hypotheses, as in (31).

(31) *Mári-a bola považovaná za dobr-ú ziačk-u.*
Maria-ACC was considered for good-ACC student-ACC

The case on the predicate strictly covaries with the presence of the complementizer (SC-PRT) and not with the case on the subject.

7.1.4.

Covariation between C^0 and the case of the predicate requires a local structural relation between the two. This relation cannot be a s-structure specifier–head relation: the predicate is to the right of the complementizer. Given the conclusion that a subject FQ may remain in specCP (section 6.3), it is also not an LF spec–head relation, specCP being already occupied. C^0 must assign case to the object under government, which in turn requires the object to occur in specAgr$_s$P, in a position governable by C^0.

That small clauses involve a . . . $V\ SU_k$ [$_{CP}$ t_k PRT [$_{AGR_sP}$ $Pred_i$ . . .] t_k BE t_i] configuration with case form PRT to Pred is confirmed by nominalizations.

7.1.5.

Salvi (1991:206) notes pairs in which the verbs takes a complement SC with a $\emptyset$-PRT, while its nominalized counterpart requires an overt PRT, as in (32).

(32) a. *Lo$_i$ hanno* ***consacrato*** [*t$_i$* $\emptyset$ *re di Francia.*
him they.have consecrated king of France
b. *la sua$_i$* ***consacrazione*** [*t$_i$* ***come*** *re di Francia*
the his consecration as king of France

The insertion of a "preposition" in nominal but not verbal contexts (*destroy* $\emptyset$ *the city* vs. *destruction* ***of*** *the city*) typically reflects case requirements of the embedded noun, satisfied in verbal but not nominal contexts. Given the assumption of the existence of a null preposition in (32a), the usual explanation needs to be slightly refined, along lines suggested by Kayne: a null C^0 may govern (and assign case) if selected by verbs but not by nouns.[36]

The fact that SC-PRT, i.e., C^0, assigns case to the predicate, and the resulting displacement of the predicate to specAgr$_s$P, provide the format for an analysis of several otherwise unclear facts.[37]

7.1.6. Postverbal Nominal Subjects

Italian, but not French or English, allows postverbal (realized) subjects in declaratives, as in (33).

(33) a. *L'ha fatto Gianni.*
b.**L'a fait Jean.*
c.**Did it John.*

This asymmetry is taken to show that Italian, but not French or English, subjects may remain in situ, with an expletive *pro* in specAgrP (Rizzi, 1982). But the same holds of SCs, as in (34).[38]

(34) a. *Trovo simpatico Gianni.*
b.?**Je trouve sympathique Jean.*
c.?**I find nice John.*

Now if the adjectival "predicate" were in situ (either as the A^0 head of SC, or as the AP complement of BE), then the same explanation couldn't hold: the adjective should follow the subject (assuming all specifiers to the left, Kayne, 1993b). On the other hand, if SC-Pred is in specAgr$_s$P, (33)–(34) are essentially identical: both have an in situ subject which follows a raised displaced predicate.

7.1.7. Postverbal Clausal Subjects

It is an old observation that those small clause subjects which do not require case (clauses) have a different distribution from NP-subjects, across languages: they occur after the "predicate," *Jean trouve* [*cette salade*] *attirante* 'John finds this salad attractive' vs. *Jean trouve attirant* [*que cette salade soit si bon marché*] 'John finds attractive that the salad be so inexpensive.'

Given displacement of the object (to specAgr$_s$P), this can now be analyzed as an in situ (specVP) subject, which is not displaced to the matrix specAgr$_o$P because it is not subject to the same case requirement as nominal objects.

7.1.8. Optional 'as'

In English as well as French or Italian, *consider* optionally selects *as* in its small clause complement. While the appearance of *as* is marginal with adjectival predicates, *?John considers Mary as intelligent,* the SC-PRT becomes much more natural with nominal predicates, *John considers Mary as a very good lawyer.* The same contrast obtains in French *?Jean considère Marie comme intelligente* 'John considers Mary as intelligent' vs. *les cobras sont considérés* [*t* ***comme*** *des mets de choix*] *en hiver par les Chinois* (the cobras are considered as of.the meals of choice in winter by the Chinese).[39]

That nominal but not adjectival objects prefer overt PRT may now derive from the fact that nominals and adjectivals have distinct case requirements, the precise formulation of which is an open mystery of formal grammar.

7.1.9.

Finally, if C^0 assigns case under government to specAgr$_s$P, why cannot the subject benefit from this case (yielding the gibberish, **I regard as Mary nice*)? With nominal predicates, the answer is straightforward: the predicate itself needs case, and the SC-Su in specAgr$_s$P would prevent it from obtaining it (given the usual crossing condition on A-chain). It is not a big step to extend this account to adjectives (which have case agreement in overt-case languages) to rule out the above example, but the extension to prepositional phrases remains more speculative (to rule out **I regard as Mary out of trouble*).

Along these lines, the impossibility of C^0 assigning case to subjects may be another instance of the general crossing condition on case-motivated chains.[40]

7.2. Case on "Predicates" of Adjunct SCs

7.2.1.

The case paradigm in adjunct small clauses, as revealed by adjectival predicates, is distinct from that in complement small clauses: it strictly covaries with that on the controller of the subject, as in (35).

(35) a. *Pavol*$_i$ *obdivuje Hank-u*$_k$ [PRO$_i$ *nah-i*].
Paul-NOM admires Hank-ACC naked-NOM (= P. is naked)
b. *Pavol*$_i$ *obdivuje Hank-u*$_k$ [PRO$_k$ *nah-u*].
Paul-NOM admires Hank-ACC naked-ACC (= H. is naked)

Similarly with passivization, (36).

(36) a. *Zabili* *Pavl-a*$_i$ [PRO$_i$ *nah-eho*].
they.killed Paul-ACC nude-ACC
b. *Pavol*$_i$ *bol zabiti* [PRO$_i$ *nah-i*].
Paul-NOM was killed nude-NOM

7.2.2.

Although some information about case is accessible to the adjunct small clause, no nominal element may appear, neither as object of the adjunct SC, with minimal pairs such as *Jean est mort coupable* vs. **Jean est mort le coupable* 'Jean is dead (the) guilty'; nor as subjects of the adjunct SC, **John stole the car* [*the salesman drunk*] (with the putative meaning of 'John stole the car while the salesman was drunk').

The nonavailability of case assignment/legitimation may be traced to the fact that PRT is not selected by V^0, being in an adjunct, and thus is case-inert. Case information on the adjectival predicate therefore must originate in the fact that, as argued several times, control involves case transmission, a process distinct from case assignment.[41]

7.3. Content of SC Nodes

7.3.1.

If all clauses are full clauses, differences, if any, must lie in the content of nodes. Three main characteristics of SCs with respect to other clauses are (a) the relative lack of morphology (functional heads are not realized in SCs, except for C^0); (b) the position of the subject, raised to specAgr$_o$P, as with ECM subjects; and (c) several values are restricted to their default setting: NegP (or PolP) can only be positive, negation being expressed by independent negative adverbs (Cardinaletti and Guasti, 1993), tense is restricted to a variable linked to the value of the matrix tense (rephrasing Guéron and Hoekstra, this volume), etc.

7.3.2.

The distribution of subjects follows from the two properties independently postulated of C^0 and I^0: C^0 governs or not, I^0 legitimates case in specIP or not.

Subjects of tensed clauses remain in their specAgr$_s$P because the second property obtains. In infinitivals, I^0 is inert. If C^0 governs (i.e., is selected by an appropriate matrix verb, as above) a trace is legitimated in specIP, and the subject may be displaced to the matrix specAgr$_o$P (ECM). If C^0 does not govern, a trace is not legitimate in specIP, the subject is "trapped" there, and only PRO may occur.

Finally, SCs are one step poorer: not only is I^0 inert, but Agr_o (or $V+Agr_o$) is also inert. When C^0 governs, the object must raise up to $specAgr_sP$ to obtain its case, thereby also allowing the subject to exit from CP without leaving a trace in specIP, yielding the usual crossing chain.

7.3.3.

All three above properties of SCs may derive from the third: i.e., nodes in SC are restricted to default values (except for C^0, which depends on the governing V^0 for its content). The distribution of the subject follows from this if the unmarked value for Agr is to be inactive.

Assuming a theory of features in which the unmarked value corresponds to no formally represented value, an unmarked tense feature (for instance) may be represented as [*tense:* –], with the property specified, but no value present. An adequate version of Full Interpretation (all and only value-bearing symbols of level n have a correspondent at $n+1$) then entails that the functional heads of SCs will remain silent: All and only the s-structure value-bearing nodes will be interpreted at PF.

Although a theory of default values awaits formalization, the overall direction seems clear enough, making it possible to explain the surface morphological differences while keeping space to integrate the distributional facts.

7.4. Complex Predicates

7.4.1.

It is a striking fact that those verbs taking both small clause complements and noun phrase objects undergo a regular meaning-shift from simple action verbs to psychological verbs, and this across languages. This happens with several distinct semantic classes of verbs: opinion verbs, *I took this apple* vs. *I took this apple for a grapefruit,* or *I hold him* (*in my hand*) vs. *I hold him in high esteem; I am regarding the wall*[42] vs. *I regard the kids as cute,* etc.; but also "naming-verbs," such as *I called John* vs. *I called John a liar,* etc.

7.4.2.

Adapting the classical account of reanalysis between the predicate of the small clause and the matrix verb (Chomsky, 1955/75, and more recently Rizzi, 1986; Stowell, 1991), it may be that the meaning shift is a reflex of a refined version of reanalysis.

7.4.3.

Reanalysis has always remained a rather unconstrained, mysterious process. Both Stowell and Rizzi propose that it is constrained by adjacency (preferably, or in absolute): the adjoined and the adjoinee must be adjacent at s-structure.

If Rizzi is correct in assuming that reanalysis of V and SC-Pred is necessary for clitic extraction from the complement of the SC-predicate, no

adjacency requirement may hold of reanalysis, (37a). Similarly, if Stowell is correct in assuming that reanalysis of V and SC-Pred is necessary to explain the lack of reconstruction in raised SC-subjects, no adjacency requirement may hold of reanalysis, (37b).

(37)a. ?*Je le lui tiens pour fidèle.*
b. *Someone is regarded as sick.*

In (37a), reanalysis would have to hold, but V and SC-Pred are not and cannot be adjacent. Similarly, in (37b), reanalysis would have to hold since the narrow-scope reading is not possible, as with *someone is considered intelligent,* but V^0 and SC-Pred are not adjacent.

7.4.4.

A simpler and less mysterious version of reanalysis would be that reanalysis reduces to incorporation of C^0 into the matrix governing Lex^0 (i.e., V^0 in the above examples). If that is the case, the meaning shift between . . . *V object* . . . and . . . *V SC* . . . (as in *hold an apple* vs. . . . *hold John for honest*) stems from the diverse interpretation at LF of the simple verb $[_{V^0}$ *hold*] and the complex verb $[_{V^0}$ *for* $[_{V^0}$ *hold*]], the result of incorporation.[43,44]

8. SUMMARY

Cross-linguistically, particles (PRT) occurring between subjects and predicates of small clauses are selected by the matrix verb. A formal implementation of this selection relation rules out that SCs are bare lexical projections, not associated to functional heads (bare LexP): either because of sheer lack of "representational space" for PRT, or because facts pertaining to floated quantifiers would force the placement of PRT in unselectionable positions, etc.

In addition, apart from being mostly homophonous with P^0, PRT (contrary to other P-like elements, e.g., infinitival *to*) behaves exactly like prepositions with respect to stranding: possible in English, impossible in German or Romance. If this strong similarity is taken to indicate that PRT is a head, then SC contains two heads, in contradiction to the bare LexP hypothesis.

On the other hand, PRT differs from prepositions with regard to extraction possibilities. In fact, it behaves on a par with (a subset of) functional prepositions. Since Vergnaud (1974), it has been clear that the latter are elements internal to the noun phrases—more adequately, the highest elements of noun phrases. To put it briefly, they are nominal complementizers, and SCs not only must contain SOME functional projection, but must contain them ALL, up to CP.

Agreement in syntax-semantics gender mismatch contexts, as well as the existence of nominal and prepositional predicates in cooccurrence with PRT, point toward the nature of the lexical head of this CP: a zero BE.

Several other patterns are discussed, among which case marking on the SC-predicates (based on the overt marking found in Slovak), with several conclusions about the syntax internal to SCs, reanalysis, etc.

The main line remains, however, that small clauses are not small. They are full-fledged clauses. The (rather limited) impoverishment of SCs, mainly morphological, is traced to full interpretation (FI: Chomsky, 1986): the null BE of SCs is a (universal) default verb, realizing the default values of all features. By FI, a default feature is not spelled out at PF. The syntax of SC-Su and the interpretation of tense and negation in SC mostly follow from the SC-nodes' having default values. In short, small clauses are full but rather empty clauses.

ACKNOWLEDGMENTS

This chapter has benefited from a Max Planck Arbeitsgruppe für Strukturelle Grammatik grant, an Erasmus grant for an exchange with the Venice linguistics department, and from the Fonds National Suisse de la Recherche Scientifique project no. 11-33542.92. Anna Cardinaletti and Chris Wilder deserve explicit mention for bringing new sets of facts to my attention. Finally, thanks are due to the editors for helpful remarks.

REFERENCES

Aarts, B. (1992). *Small clauses in English: The nonverbal types.* Mouton de Gruyter, Berlin.

Belletti, A. (1990). *Generalized verb movement.* Rosenberg & Sellier, Turin.

Borer, H. (1984). *Parametric syntax.* Foris, Dordrecht.

Borkin, A. (1973). *To be* and not *to be. Chicago Linguistic Society* 9, 44–56.

Bowers, J. (1993). The syntax of predication. *Linguistic Inquiry* 24, 561–656.

Brody, M. (1994). *Phrase structure and dependence.* Unpublished manuscript, University College, London.

Brugè, L., and Brugger, G. (1994). *Sulla 'A' dell'accusativo in spagnolo.* Paper presented at the Incontro di Grammatica generativa, Padova.

Cardinaletti, A., and Guasti, M. (1993). Negation in small clauses. *Probus* 5, 39–61.

Cardinaletti, A., and Starke, M. (1993). *On dependent pronouns and pronoun movement.* Paper presented at GLOW conference, Lund.

Chomsky, N. (1955/75). *The logical structure of linguistic theory.* University of Chicago Press, Chicago.

Chomsky, N. (1986). *Knowledge of language.* Praeger, New York.

Chomsky, N. (1993). A minimalist program for linguistic theory, in K. Hale and S. J. Keyser, (eds.), *The View from Building 20,* 1–52. MIT Press, Cambridge, Mass.

Chomsky, N. (1994). *Bare phrase structure.* Unpublished manuscript, Massachusetts Institute of Technology, Cambridge.

Chung, S., and J. McCloskey. (1987). Government, barriers and small clauses in Modern Irish. *Linguistic Inquiry* 18, 173–237.

Emonds, J. (1985). *A unified theory of syntactic categories.* Foris, Dordrecht.

Grimshaw, J. (1991). *Extended projections.* Unpublished manuscript, Brandeis University, Waltham, Mass.

Hornstein, N., and Weinberg, A. (1981). Case theory and preposition stranding. *Linguistic Inquiry* 12, 55–91.

Johnson, K. (1991). Object positions. *Natural Language and Linguistic Theory* 9, 577–636.

Kayne, R. (1984). *Connectedness and binary branching.* Foris, Dordrecht.

Kayne, R. (1993). Toward a modular approach to auxiliary selection. *Studia Linguistica* 47, 1, 3–31.

Kayne, R. (1994). *The antisymmetry of syntax.* MIT Press, Cambridge, Mass.

Kitagawa, Y. (1985). Small but clausal. *Chicago Linguistic Society* 21, 210–220.

Laka, I. (1990). *Negation in syntax: On the nature of functional categories and projections.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Merlo, P. (1989). Risultative in italiano e in inglese. *Rivista di grammatica generativa* 14, 29–53.

Mouchaweh, L. (1984). En faveur des 'small clauses.' *Recherches Linguistiques de Vincennes* 12, 92–124.

Ouhalla, J. (1991). *Functional categories and parametric variation.* Routledge, London.

Pesetsky, D. (1989). *Language particular processes and the earliness principle.* Paper presented at GLOW meeting, University of Utrecht.

Raposo, E., and Uriagereka, J. (1990). Long distance case assignment. *Linguistic Inquiry* 21, 505–537.

Rizzi, L. (1982). *Issues in Italian syntax.* Foris, Dordrecht.

Rizzi, L. (1986). Null objects in Italian and the theory of *pro. Linguistic Inquiry* 17, 501–557.

Rizzi, L. (1993). The case of root infinitives. *Geneva Generative Papers* 1.2, 16–25.

Ruwet, N. (1978). Une construction absolue en français. *Lingvisticae Investigationes* 2, 165–210.

Safir, K. (1983). On small clauses as constituents. *Linguistic Inquiry* 14, 730–735.

Salvi, G. (1991). I complementi predicativi, in L. Renzi and G. Salvi (eds.), *Grande grammatica italiana di consultazione,* 191–226. Il Mulino, Bologna.

Sportiche, D. (1988). A theory of floating quantifiers and its corollary for constituent structure. *Linguistic Inquiry* 19, 33–60.
Starke, M. (1993). *Notes on prepositions and clause-structure.* Mémoire, University of Geneva.
Stockwell, R., P. Schachter, and B. Partee. (1973). *The major syntactic structures of English.* Holt, Rinehart and Winston, New York.
Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.
Stowell, T. (1991). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters of comparative grammar,* 182–218. MIT Press, Cambridge.
Williams, E. (1983). Against small clauses. *Linguistic Inquiry* 14, 287–308.
Vergnaud, J.-R. (1974). *French relative clauses.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Zanuttini, R. (1991). *Syntactic properties of sentential negation.* Ph.D. dissertation, University of Pennsylvania, Philadelphia.

NOTES

[1]This needs to be qualified. Analyses of R differ along three main (orthogonal) axes: (i) $<\alpha; \beta>$ forms a constituent (small clause) or not, (ii) R involves functional categories or not, and (iii) V^0 and β form a complex predicate at LF or not. Only for the $<\alpha; \beta>$ as constituent view have *x*-particular claims been made (otherwise R is seen as structurally similar to . . . *V object object* . . . sequences, cf. Stowell, 1983, 1991, for a survey of arguments against this type of analysis; cf. also n. 7, n. 13).

[2]Cf. Grimshaw (1991) for an attempt at an explicit formulation of such a constraint.

[3]Lexeme-particular variation is the most widespread of all: it is unanimously assumed that distinct lexical categories are associated to a different number and type of functional projections.

[4]Assuming a research program viewing all parameters as lexical (Borer, 1984, and many after her).

[5]Other PRTS occur, but in quasi-idiomatic turns. Example with *take* include *à: prendre X à parti* 'quarrel with X' (French), *prendre X à coeur* 'take X to heart' (French), *prendere X a testimonio* 'take X to witness' (Italian); or *en/in: prendre X en horreur* 'take X in disgust' (French), *prendere X in moglie* 'marry x' (Italian), etc.

The fact that (5c–d) have nominal predicates is not relevant to the particle variation. Some verbs select these particles with adjectival predicates also, such as *tenir X pour* Adj 'hold x for Adj.'

[6]Hebrew data courtesy of Ur Shlonsky. For some discussion of particles, cf. Emonds (1985, section 6.3), and also Aarts (1992), Bowers (1993:596), and Chung and McCloskey (1987).

[7]The strongest test to the effect that SCs are syntactic units comes from the fact that they may be subjects, both with copulas, [*Men nude on the street*] *appears to be the puritan's worst nightmare* (Safir, 1983; Stowell, 1983; 1991), and with comparatives, [*Mandela free*] *would pose a bigger threat than* [*Mandela behind bars*] (Aarts, 1992). This test is reinforced by pronominalization: (singular) pronouns only refer to a constituent, and the subject SC can be referred to by a pronoun: [*Girardet malade*]$_i$, *ça*$_i$ *semble être le pire cauchemar des élus locaux* 'G. sick, it seems to be the worst nightmare of the local politicians.' A similar, though more delicate, argument can be constructed for complement SCs.

Further, it is often claimed that the one major misprediction of the SC theory is that there should be SCs with a PRO subject interpreted as arbitrary, but this is not found. In fact PRO_{arb} as subject of a SC is found, contrary to the claim, exactly where it is expected: in adjunct SCs with no structural antecedent: [*PRO drunk*], *math is wonderful;* or [*PRO amoureux*], *le monde est enfin supportable* 'in.love.[adj], the world is finally bearable.'

Finally, a note of caution: with postnominal adjectives, . . . *V object* . . . and . . . *V SC* . . . correspond to the same string, as is often the case in French or Italian. This does not entail that there are no SCs, although tests are rare. Contrastive focus and displacement disambiguate: contrastive stress on a predicative adjective cross-linguistically triggers a determinerless constituent negation, while contrastive stress on the non-predicative counterpart requires a determiner, as in (i).

(i) a. *Phil a trouvé la fondue* CHAUDE, *pas froide.*
b. *Phil a trouvé la fondue* CHAUDE, *pas la froide.*
Phil found the fondue hot, not the cold

Similarly, displacement of the SC-subject allows only the predicative reading, as in (ii).

(ii) *Phil les*$_\alpha$ *a trouvé* t_α *trop liquides*$_\beta$.
Qu$_\alpha$*'est-ce que Phil a trouvé* t_α *trop liquides*$_\beta$*?*
What did Phil them found too liquid

And finally, the two tests interact as expected, as in (iii).

(iii) *What did Phil find ugly, not nice?*
**What did Phil find ugly, not the nice one?*

[8]Cf. also minimal pairs such as *Philippe traite Jean* [*comme un millionaire déchu*] 'P. treats J. as a has-been millionaire' (direct object semantics) vs. *Philippe traite* [*Jean de millionaire déchu*] 'P. calls J. a has-been millionaire' (small clause semantics): only the first, non Small Clause example has the meaning corresponding to the simple transitive verb.

[9]The choice of PRT is strictly a function of V: one and the same Su–Pred pair occurs with distinct PRT, cf. (4)–(5); and one and the same PRT occurs with distinct types of Su–Pred pairs, and also with distinct Vs.

[10]Of course, it is logically possible that PRT be adjoined to X'. Apart from the fact that this would be to revert to a loose version of X-bar theory, the theory of selection

would also pose a problem: it would have to be seriously loosened to allow for the matrix verb to select an adjunct to L′.

[11]Alternatively, X-bar could be stretched by allowing non-binary branching (flat) structures. This is excluded by displacement, which shows that PRT and Pred form a constituent to the exclusion of the subject, see below.

[12]Often qualified as "street-like." The choice of PRT and Pred is important: post-PRT FQ is for instance better with adjectival than nominal predicates, and worse with PRT = *for* than PRT = *as*.

[13]This also gives a new argument to the effect that SCs are constituents: from (a) the fact that PRT and Pred form a constituent (cf. clefting, section 2.2), and (b) the fact that a post-PRT FQ is (marginally) acceptable, it follows that Su originates below PRT, inside the constituent [*PRT Pred*]. SC is therefore an underlying constituent.

[14]Independently of PRT, Belletti (1990) notes that FQ are incompatible with a bare LP, in . . . V^0 *Su FQ Pred* . . . sequences (*he finds the dishes all excellent*), where Su and FQ do not form a constituent. The problem is again magnified by PRT, given the possibility of examples with the reverse order with respect to those in the text, . . . V^0 *Su FQ PRT Pred* . . . (cf. section 6.3).

[15]In most cases, such "bare LP" theories are trivially updatable to theories *cum FP*. There is at least one family of approaches where this is not true: many researchers in language acquisition rely heavily on the no-functional-projections-inside-small-clauses hypothesis to explain developmental stages of acquisition. Such analyses lose much of their raison d'être if such bare small clauses do not exist in adult language.

[16]This is not totally accurate. There is a limited amount of P-stranding in Romance, but it is irrelevant to the present concerns.

[17]That *what* should be a possible *wh*-word for the infinitival is suggested by echo-question, where *I want to go* is echoed as *you want to* WHAT? (cf. **what do you want to?*).

[18]These paradigms also confirm the non-obvious hypothesis that PRTs form a homogenous class.

[19]Apart from irrelevant cases in which P takes a CP as complement.

[20]Treating SC-PRT as a functional P may lead to two problems, none serious. (a) French *pour* may be orphaned, as in *il a voté pour* 'he voted for,' this being a hallmark of lexical prepositions. This is not true of Italian, **ha votato per* (but *ha votato contro* 'he voted against' is grammatical). This minimal variation seems best analyzed as reflecting the fact that French *pour* is ambiguous between the two categories (i.e., not limited to the lexical variant). Ambiguity between the two statuses is an independently needed notion. (b) *As* systematically appears as the initial part of apparently complex constructs: *as if, als ob, comme si*. This may reflect the fact, overtly visible in several languages, that there is a *wh*-position between CP and IP, diversely labeled FocP, Agr_cP, etc., and that the question-head *if* may realize it, thus following the complementizer *as*.

[21]The case of extraction out of functional prepositions is somewhat delicate: extractibility out of functional prepositions otherwise occurring in SC is only testable with *de, à*, since *pour, für, for*, etc., do not seem to otherwise occur in argumental positions.

The generalization seems to be that whenever functional prepositions in complements assume the role of the sole "case marker," extraction is bad, as in (i), but whenever conditions change and they become "dummy," extraction is possible, as in (ii).

(i) **J'en parlais [à la soeur t]*.
'I of.him/her was.speaking to the sister *t*'

(ii) a. ***De quién** has visto [**a** admiradores delirantes t]*
(Spanish, structural-case)
of whom have.you seen A admirers delirous
(Brugè and Brugger, 1994)

b. *L'endroit, **où** j'ai dissuadé ta soeur [**de** se promener t]*
(French, infinitival)
the place where I dissuaded your sister DE walking

[22]Such functional prepositions also occur in adjectival and adverbial "clauses," "extended projections," etc., with the same properties (discussed below) as those occurring in infinitivals and nominals. Cf. for instance the Italian *mi ha aspettato [a lungo]* 'me he.has waited A long' and *mi costa [di più]* 'to.me it.costs DI more.'

[23]Kitagawa (1985), Merlo (1989), and Mouchaweh (1984) also arrive at the conclusion that SCs are full CPs, on the basis of a distinct set of arguments.

[24]Korean examples courtesy Shin-Sook Kim (personal communication, 21 June 1994). I thank Chris Wilder for bringing the Korean facts to my attention. Apart from Korean, earlier stages of English seem to have witnessed the same phenomenon, with *as* as a complementizer for argument clauses, and ancient Greek also used the same complementizer in finite clauses and in SCs (A. Alexiadou, personal communication, 21 June 1994).

[25]I wish to leave both possibilities open, however. On the one hand, treating adjectives as heads of LexP leads to a selectional problem (verbs do not select adjectives, etc.), while on the other, an argument for adjectives as L^0 in SC may be provided by incorporation: if it is discovered that incorporation of an adjectival predicate (*I consider-intelligent John*) is typologically significantly more productive than incorporation of noun predicates (*I consider-thief John*), this might be traced down to diverse underlying representations. If the latter is correct, no fundamental change is required in the above approach.

[26]Case morphology provides an indirect hint to the same effect: exactly as one finds instrumental predicates in some Slavic copular constructions (Russian, Polish), instrumental SC predicates are also attested (Serbo-Croatian, Russian). There is, however, no correspondence between the presence of one and the other inside one and the same language (I thank Wayles Browne for discussion of this point).

[27]Moro (this Volume) notes one difference between the overt and null BE: the null BE doesn't allow subject/object inversion (*Jan Hus is the man that she respects the most* vs. *the man that she respects the most is Jan Hus* but *she considers Jan Hus the man that is most worthy of respect* vs. **she considers the man that is most worthy of respect Jan Hus*) and concludes that there is no null BE in SC. There is, however, no need for such a harsh conclusion: Rapoport (this Volume) and Rothstein (this

Volume) note another difference: the covert BE cannot be interpreted as an identity functor (contrary to its overt counterpart). The latter difference may explain the former, insofar as inversion is found only with the identity functor. What there is to be explained is a restriction on the null SC copula, not the absence of such a copula (cf. also n. 28).

[28]If the identity reading is contingent upon incorporation, the asymmetries noted in n. 27 derive from this approach.

[29]Somewhat paradoxically, the strongest support for the θ-dependence of the subject on the predicate of SCs comes from expletives. Since small clause subjects may be expletives, and objects are never expletive, it follows that the existence of the subject does not depend on the matrix verb, but on the SC predicate.

[30]The existence of verb displacement in English has been argued for by both Pesetsky (1989) and Johnson (1991). A further (simple) argument comes from the distribution of weak pronouns (in the technical sense of Cardinaletti and Starke, 1993). In analyzing the distinctions between Romance pronominal clitics which occur adjacent to the verb and those which are not adjacent to verbs, these authors distinguish two classes of "clitics" (i.e., deficient elements): the clitics proper, the adjacent type, usually dealt with in works on Romance clitics; and weak pronouns, which contrary to clitics are not X^0 and thus do not intermingle with the V^0-chain. Given this tripartition (clitic, weak, strong), many Germanic pronouns patterns with weak pronouns rather than with clitics, among them the English subject and object *it*. The distribution of weak pronouns is extremely limited (**it, I have seen*): a cross-linguistic survey shows them to be always outside their base position, in case-receiving specifier. This entails that the English weak object *it* in *I need it* is in some case-receiving specifiers, specAgr$_o$P under usual assumptions, and the verb has undergone a limited displacement, . . . *need*$_i$ $[_{AGR_oP}$ *it* t_i $[_{VP}$ t_i (unless such a broad (apparently universal) generalization is taken to have one unexplained counterexample: English).

[31]The interpretation of adverbs has been taken to show that the subject is internal to the SC at s-structure (Stowell, 1983), contradicting (24). This is because an adverb between SC-Su and SC-Pred is preferably interpreted as modifying the SC and not the root clause. A more complete paradigm may, however, indicate the opposite: while the upstairs reading is disfavored, it is possible given special intonation, (ia). This "marginal-upstairs" reading is NOT possible in finite complement clauses, (ib).

(i) a. *Le prof a trouvé Marie probablement malade.*
'The professor found Mary probably sick.'
b. *Le prof a trouvé que Marie est probablement malade.*
'The professor found that Mary is probably sick.'

Furthermore, the marginality of the "marginal-upstairs" reading in (ia) is comparable to that of an adverb following a direct object, as in (ii).

(ii) *Jean a rencontré Marie probablement dans le train.*
'John met Mary probably in the train.'

The similarity between post-direct object, (ii), and SC, (ia), contra tensed clauses, (ib) points toward the external, not internal, position of the subject, i.e., (24). [As noted by Stowell, temporal adverbs produce better results for the "marginal-upstairs" reading in (ia). The same holds of (ii)].

[32]SC in subject position (n. 7) may be one case of realized subject internal to SC, receiving case from the matrix V.

It is sometimes held that this approach is mistaken because the wrong case shows up on the SC-Su. But such an assertion rests on a false assumption. The reasoning goes as follows: (a) If the verb assigned case to the SC-Su in specIP, SC-Su should be nominative; (b) In English, a subject SC may have *me* but not *I* as its own subject (*me angry is the last thing he would want* versus **I angry is the last thing he would want*); (c) *Me* is accusative while *I* is nominative; (iv) Therefore the subject of a subject SC is accusative, not nominative, contradicting the above hypothesis.

Assumption (c) is wrong, or rather incomplete. French translations of the two above examples [in step (b)] would be impossible with *je* 'I' as the SC-Su, and would require *moi* 'me.' But this time, it is clear that case is not the sole factor: *je* is a deficient pronoun (clitic or weak), while *moi* is a strong pronoun (cf. n. 30). Italian and Slovak permit a cleaner test, eliminating the parasitic factor of deficient vs. strong pronouns: *io, ja* 'me' are nominative strong pronouns, and alternates with *me, mňa* 'me,' accusative strong pronouns.

The Italian translation of the above example is [*io arrabbiato*] *è l'ultima cosa che vorrebbe,* with a nominative pronoun (Cardinaletti, personal communication), and the same holds of Slovak (with sharper judgments in the latter case, for unclear reasons). The exclusion of *I, je* from the SC-Su in subject SC should not be taken to indicate case properties of the SC-Su position, but rather the requirement that only strong elements may occur in that position. It may thus be maintained that SC-Su is internal to SC when SC itself is a subject, and SC-Su receives case from I^0.

[33]The non-floated version of all these questions is acceptable: *pour quoi/qui est-ce qu'il prend tous les gens?* 'for what/who is-it that he takes all the people,' *how cute does he find all the children?,* etc.

[34]The existence of post-PRT FQ indicates that these may be floated off lower than specCP.

FQs on the subjects of *have* indicate the same: first, given section 5.2, it is expected that the same triplet obtains with *have,* which is the case: *the kids have all many problems* and ***how many problems*** *do the kids have t ?,* but not ****how many problems*** *do the kids have all t ?* But since the same effect obtains with *be,* which by definition does not have FQ in specCP (section 5.2), it must be due to a lower position of FQ: *the kids are all happy,* and ***how happy*** *are the kids t,* but not ****how happy*** *are the kids all t ?* (Further, there is no intrinsic incompatibility between *wh* and FQ, given that the past tense correspondents are acceptable, *how happy have the kids all been?*).

SpecCP must be considered an A position when hosting the trace of the subject. This is formally similar to Kayne (1994), cf. section 5.2.

[35]Cf. *Zdá sa mi že Mária je unavená* 'seems REFL to.me that Maria is tired,' for the rasing status of this V.

[36]When the SC subject is a full noun, another "prepositional complementizer" appears, as in (i).

(i) *la* ***consacrazione*** [[***di*** *Gianni*] ***come*** *re* *di Francia*]
the consecration of John as king of France

As depicted by the bracketing, *di* is better viewed as the C^0 associated to *Gianni,* in accordance with the generalization that C^0 is realized on in situ arguments, but not on arguments in specAgrP (cf. the *Ø/to* alternation in English double object constructions).

[37]Examples of the type *I want him alive,* which surface in Slovak with an accusative predicate but no *za,* might be taken to indicate a third class of SC. But such examples should be taken to be adjunct SCs rather than arguments, *I want him* [*PRO alive*]. This is indicated by the interpretation of the SC: while complement SCs are interpreted as corresponding tensed complements (*she finds him attractive* vs. *she finds that he is attractive*), adjunct SCs are interpreted as temporal modifiers (*he read the book* [*PRO drunk*] = *he read the book* WHILE/WHEN *he was drunk* or *he ate the meat* [*PRO raw*] = *he ate the meat* WHILE/WHEN *it was raw,* and the interpretation of the initial example is temporal (*I want him while/when he is alive*). Ambiguity of controllers (section 2.1) makes the same point.

[38]Some care is required with accentuation: an Italian post-predicate subject of SC needs a slight focalization. English and French allow such a subject, but only with strong accent, akin to heavy NP shift. The contrast thus holds of "light focalization," whatever that is.

[39]*Le Nouveau Quotidien* 18 January 1994:28.

[40]The impossibility of SC-subjects in $specAgr_sP$ of the SC would exactly mirror Chomsky's (1993) explanation of the impossibility of the subject in $specAgr_oP$ of tensed clauses.

The hypothesis that C^0 assigns case also to adjectives might have an overt reflex in those languages in which predicative adjectives have an inflectional morphology distinct from that of modifier adjectives.

Finally, the intuitive idea that PP-predicates do not need case might correlate with the asymmetry noted by Raposo and Uriagereka (1990) between PPs and other predicates with respect to the case of SC-subject: in Portuguese, only with PP-predicates can a subject remain in the foot of an A-chain (raising, passives).

[41]Although judged marginal, there seem to be some traces of dative control and dative case transmission to adjunct small clauses in Slovak.

[42]Apparently better in British English than in American English.

[43]This implies reconstruction, or a copy of traces, in cases in which the SC is displaced, as in French *wh*-questions: *pour qui me prends-tu?* 'for whom do you take me?'

[44]Such a view of reanalysis apparently does not explain the facts it was designed to explain by Rizzi (1986) and Stowell (1991). This is the desired effect.

The asymmetry between realized and null subjects with regard to clitic extraction of the complement of the predicate is a very difficult (and light) judgment in Italian, and seems to produce only tenuous contrasts in French: *je lui trouve Tarzan tout à*

fait comparable 'I to.him find Tarzan totally comparable' vs. *(?)je le lui trouve tout à fait comparable* 'I him to.him find totally comparable.' To the extent that this reflects a syntactic asymmetry, it can be traced to the differing properties of weak (in the sense of Cardinaletti and Starke, 1993, and n. 30) and strong subjects independent of reanalysis. Weak elements do not need the specCP escape hatch, as attested by *où as-tu tout voulu* [$_{CP}$ *acheter t*] *?,* 'where did you all want to buy?' in which raising of the weak object *tout* does not interfere with *wh*-movement of the adjunct-*wh*).

Now if extraction is possible with null (or cliticized) but not overt subjects in Italian (Rizzi's, 1986, original observation), this can be traced to *pro*'s being weak: it does not need the specCP escape hatch, which is thus free for the extraction out of the predicate.

In French, which has no 'stand-alone' *pro* subjects, weak subjects such as *tout* should produce an asymmetry: *je lui trouve tout bien ajusté* 'I him find all well adjusted' versus *je lui trouve ce pantalon bien ajusté* 'I him find these trousers well adjusted.' Although the judgments seem to go in the expected direction, they are uncertain, to say the least.

Finally, as noted by Kayne (1984), the (absence of) reconstruction facts discussed by Williams (1983), Stowell (1991), obtain outside SCs where constituenthood and reanalysis are not an issue.

This page intentionally left blank

REMARKS ON CLAUSE STRUCTURE

TIM STOWELL

Department of Linguistics
University of California
Los Angeles, California

1. SMALL CLAUSES

The volume in which this chapter appears is organized around the theme of small clauses. For most of the past 15 years, small clauses have been the black holes of syntactic theory: most of the discussion about them has been devoted to the question of whether they exist. Although the small clause literature was originally confined to the analysis of a restricted range of constructions, in recent years small clause theory has taken on a life of its own; the basic idea of the standard GB analysis of small clauses has been extended to almost every other construction in one form or another. Thus, from our current perspective, small clauses are everywhere, even if it turns out that the original set of constructions that motivated them may turn out to be less small than was once believed.

Because of this shift, it is no longer always clear exactly what the term "small clause" means. Sometimes it is applied to the particular set of constructions that originally motivated the analysis, exemplified in (1), attributing to them the structure in (2).

(1) a. *We consider John clever.*
    b. *John seems clever.*
    c. *Angry at everyone, John left the party.*

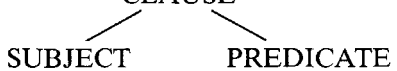
(2) a. *We consider* [*John clever*].
    b. *John*$_i$ *seems* [t_i *clever*].
    c. [*PRO*$_i$ *Angry at everyone*], *John*$_i$ *left the party.*

Syntax and Semantics, Volume 28
Small Clauses

The debate over these constructions has been fueled by the fact that small clauses resemble full clauses in some respects, while differing from them in others. The main difference is this: small clauses contain none of the auxiliary verbs or tense/aspect morphology associated with full clauses, though the head of an adjectival small clause bears subject-agreement morphology for number and gender in some languages. The main similarity is that small clauses have a conventional subject/predicate geometry and express the same kind of semantic predication relation between a predicate and its subject that full clauses do. (Though the small clause subject may follow rather than precede the small clause predicate in some languages, the same is true of full sentences.)

Small clause theory is based on the conviction that this semantic relation is reflected uniformly in constituent structure, in the sense that the subject/predicate relation is always encoded syntactically in terms of a pair of sister constituents, as in (3).

(3)



Almost everyone assumes that this structural relation holds in the case of full finite clauses (sentences). In terms of traditional assumptions about phrase structure, the clause in (3) is an instance of the syntactic category Sentence (S); the subject is a Noun Phrase (NP), and the predicate is either a Predicate Phrase (PredP) or a Verb Phrase (VP), abstracting away from the existence of the Auxiliary constituent. In terms of more recent theories of functional categories, the NP is reconstrued as a Determiner-P (DP), and S is reconstrued as an Infl-P (IP), a Tense-P (TP), or an Agreement-P (AgrP). There are a number of variations on small clause theory, but all of them involve imposing an analysis of (1) along the lines of (2), on analogy with (3).

In Stowell (1981, 1983), I suggested that the adjectival predicates in (1) combine with a null or overt subject to form a kind of clausal constituent, parallel to the standard analysis of infinitival constructions involving EXCEPTIONAL CASE MARKING (ECM) with an overt subject (4a), Raising with an NP-trace subject (4b), and Adjunct Control with a PRO subject (4c).

(4) a. *We consider [John to be clever].*
b. *John$_i$ seems [t_i to be clever].*
c. *[PRO$_i$ To get back to the office on time], John$_i$ left the party.*

In a narrow sense, the debate over small clauses is limited to the question of what the proper syntactic and logical analysis of these constructions is.

Two main analytical issues are at stake here. First, there is the question whether "small clause" constructions really have a syntactic structure

approximating that in (2) or (3), with a subject and a predicate combining syntactically to form a clause. The alternative view, that small clauses do not exist as syntactic phrases, was the traditional extended standard theory analysis of these constructions. This assumption led Chomsky (1980) to posit a structure-building rule in the translation from syntax to Logical Form (LF), constructing a clausal structure resembling (2) or (3) at LF. Somewhat different versions of this account were subsequently developed by Bresnan (1982), within the framework of lexical functional grammar, and by Williams (1980), within the framework of his theory of predication (see also Schein, this Volume); in these theories, the traditional level of LF was replaced by a level of representation with somewhat different properties, so that the notion of "clause" did not play a central role in their theories of θ-role assignment or predication.

The small clause theory claims that all θ-role assignment obtains only within a strictly local domain; the assignment of the subject (or 'external') θ-role obtains only within the confines of a clausal structure (i.e., a structure in which a subject and a predicate combine with each other syntactically to form a clause). In contrast, Bresnan's and Williams's theories claim that predication obtains in a broader class of syntactic environments, so that a predicate can assign the semantic function of its subject argument to a noun phrase that is not its true syntactic subject in the structural sense outlined above. Thus, the debate over small clauses essentially reduces the question of how the semantic notion of "subject of predication" is expressed in (or translated into) syntactic structure.

A larger issue also hinges on this: if the small clause theory is right, then syntactic structure can be viewed as a more or less direct reflection of predicate/argument structure, to the point where we can even hope to identify the two notions. On this view, there is no need for a complex set of arbitrary translation rules from syntactic representations to logical representations; the structure of syntax and logical form are one and the same. On the other hand, if the small clause theory is wrong, then either there is no such near-isomorphism between syntax and LF, or else the actual logic of these constructions is significantly different from what our naive intuition suggests.

The latter approach is pursued in some detail by Williams (1994), updating his (1980, 1983) analysis in certain ways. Williams argues that cleverness is not predicated of John in (2b) and (4b), so that these examples are not true paraphrases of *It seems that John is clever* (abstracting away from tense); rather, he maintains that a composed complex predicate property "seem (to be) clever" is applied to John in these examples. In other words, he holds that the complex predicate *seem-clever* is formed before the NP *John* (or its trace, the existence of which he denies) is associated in any way

with the predicate *clever,* and that this association is indirect in any case, mediated by the connection between *John* and *seem-clever* on the one hand and by the connection between (the argument structure of) *seem-clever* and (the argument structure of) *clever* on the other.

It is difficult to compare Bresnan's and Williams's theories directly with the small clause theory, because they reconstruct so many aspects of conventional principles-and-parameters theory (θ-role assignment, binding theory, NP-movement theory, and so on) in a different form; in their alternative models, much of what goes on in the syntax in a conventional GB grammar happens within words and in the relationships holding between words, unmediated by syntactic structure. Several arguments that favor a clausal analysis of "small clause" constructions in a traditional theory evaporate if virtually all the processes that are traditionally assumed to be based on syntactic structure are assumed instead to be irrelevant to syntax. For instance, the small clause behaves like a clause (or a complete functional complex) for the purposes of binding theory, and the subject of a small clause behaves like a structural subject; but if binding theory is based on an elaborated theory of argument structure rather than on syntactic configurations, then nothing about phrase structure follows. I do not intend to repeat every argument in favor of the small clause analysis here, since they have already appeared in print. Nevertheless, it seems appropriate in the context of this volume to draw some very general comparisons between small clause theory and predication theory, and I do this in section 5.

If we accept the central idea of the small clause theory, then a second analytical question arises, namely what kind of syntactic category a small clause is. The proposal in Stowell (1981, 1983) is that a small clause is a maximal projection of the category of its predicate [AP, in (2)]. On this view, many different kinds of XPs, including NP, VP, AP, PP, and IP can serve as "clauses," i.e., predication domains. I will refer to this as the XP-version of small clause theory. Kitagawa (1985) and Raposo and Uriagereka (1990), among others, have argued that small clauses resemble infinitives and finite clauses even more closely, in that they have one or more sentence-level functional categories dominating the AP, i.e., a category such as IP or AgrP. I will refer to this alternative as the IP-version of small clause theory. On this view, small clauses may be categorically identical to full clauses, differing only in the identity of the inflectional elements occupying Infl (or Agr), in much the same way that infinitival and finite clauses are usually assumed to differ from each other. Plainly the IP-version of small clause theory goes a step further than the XP-version in terms of assimilating the structure of small clauses to that of full clauses.

It should be borne in mind that the category "IP" is probably a conflation of two or more sentence-level categories, including at least TP (Tense-P)

and AgrP (Agreement-P) (Pollock, 1989), as well as Neg P or Sigma P (Laka, 1990), among others. This provides the means of expressing a wide range of theories that are compromises between the two versions of small clause theory described above. For instance, small clauses might be instances of AgrP dominating a lexical category such as AP, NP, or VP, with no TP category. This would capture Manzini's (1984) observation that adjectival heads of small clauses exhibit agreement with their notional subjects in languages such as French and Italian (though such agreement is absent in German), while still accounting for the fact that small clauses are semantically tenseless (a point to which I return later on). In a similar vein, Bowers (1993) has suggested that predication obtains only within a maximal projection of a Predicate Phrase (PredP), so that small clauses are PredPs (dominating AP, VP, etc.), where PredP is a component of full IPs (or TPs) as well.

The theory in Stowell (1981, 1983) holds that the bracketed small clauses in (2) are APs, and that the notional subject of the adjectival predicate is located in a subject position within AP. [For this reason the true subject of the small clause must be NP-trace in (2b) and PRO in (2c).] The theory analyzes perception and causative verb complements as ECM-style VP small clauses (5), parallel to (2a), and modal verb complements as raising-style VP small clauses (6), parallel to (2b).

(5) a. *John saw* [$_{VP}$ *Bill leave*].
b. *John made* [$_{VP}$ *Bill leave*].

(6) *John$_i$ must* [$_{VP}$ *t$_i$ leave*].

A similar set of paradigms justifies NP and PP small clauses (7).

(7) a. *John considers* [$_{NP}$ *Mary a genius*].
b. *Ron seems* [$_{NP}$ *a smart guy*].

In addition, the small clause theory treats so-called reduced relative clauses as small clause control structures, with control PRO taking the place of Wh in a CP relative clause (8).

(8) [$_{NP}$ *a man* [$_{AP}$ PRO *angry at his brother*]]

Thus a coherent picture emerges: in principle, any XP category can contain a subject position, regardless of whether the category in question is AP, VP, NP, or PP. This makes it possible to put a very local condition on (subject) θ-role assignment: a predicate head X can assign a (subject) θ-role only to the XP that occupies a (subject) θ-position within that XP. These two ideas—that every XP contains a subject position, and that all predicative

categories θ-mark their subjects only in such a position—form the theoretical core of the XP-version of small clause theory, and they have subsequently been extended to a range of other constructions.

The discussion thus far has left open the question of what the precise X-bar status of the XP-internal "subject" position is. In Stowell (1981, 1983) and much subsequent work, it has been assumed that the "subject" position is an instance of the Specifier (Spec) position as defined in Chomsky (1970). In fact, the original notion of what the "Specifier" position is has changed radically since X-bar theory was originally introduced into syntactic theory, as most of the elements that were originally analyzed as specifiers (including adjectives, adverbs, auxiliary verbs, determiners, and so on) are now assumed to be X-bar heads in their own right. Apart from subject positions of small clauses (which are assumed to be θ-positions), the only other function assigned to the Spec position is that of the target of XP-movement in the mode of substitution: in the case of Argument movement (A-movement), to Case positions; and in the case of A′-movement in Wh-movement, to the Spec of CP and related operator-movement constructions. Although the canonical instances of movement to a Case-marked position involve Passive, Raising, and Unaccusative constructions, recent treatments of structural Case-movement within the minimalist framework of Chomsky (1993) have assumed that all subjects and direct objects that bear nominative or accusative Case must move to the Spec of an Agr P category for Case licensing. Though this poses a potential problem for the *Barriers* theory of movement in Chomsky (1986), where Wh-operators are assumed to be unable to move across a filled Spec position in most environments, it is less problematic from the perspective of more recent approaches to bounding theory within the minimalist framework. For some discussion of these issues in a pre-minimalist framework, see Stowell (1989).

2. VP-INTERNAL SUBJECTS

The most important and intuitively simple extension of small clause theory beyond the constructions in (1)–(8) is the so-called VP-internal subject analysis of "normal" sentences, proposed by Koopman and Sportiche (1991) and others. The classical small clause theory treated verbs and adjectives alike in terms of how they assign θ-roles to their subjects, as noted above with respect to (5) and (6). The implication is that, at least in some cases, the θ-position for the subject of a verb lies within the verb phrase

itself. Koopman and Sportiche's theory extends the raising analysis of sentences containing copular auxiliary verbs or modals (with VP small clauses) to all instances of VP, regardless of the choice of auxiliary verb or inflectional suffix. On this view, verbs always assign their so-called external θ-role in the same way, namely to the subject of a VP small clause. When VP occurs in a "functional" category such as IP, TP, AgrP, or whatever, the subject may raise out of the VP small clause into the subject position of the functional category, leaving behind traces in the subject positions of the VP and each functional category that it passes through, as in (9).

(9) $[_{\text{AgrP}}$ *John*$_i$ [AGR $[_{\text{TP}}$ t_i [PAST $[_{\text{VP}}$ t_i [*go home*]]]]]].

Given the XP-version of small clause theory, this idea—that all sentences contain VP small clauses at their core—is not only natural, but also logically necessary. Although verb phrase syntax seems to share important similarities with adjective phrase syntax, there is one important asymmetry that should be noted: there are no bare VP adjunct control small clauses parallel to (2c), and there are no bare VP modifiers of noun phrases analogous to the AP modifiers in (8). Though passive participial small clauses occur in both environments (and were treated as special types of VP in Stowell, 1983), Kayne (1989), Belletti (1990), and others have argued forcefully that passive participles are projections of a functional category distinct from VP, so it seems that pure VP control structures do not exist in any form in English. This fact clearly calls for an explanation. One possible approach lies in pursuing the idea that verbs must enter into a selectional relation with a higher verbal, aspectual, or tense category, by virtue of their inherent semantic status as predicates taking temporal arguments.

Koopman and Sportiche (1991) also explore various possible applications of the VP-internal subject hypothesis, including an analysis of surface Verb-Subject-Object (VSO) constituent order in languages such as Irish, whereby VSO order exhibits a VP-internal subject at S-structure. (On this view, VSO order involves less NP movement than SVO order, rather than more V-movement.) In a similar vein, the treatment of VOS order with (surface) postverbal subjects in certain null subject languages (such as Italian) has sometimes been analyzed in terms of an S-structure VP-internal subject (see Giorgi and Longobardi, 1991). Likewise Fukui (1986) has suggested that SOV languages such as Japanese lack functional category projections and therefore exhibit VP-internal subjects at S-structure.

Thus, this extension of small clause theory within the framework of the VP-internal subject hypothesis has provided a theoretical means of expressing typological variation in derivational terms, rather than in terms of variation in phrase structure rules or X-bar ordering parameters. In other

words, if SVO, VSO, and SOV constituent order all make use of the same structural template, with the differences between them arising solely from how much verb movement or NP movement has applied in the syntax, then there is no need to assume that there are any substantive differences among languages in terms of how argument structure is expressed syntactically. This represents an important further contribution toward the goal of reconciling syntactic structure with logical form: if there is no cross-linguistic variation in the syntactic expression of argument structure, then there is no need for language-particular rules mapping between syntactic structure and LF. Regardless of whether these particular analyses of surface VSO, VOS, and SOV order in terms of VP-internal subjects at S-structure withstand the test of time, the basic insight of the VP-internal subject hypothesis as applied to typological variation in constituent order will probably survive in some form for this reason.

3. RESULTATIVES, CAUSATIVES, AND VP-SHELLS

Among the other constructions that small clause theory has been extended to are resultative constructions like (10).

(10) *John hammered* [$_{AP}$ *the nail flat*].

This analysis of resultatives, considered in Stowell (1983), is problematic insofar as the higher thematic verb seems to assign a θ-role to the putative small clause subject. In this respect, resultatives seem more like control structures, along the lines of (11).

(11) *John hammered the nail$_i$* [$_{AP}$ PRO$_i$ *flat*].

On the other hand, conventional control verbs never select small clause control complements, as noted above and exemplified in (12).

(12) a.**John tried* [$_{AP}$ PRO$_i$ *nice*]. ('John tried to be nice.')
b.**John expects* [$_{AP}$ PRO$_i$ *happy*]. ('John expects to be happy.')

In Stowell (1983), the exclusion of (12) was captured in terms of Chomsky's (1981) PRO theorem, by assuming that the control verb governs the subject of the small clause. In terms of Chomsky's (1986) theory of barriers, this follows because the small clause AP, being θ-marked by the matrix verb, is not a barrier to government.

Another complicating factor is introduced by the fact that not all resultatives exhibit a θ-marking relation between the resultative's "subject" and the higher verb, as Burzio (1986) observed about examples like (13).

(13) a. *John walked his shoes bare.*
b. *Bill drank himself senseless.*

For these resultatives, a control analysis seems inappropriate, since neither postverbal NP (or DP) in (13) seems to be a true thematic object of the verb; the semantics of these constructions seems purely causative, along the lines of 'Bill drank, causing himself to be senseless' or 'Bill drank until he became senseless' for (13b).

The analytical problem posed by resultatives thus hinges primarily on two factors: first, how we interpret the difference between them and the excluded control structures in (12); and second, how we accommodate both types of resultatives—(10/11) vs. (13). If we conclude from (12) that small clause control complements are excluded in general, then we presumably need an ECM-style analysis of resultatives as in (10), and we apparently need to allow for θ-marking across a small clause boundary of the sort explored by Pesetsky (1992, 1995).

On the other hand, if we assume resultatives are small clause control complements, then we need to construct a more refined account of (12), so that some aspect of the argument structure of conventional control predicates precludes their selecting small clauses as arguments. This strikes me as the most promising option to explore, insofar as most control complements are interpreted as if they contain a kind of modal or future tense element, which can plausibly be assumed to be absent from bare AP or VP small clauses. It is natural to imagine that the inclusion of this modal or temporal element, which is presumably located somewhere in the Infl system of infinitival or subjunctive control complements, is a target of selection by (traditional) control verbs, so that the examples in (12) would be excluded simply because the required modal/temporal element is missing, rather than because the control verb governs the PRO subject of the small clause.

As for (11), one might argue that the pure tenseless stative predication structure is an admissible argument of the higher resultative verb. In the spirit of Jackendoff's (1972) theory of θ-roles, developed in greater detail in Jackendoff (1990), one may assume an analysis where the resultative predicate is an adjectival analog of a prepositional dative GOAL argument, so that (11) would be rendered as 'John hammered the nail to a state of being flat.' The crucial question here, from the perspective of the choice between an ECM-style analysis and a control analysis, is whether the overt DP *the nail* is a complement of the verb *hammer,* binding a PRO subject within the AP, or whether it is the syntactic subject of the AP, with a θ-position inside it. In effect, this reduces the question of the status of resultative predicates to the question of the proper analysis of motion

predicates in general, as well as related constructions with a quasi-causative semantics with verbs like *put,* where a PP predicate takes the place of the AP predicate, as in (14).

(14) a. *John sent the package to Canada.*
b. *John put the book on the table.*

In these examples too, the postverbal DP seems to have a dual status as object of the verb and subject of the prepositional directional predicate. It is possible that Larson's (1988) theory of VP shells provides the basis for the resolution of this problem; Larson's idea is that there is a kind of small clause resident in the verb phrases of these constructions, containing the postverbal DP, but that the small clause in question is a VP headed by a trace of the verb rather than by the propositional predicate. I suspect that this is the most promising means of cutting the Gordian knot of the conflict between (11) and (13), since it allows the verb to interact thematically with its arguments in more than one way, but I will not pursue a solution in detail here.

4. POSSESSIVE SMALL CLAUSES

Among the other extensions of classical small clause theory is Kayne's (1984) analysis of dative double-object constructions, according to which the first "object" is actually the subject of an NP small clause, as in (15).

(15) *John gave* $[_{NP}$ *Bill - a book*].

Kayne's idea is that there are (at least) two basic types of small clause structures, one involving the traditional predication relation, and another associated with the semantics of possession. This analysis is quite natural within the terms of Kayne's (1991, 1993) theory of *have* and *be,* where *have* is analyzed as a conflation of *be* and an incorporated preposition originating within the subject of the (small clause) complement of *be,* as in (16). (Recall that *be* is standardly treated as a raising predicate taking a small clause complement; Stowell, 1978, 1981).

(16) a. *John has a book.*
b. [*e*] *be* [[P+*John*] *a book*].
c. [*e*] [*be*+P_i [[t_i+*John*] *a book*].
d. [t_i+*John*]$_j$ [*be* +P_i [t_j *a book*].

(Although I have the trace of the incorporated P raise with the small clause subject to the matrix subject position in (16d), it might also remain in situ,

with just the simple NP (or DP) *John* undergoing raising.) Kayne draws a further analogy between this null P and overt dative prepositions or Case-affixes that appear in some languages on possessors in copular sentences, as in (17).

(17) *To-John is a book.* ('John has a book.')

In such languages, there is no *have/be* alternation; in Kayne's terms, this follows because the preposition remains within the (oblique) possessor subject instead of incorporating into *be*. On this view, possessive small clauses of the sort that occur in dative double object constructions such as (15) are simply ECM-style variants of the raising structures in (16); the subject of the nominal small clause in (15) thus contains a null preposition (which may also be assumed to have incorporated into the matrix verb *give*). In fact, such a theory does not even require a fundamental distinction between predicative small clauses and possessive small clauses, since the semantics of possession arises from the null preposition or oblique Case-marker rather than from the gross structure of the small clause itself. Kayne also draws on this analysis to provide an insightful account of *have/be* alternations in the case of perfective auxiliaries in Romance languages, providing a sophisticated new twist on the VP-internal subject hypothesis discussed above.

5. PREDICATION

It should be clear from the preceding discussion that small clause theory has come to play a central role in theoretical accounts of a wide range of important analytical problems in syntactic theory, of which I have provided only a representative sample. It is therefore worth returning to the original empirical question of whether small clauses exist. The original motivation for small clause theory lay in the attempt to assimilate the structure of the canonical small clause constructions to the syntax of clauses in general, but in the end something like the opposite has happened, as the syntax of virtually all sentence-types is now standardly analyzed in terms of layers of small clause–like structures. Before closing, I would like to return to the question of whether the small clause structure really provides an appropriate syntactic analysis for the predication relation, and whether such a structure is sufficient in itself for the analysis of canonical small clauses. In this context, I will briefly examine Williams's (1980, 1983) theory of a non-local predication relation.

Williams's rule of Predication is a general rule of semantic interpretation involving the attribution of a property to an NP; a given NP may be linked to several different predicates by this general rule, provided that it c-commands each of the predicates in question. In (18), each NP and its associated predicate phrase is enclosed in square brackets.

(18) a. [*The man*] [*visited Mary*].
b. [*The man*]$_i$ [*wants* [PRO$_i$ *to visit Mary*]].
c. *John persuaded* [*the man*]$_i$ [PRO$_i$ *to visit Mary*].
d. [*The man*]$_i$ [*seems* [t_i *to have visited Mary*]].
e. *I spoke to* [*the man*]$_i$ [*who*$_i$ *visited Mary*].
f. [*The man*] [*seems* [*sick*]].
g. [*The man*] [*walked home*] [*drunk*].

The basic case of predication is the relation holding between the verb phrase and subject NP of a full sentence, as in (18a), (18b), (18d), (18f), and (18g); but predication is also supposed to hold between a control clause and the controller of PRO in (18b) and (18c), between a raising complement and the binder of the trace in (18d), between a relative clause and the head NP (or head noun) in (18e), between an AP complement of a raising verb and the matrix subject NP (18f), and between an adjunct AP and the subject of the sentence (18g).

Thus, according to Williams's theory, there is no unique structural configuration that constitutes predication. In some cases, such as subject control (18b) and subject raising (18d), the predicate and NP are immediately dominated by different categories (VP and S, in his terms). In other cases, the NP and predicate are immediately dominated by the same category—VP with his account of the ECM-type small clause in (1a) and object control in (18c), and S in the case of predication of the subject of S by VP in a normal sentence or by an adjunct AP in (18g). In the case of the relative clause, the predicate is dominated by the maximal projection of the NP. However, the structural condition on predication can still be uniquely defined in this theory; in each case, the predicate is predicated of the NP that minimally c-commands it.

Despite this, I do not believe that the various instances of "predication" illustrated in (1) and (18) correspond to a coherent and uniform semantic relation, beyond the pretheoretical notion of property attribution. To see this, consider the examples in (19).

(19) a. *I visited John$_i$ yesterday. He$_i$ was tired.*
b. *John$_i$ believes himself$_i$ to be tired.*

In each case, we can say (pretheoretically) that the property of tiredness is predicated of the NP *John*. However, from the perspective of syntactic

theory, we would say that this predication relation is not direct. Rather, tiredness is directly predicated of the pronoun *he* (or its trace) or of the reflexive anaphor *himself* (or its trace); the connection with the NP *John* is established by an independent anaphoric relation holding between the *John* and the pronoun or anaphor, a relation that also exists in (20), where predication does not hold.

(20) a. *I gave John$_i$ a picture of himself$_i$.*
b. *John$_i$'s mother thinks we like him$_i$.*

[Of course, sentence (20) predicates of John the property of being given a picture of himself in a pretheoretical sense, but this could not be treated as predication in the technical sense of the term, unless we say that predication holds between every sentence and every one of its subconstituents.]

Returning to the examples in (18), in most cases the predication relation between the bracketed NP and its putative predicate is just as indirect as it is in (5). With the control examples, there is a VP that is predicated of PRO (which is linked anaphorically with its antecedent); with raising, there is a VP predicated of NP-trace (which is linked with its antecedent); with the relative clause, there is arguably a predication relation between the relative clause nucleus and the relative pronoun (which is bound by the head NP). Furthermore, if we accept the broad outlines of Chomsky's (1993) minimalist theory of Case-checking, then all structurally Case-marked DPs involve movement and chain formation, and therefore an indirect θ-marking relation. Thus, if one accepts the linguistic reality of empty categories such as PRO and NP-trace, and if one accepts the validity of a binding relation between these elements and their antecedents, then there is no need to posit a direct relation of predication between the antecedents of these elements and the predicates in question.

Assuming that syntactic theory is not massively and fortuitously redundant on this matter, it seems to me that one must logically infer one of two conclusions: either predication is strictly local, as in the small clause theory, and apparent "long distance predication" always involves local predication with an empty category of some sort, combined with an anaphoric binding relation; or else predication is potentially unbounded and there is no independent anaphoric relation between PRO, NP-trace, or a relative pronoun, and its antecedent. Williams (1983) comes close to endorsing the latter view, insofar as he suggests that the control relation between PRO and its antecedent arises from predication, but it is unlikely that this approach could be extended to NP-trace, since a binding relation must exist within chains, independent of predication theory.

Another problem concerns the relation between predication and θ-role assignment. In the case where a VP is headed by a verb that assigns an external θ-role, predication serves as a vehicle for the assignment of this

θ-role. In fact, predication is the only means of assigning this θ-role, as a result of a condition that Williams (1980, 1983) imposes, to the effect that the external θ-role must be assigned to an NP that is not dominated by the maximal projection of the predicate's head. But in constructions involving NP-movement with passive, raising, and unaccusative verbs, the semantic contribution of the predication relation is more restricted and arguably bears no relation to θ-role theory at all, since the position occupied by the subject of the predicate is not its θ-position. The only way to unify the two types of predication in a nonvacuous fashion would be to abandon the assumption that passive and unaccusative constructions involve a VP-internal θ-position, and this would require abandoning a structural account of the object-like properties of these arguments, including the fact that the NPs in question can often surface in the object position. I think that the logical ultimate conclusion of such a line of reasoning would be an abandonment of any semantically based account of syntactic phrase structure, together with the movement-based explanations of typological variation in constituent order discussed above.

For these reasons, I believe that the fundamental assumptions of the XP-version of small clause theory should be maintained: small clauses are indeed clausal, and all θ-marking, including the assignment of subject θ-roles, is strictly local. However, this does not necessarily imply that there are no functional categories dominating small clause structures. Actually, if all determiners function as heads of DPs, and adjective phrases are dominated by a maximal projection of an Intensifier category (Int P), as Abney (1987) argues, then nominal and adjectival small clauses presumably involve DP and IntP at least. Even if we restrict our attention to sentence-level functional categories, it is possible that small clauses are dominated by categories in addition to the predicate XP in some cases, even if the original θ-position for the subject lies within that XP. In other words, the IP-version of small clause theory might turn out to be right, for reasons that have nothing to do with θ-role assignment to the subject.

For instance, if structural Case can only be licensed within an Agr S or Agr O phrase, then the subject of any ECM-style small clause would have to raise to the Spec position of an Agr O P. Alternatively, it might be that selectional properties of the matrix verb require a sentence-level functional category to dominate the small clause in some cases. Suppose, for instance, that a small clause VP or AP simply denotes an eventive or stative situation. It is possible to suppose that such an expression could serve as the object of a verb of perception or causation, since an act of perception or causation involves a direct relation with an event or situation, as Safir (1993) and Higginbotham (1983), among others, have observed. But for a predicate involving a mental attitude or speech act, the relation is mediated by a

propositional relation of truth or existence. Thus, when one considers John clever, one does not enter into a direct relation with John's state of cleverness; rather, one enters into a relation of belief in (the truth of) the proposition that cleverness holds of John. For this reason, it makes sense that small clause complements of propositional attitude verbs should have at least one functional category dominating the small clause core, so that the syntax can provide a distinction between a category denoting a situation and a category denoting (the truth of) the proposition that this situation obtains.

Such a conclusion is motivated empirically by Williams's (1983, 1994) observation that the small clause predicate (excluding the small clause subject) behaves like a maximal projection for the purposes of A′-movement in examples like (21).

(21) [*How clever*] *do you consider John?*

This fact was never adequately explained in terms of the account of canonical small clauses in Stowell (1981, 1983), as Williams rightly observed. The fact that the small clause subject is left behind in (21) suggests that it has raised into the Spec position of one of the functional categories dominating the small clause, possibly to an Agr-P projection for Case-theoretic reasons, or perhaps to the Spec of a proposition-denoting category for some reason yet to be discovered. However, as long as this movement is not necessary for the adjectival predication itself, the theoretical core of the XP-version of small clause theory is not placed in peril by such a conclusion.

REFERENCES

Abney, S. (1987). *The English noun phrase in its sentential aspect.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Belletti, A. (1990). *Generalized verb movement.* Rosenberg and Sellier, Turin.

Bowers, J. (1993). The syntax of predication. *Linguistic Inquiry* 24, 591–656.

Bresnan, J. (1982). Control and complementation. *Linguistic Inquiry* 13, 343–434.

Burzio, L. (1986). *Italian syntax: A government-binding approach.* Reidel, Dordrecht.

Chomsky, N. (1970). Remarks on nominalization, in R. Jacobs and P. Rosenbaum (eds.), *Readings in English Transformational Grammar,* 184–221. Ginn, Waltham, Mass.

Chomsky, N. (1980). On binding. *Linguistic Inquiry* 11, 1–46.

Chomsky, N. (1981). *Lectures on government and binding.* Foris, Dordrecht.

Chomsky, N. (1986). *Barriers.* MIT Press, Cambridge, Mass.

Chomsky, N. (1993). A minimalist framework for linguistic theory, in S. Keyser and K. Hale (eds.), *The View from Building 20,* 1–52. MIT Press, Cambridge, Mass.

Fukui, N. (1986). *A theory of category projection and its applications.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Giorgi, A., and G. Longobardi. (1991). *The syntax of noun phrases.* Cambridge University Press, Cambridge.
Higginbotham, J. (1983). The logic of perceptual reports: An extensional alternative to situation semantics. *The Journal of Philosophy,* 80, 100–127.
Jackendoff, R. (1972). *Semantic interpretation in generative grammar.* MIT Press, Cambridge, Mass.
Jackendoff, R. (1990). *Semantic Structures.* MIT Press, Cambridge, Mass.
Kayne, R. (1984). *Connectedness and binary branching.* Foris, Dordrecht.
Kayne, R. (1989). Facets of Romance past participle agreement, in P. Benincà (ed.), *Dialect variation and the theory of grammar,* 85–103. Foris, Dordrecht.
Kayne, R. (1991). *Have and be.* Unpublished manuscript, City University of New York, Graduate Center.
Kayne, R. (1993). Toward a modular theory of auxiliary selection. *Studia linguistica.* 47.1, 3–31.
Kitagawa, Y. (1985). Small But Clausal, in *Chicago Linguistic Society* 21, 210–220.
Koopman, H., and D. Sportiche. (1991). The position of subjects. *Lingua,* 85, 211–258.
Laka, I. (1990). *Negation in syntax: On the nature of functional categories and projections.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Larson. (1988). On the double object construction. *Linguistic Inquiry* 19, 335–391.
Manzini, R. (1984). On control and control theory. *Linguistic Inquiry* 14, 421–446.
Pesetsky, D. (1992). *Cascade syntax.* Paper presented at North East Linguistic Society, University of Ottawa.
Pesetsky, D. (1995). Zero syntax. Experiencers and cascades. MIT Press, Cambridge, Mass.
Pollock, J.-Y. (1989). Verb movement. Universal Grammar, and the structure of IP, *Linguistic Inquiry* 20, 365–424.
Raposo, E., and J. Uriagereka. (1990). Long-distance case assignment. *Linguistic Inquiry* 21, 505–537.
Safir, K. (1993). Perception, Selection, and Structural Economy. *Natural Language Semantics* 2, 47–70.
Stowell, T. (1978). What was there before there was *there.* In *Chicago Linguistic Society* 14, 458–471.
Stowell, T. (1981). *Origins of phrase structure.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge, Mass.
Stowell, T. (1983). Subjects across categories. *The Linguistic Review* 2, 285–312.
Stowell, T. (1989). Subjects, specifiers, and X-bar theory, in R. Baltin and A. Kroch (eds.), *Alternative conceptions of phrase structure,* 232–262. University of Chicago Press, Chicago.
Stowell T. (1991). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters in comparative grammar,* 182–218. MIT Press, Cambridge, Mass.
Williams, E. (1980). Predication. *Linguistic Inquiry* 11, 208–238.
Williams, E. (1983). Against Small Clauses. *Linguistic Inquiry* 14, 287–308.
Williams, E. (1994). *Thematic structure in syntax.* MIT Press, Cambridge, Mass.

FRENCH PREDICATE CLITICS AND CLAUSE STRUCTURE

DOMINIQUE SPORTICHE

Department of Linguistics
University of California
Los Angeles, California

1. INTRODUCTION

Although in general we have a reasonably good idea of constituency, we do not have as good an idea of the internal organization of constituents. A substantial amount of recent research has led to the conclusion that in many cases, a much more elaborate internal structure than previously assumed is necessary. Consider for example the internal structure of the NP *the destruction of the boat.* It would have been analyzed as in (1) until the mid 1980s but could reasonably be attributed the structure in (2) today (incorporating a combination of various ideas by Szabolcsi, 1987; Abney, 1987; Ritter, 1991; Valois, 1991; Koopman, 1993, and simplifying somewhat).

(1) $[_{NP}\ [_{Det}\ \textit{the}]\ [_{N'}\ \textit{destruction}\ [_{?}\ \textit{of}\ [_{NP}\ \textit{the}\ [\textit{boat}\ ]]]]]$

(2) $[_{DP}\ [_{D'}\ \textit{the}]\ [_{NumP}\ [_{Num'}\ [_{Num}\ e]\ [_{NP}\ [_{N'}\ [\textit{destruct}]_i + \textit{ion}\ [_{VP}\ e\ [_{V'}\ e_i\ [_{VP}\ [_{DP}\ \textit{the boat}\ [_{V'}\ e_i]]]]]]]]]$

Every substring forming a constituent in (1) also forms a constituent in (2), but their internal organization is quite different. There are several sources of this kind of development. One undoubtedly is an ever greater scrutiny of detailed data simply ignored previously, which has led to the one (inflectional) morpheme/one head widely assumed now as a result of the work on head movement (Koopman, 1984; Travis, 1984; Baker, 1988; Pollock,

Syntax and Semantics, Volume 28
Small Clauses

1990) or the developing consensus in favor of greater cross-categorial uniformity in internal syntactic organization. In this context, what makes syntactic analysis particularly challenging is the fundamental indeterminacy consequential to the existence of silent morphemes (hence, by the one morpheme/one head principle, of silent categories). Arguments (based on paradigmatic regularity) for the existence of silent morphemes (e.g., English present Tense) are as strong as linguistic arguments can get. Once the existence of silent morphemes is accepted, the general question is raised of their content and distribution. Absence of overt morphemes is no guarantee of their structural absence. To illustrate, consider the French small clause in (3).

(3) *Jean considère* [$_{W}$ *Pierre malade*]
John considers Peter sick

We face the question of whether W is indeed a constituent—Stowell's (1981) proposal. Granting that it is, we face the question of whether *Pierre* is generated within the AP projection of the adjective and whether it stays there. We also face the question of whether the head of W is A or not; and if not, the question of the nature of W.

In this chapter I primarily examine some syntactic properties of small clauses. At the most general level, I do this in the context of some general and restrictive assumptions about the nature of linguistic variation further discussed in Sportiche (1993), a sort of methodological null hypothesis to which I try to adhere as strictly as possible.

At a more concrete level, I do so in French, on the basis of the properties of the Predicate clitic *le*. This leads to non-standard conclusions about the syntactic analysis of clauses and of VP small clauses in particular. The general conclusion is that there are no small clauses, only (possibly restructured) clauses. Given the ubiquitous nature of small clauses due to the introduction of VP shells (Larson, 1988), the furthest consequences of this conclusion would entail the following.

(i) A one predicate/one clause principle: each (elementary) predicate projects a full clause, containing at least the projection of this predicate with possibly its extension (modifiers and adjuncts), an Agreement projection, and a Complementizer projection.
(ii) Lexical decomposition: complex predicates are made up of as many elementary subpredicates as they take arguments. Each subpredicate is syntactically represented by its own projection with its argument as specifier and is part of a clausal structure as in (i).

2. INITIAL CONSIDERATIONS ON THE STRUCTURE OF SMALL CLAUSES

2.1. Some Background on Small Clauses and VP Small Clauses

The dominant current view on small clauses is in its essentials shaped by the work of Stowell (1981). Stowell suggested then that a predicate of category X allows the projection of its subject as specifier of the phrasal projection XP of X. At the same time, Stowell suggested that these possibilities were illustrated by the "small clause" constructions in (4).

(4) a. *Louis considère* [$_{AP}$ *Marie* [$_{A}$ *drôle*]].
Louis considers Marie funny
b. *Marie voulait* [$_{PP}$ *Louis* [$_{P'}$ *dans son bureau*]].
Marie wanted Louis in her office
c. *Louis voyait* [$_{VP}$ *Marie* [$_{V'}$ *jouer de la cornemuse*]].
Louis saw Marie play the bagpipe

Putting aside for the moment the question of the exact constituent structure of the small clause, the proposal that the subject of the predicate and this predicate form a syntactic constituent met with some skepticism primarily, although not exclusively,[1] on the basis of the contention that rules affecting constituents (e.g., movement rules) cannot affect small clauses. Whether this contention is true is open to question. One of the most robust tests of constituency, constituent coordination,[2] does treat small clauses as constituents [(i) *Louis considère* ***Marie drôle et Pierre stupide,*** 'Louis considers Mary funny and Bill stupid'], but it also treats as constituents strings that were believed not to be [(ii) *Louis a donné* ***un livre à Marie hier et une peinture à Barbara le jour d'avant,*** 'Louis gave a book to Mary yesterday and a painting to Barbara the day before']. Two opposite conclusions are possible from these data: either constituent coordination is not a good test for constituency (and then some alternative theory must be put forth to explain how conjunction works), or the strings in bold do form constituents (and a theory of constituent structure must be developed to accommodate them). Consistent with the second conclusion are Stowell's theory of small clauses [for the facts in (i) above] and Larson's (1988) theory of VP shells and adverbial modifications which motivates the right kind of constituent structure for the facts in (ii).

As for the failure of small clauses to undergo movement rules (preposing, etc.) as an argument against small clause analyses, it is not convincing: these tests—unlike, say, constituent coordination, are not necessary and

sufficient conditions for constituency, but only sufficient conditions: not all constituents, say, prepose, an observation that surely needs to be explained but makes inferences of this kind suspicious. Thus VPs prepose in English (*eaten his soup, John has*), in Italian (*trovata, non l'ho ancora,* 'found her, I have not yet'), but not in French (**mangé sa soupe, Jean a*) despite the good grounds for taking VPs to be constituents in French as well. Without a comprehensive theory of such failings, the validity of these inferences of non-constituency is in doubt.

Koopman and Sportiche's (1991) VP-internal subject hypothesis contributes to these questions their conclusion that a predicate of category X does not merely ALLOW the projection of its subject (i.e., its "external argument") as specifier of the phrasal projection XP of X, it REQUIRES it. In other words, explicitly on analogy with small clauses, they in effect advocate a PREDICATE-INTERNAL SUBJECT HYPOTHESIS (PISH) on the basis of a variety of distributional arguments. In most cases it is impossible to show directly that some particular structural analyses are impossible: instead, they are ruled out by Occam's razor, i.e., because they are unnecessary. In the present situation, the reasoning goes as follows. The VP-internal hypothesis shows that subjects of (non-"raising") clauses can sometimes be shown to raise from some VP-internal position. Hence, subjects always raise from VP-internal position. But the relation of the subject of a clause to its VP was the major case—apart from the controversial small clause case—in which a predicate X did not project all of its arguments within XP. Lack of support for such instances leads to the PISH.

The PISH puts the problem of small clauses in a different light: small clauses become the norm; a small clause in Stowell's sense is the canonical syntactic expression of the thematic relations holding between a predicate and its arguments. It should be noted, however, that, although Koopman and Sportiche's work provides a number of reasons to believe that the subject of a clause is generated lower than where it appears, it is extremely difficult to provide a direct empirical argument for the proposition that the lowest such position is within the projection of the head (in general a verb) taking it as argument. It is thus possible that all the arguments they present are correct, but the PISH is not strictly speaking correct. The only consideration directly in favor of the PISH is the following: if some arguments of a predicate X is projected within XP and immediately dominated by a projection of X, e.g., objects, then all of them are. I will, having noted its empirical vulnerability, continue adopting the PISH for the time being, despite the conclusions reached in section 5 that cast doubt on this last argument.

2.2. The Internal Structure of Small Clauses

2.2.1. Subjects of Small Clauses Move Out

There are a number of reasons to believe that the structures of the strings given in (4) represent a substantial oversimplification. First, there are reasons to believe that the subject of small clauses always moves out. The possibility of movement is based on the distribution of stranded quantifiers. One of the arguments in favor of the PISH is developed at length in Sportiche (1988):[3] the distribution of rightward-stranded quantifiers. The idea is simply that the distribution of these stranded quantifiers reveals that of adjacent traces linked to their antecedents. A stranded quantifier like *tous,* Sportiche (1988) claims, appears (preceded and) followed by the trace of the DP denoting its restriction. Thus the structure of *les enfants ont tous mangé,* 'The children have all eaten' must be *les enfants ont* [*tous t mangé*], 'the children have [all t eaten].'

(5) a. *Louis considère* [$_{DP*}$ *ces immeubles*] *tous monumentaux.*
Louis considers these buildings all monumental(PL)
b. *Marie voulait ces enfants tous dans son bureau.*
Marie wanted these children all in her office
c. *Louis voyait les musiciens tous jouer de la cornemuse.*
Louis saw the musicians all play the bagpipe

The sentences in (5) show the presence of a trace of the subject of the small clause following the Q (to the left of =) lower than the position in which the subject actually appears. This suggests at the very least that all these structures can, and thus possibly must, be movement structures, as in (6).

(6) DP* ..... [$_{XP}$ *t** ... Predicate ...]

Obligatory overt movement in the case of adjectival small clauses is corroborated by two observations. The first is the agreement on the adjective in French.[4] A uniform theory of agreement leads to postulating the presence of an AGR_a (for agreement-adjective) Phrase in which the agreement is established or checked, as in (7).

(7) [$_{AGR_aP}$ DP* AGR_a [$_{AP}$ *t** A...]]

Since agreement is obligatory [e.g., in (5a)], this suggests, for French, that DP* has overtly moved at least to [spec, AGR_a] (and possibly that A has raised to AGR). Movement is corroborated in English by a second observation discussed in Huang (1993) based on the contrast between

wh-movement and VP-preposing with respect to reconstruction illustrated in (8) (this argument is discussed in Sportiche, 1990).

(8) a. *Which paintings of each other do the girls say the boys like?*
b. [*Listen to each other*], *the girls say the boys do.*

In (8a), the antecedent of the reciprocal can either be the main subject or the embedded subject. In other words, the binding theory can be satisfied either as if the preposed phrase were still in its base position or as if it were higher than the embedded subject c-commanded by the main subject. In (8b), only one reading is possible, namely with the reciprocal taking the embedded subject as antecedent. Why is there a contrast? If VP-preposing carries the trace of its subject along, Huang reasons, we can derive this observation. Then the preposed VP is really [DP* listen to each other]. DP* counting as a subject for the binding theory, the reciprocal can take only it as antecedent, explaining the lack of ambiguity of (8b). The contrast in (8) and its analysis provides an argument for the VP-internal subject hypothesis, hence for the predicate-internal subject hypothesis, i.e., for Stowell's theory of small clauses. Turn now to AP small clauses, which cannot be preposed by movement, as noted previously; see (9).

(9) a. *You consider* [*John very sick*].
b. *How sick do you consider John?*
c.*[*John how sick*] *do you consider?*

However, consider reciprocal binding under *wh*-movement of APs, as in (10).

(10) a. *John considers* [*them proud of each other*].
b. *How proud of each other does John consider them?*
c.**They consider* [*John proud of each other*]
d.**How proud of each other do they consider John?*
e.**They say I am considered proud of each other*
f. **How proud of each other do they say I am considered?*

In order to account for the ungrammaticality of (10d, f), we are led to assume that the constituent preposed by *wh*-movement also contains the subject of the AP small clause, and we are thus led to the assumption that *John,* the subject of the AP small clause, has raised out of it (position of *t* within W irrelevant), as in (11).

(11) a. *They consider the children/*John* $[_W$ *t* [*proud of each other*]].
b. $[_W$ *t* [*How proud of each other*]] *do they consider the children/ *John?*

2.2.2. Where Do Subject of Small Clauses Move To?

Since the subject DP* of (some) small clauses raises out of the small clause, we may ask where DP* of (6) raised to, say in the case of adjectival small clauses such as (5a).

Consider the case of French: DP* gets accusative, so that [spec, AGR_o] of the main clause would appear to be a reasonable candidate. But this is implausible because when this happens in the presence of a past participle, participle agreement should be able to be triggered.[5] However, DP* remains post-participial—*Louis a considéré ces immeubles monumentaux*—and participle agreement is impossible with post-verbal accusatives. Although DP* could have raised to [spec, AGR_o] and the participle to AGR_o and then beyond it, recall, as illustrated by English *Do/*does the children know this?*, that once established, the agreement relation is preserved under further movement of the agreeing head (see Aoun, Ben Mamoun, and Sportiche 1994). This seems to rule this alternative out. Now as things stand, the only plausible alternative is [spec, AGR_aP]. We need an intermediate A-position (since ultimate raising to [spec, AGR_o], required for Accusative Case checking, is to an A-position). The facts in (12) suggest that even more structure might be necessary (cf. Cardinaletti and Guasti (this volume)).

(12) a. *J'ai considéré ces enfants tous très fiers de toi*
I considered these children all very proud of you
b.**J'ai considéré ces enfants très tous fiers de toi*
I considered these children very all proud of you
c.**All how proud of you do you consider the children?*
d.**How all proud of you do you consider the children?*

If the degree modifier is outside AP much as adverbs are outside VP—see Corver (1990)—the contrast between (12a) and (12b) suggest that additional positions are necessary: presumably *t**, trace of the DP* *the children,* is in [spec, AP]. The Q *all* can only immediately precede the degree modifier and is stranded: there is another *t** adjacent to it. For the same reason as before—lack of participial agreement—DP* cannot be in [spec, AGR_o] associated with the superordinate verb, as in (13).[6]

(13) [DP* ... *all t** [... *very* ... [$_{AP}$ *t** ... adjective ..]]]

Because the structural relationship between the external argument of a predicate and this predicate should be identical across categories, all the examples in (14) raise the same question (note the lack of participle agreement throughout).

(14) a. (*avoir considéré*) [*les enfants* [*tous* [*très t malades*]]]
have considered the children all very sick

b. (*avoir vu*) [*les enfants* [*tous* [*rapidement lancer leurs ballons*]]]
have seen the children all quickly throw their balloons
c. (*avoir voulu*) [*les enfants* [*tous* [*exactement* [*au milieu de la pièce*]]]
have wanted the children all right in-the middle of the room

In section 3, I develop a proposal concerning the syntax of the French predicate clitic *le* and argue on that basis that projections of predicates are dominated by a CP projection. Coupled with the conclusion that they are dominated by an AGR projection, it means that small clauses are clauses.[7]

3. PREDICATE CLITIC *LE*

3.1. The Problem

I now turn to the syntax of the predicate clitic *le*. We start from a number of observations made in Kayne (1975). The clitic *le* appears corresponding to predicates in sentences such as (15).

(15) a. *Louis est fou/ Louis l'est//Louis reste fou/ Louis le reste*
Louis is crazy/Louis it-is//Louis remains crazy/Louis it- remains
b. *Louis semble fou/? Louis le semble//Louis devient fou/ Louis le devient*
Louis seems crazy/Louis it- seems// Louis becomes crazy/ Louis it-becomes

This *le* can be found corresponding to syntactically diverse predicates, as in (16).

(16) *Louis l'a été, en colère/à plaindre/professeur/fidèle à ses amis/ adoré de ses enfants/ trahi par ses amis*
Louis it-has been in a rage/ to pity/ professor/ faithful to his friends adored by his children/betrayed by his friends

The clitic seems to be able to stand for a PP, an infinitival CP, an NP, an AP or an Adjectival participial Phrase, or a Verbal participial phrase.[8] As we will see, it also exhibits a number of puzzling properties: it may only appear in certain kinds of constructions, it cannot cooccur with certain other clitics, it shows selective sensitivity to the specified subject constraint (its placement is sometimes blocked by subjects, sometimes not). The rest of the chapter is devoted to trying to explain this behavior.

3.2. Adjectives with *be*

I begin by looking at constructions in which an Adjective (A) is in the complement structure of the verb *être* 'be' or related verbs such as *rester* 'remain' (= keep on being) or *devenir* 'become' (= come to be) which behave identically. I suppose that constructions of the form [*DP be/become/ remain Adj*] involve raising of the DP subject of the adjective, in agreement with Stowell's (1981) proposal and the PISH. In the case of adjectives, *le* must be analyzed as pronominalizing a constituent larger than an Adjective. This conclusion is suggested by the paradigm in (17).

(17) a.**Louis l'est/le devient/ le reste très, fidèle*
Louis is it/becomes it/remains it very, faithful
b. *Louis l'est/le devient/ le reste, très fidèle.*
Louis is it/becomes it/remains it, very faithful
c. *Louis est si fiable qu'il viendra/ *Louis l'est si qu'il viendra*
Louis is so trustworthy that he will come

(17a) simply suggests that the clitic must pronominalize a category containing at least the Degree Phrase, especially given the well-formedness of such discourse as: *Est-tu fatigué? Très,* showing that the degree does not have to be a clitic itself requiring a host to its right. The same point is made by the deviance of (17c): it is impossible to leave the Degree behind, even if it is followed by some material. (17b) shows that the string "pronominalized" by *le* can indeed be understood to include a degree. The examples in (18) are more puzzling.

(18) a. *Louis est aussi fidèle que Marie était infidèle.*
Louis was as faithful as Marie was unfaithful
b. *Louis est aussi fidèle que Marie l'était.*
Louis was as faithful as Marie was (it)

The puzzle is raised by the well-formed (18a), an example of the subcomparative construction, a degree comparison exemplified also by (18b), but one in which the compared adjective has been pronominalized. This construction of degree comparison is parallel in every respect to the quantity comparison found in such sentences as *J'ai mangé autant de pommes que tu as acheté de poires* 'I ate as many apples as you bought pears' and is most plausibly analyzed as an instance of *wh*-movement of a covert equivalent of *combien* 'how many/how much,' as it obeys all the diagnostic properties of *wh*-movement, e.g., ability to trigger Stylistic Inversion (Kayne and Pollock, 1978), apparent unboundedness, and sensitivity to islands (cf. Chomsky, 1977); see (19).

(19) *Louis est aussi fidèle*
Louis is as faithful

a. *que tu dis que Marie l'était/Marie était infidèle.*
as you say that Marie was/ Marie was unfaithful
b. *que tu dis que l'étais Marie/?qu'était infidèle Marie.*
(stylistic inversion)
as you say that was Marie/ that was unfaithful Marie
c. *que tu dis que Pierre pense que Marie l'était/était infidèle.*
(unboundedness)
as you say that Pierre thinks that Marie was/ was unfaithful
d.**que tu sais quand Marie l'était/était infidèle* (*wh*-island)
as you say when Marie was/ was unfaithful
e.**que tu connais l'endroit où Marie l'était/était infidèle*
(complex noun phrase)
as you know the place where Marie was/ was unfaithful

In (18a), then, there has to be a covert *Combien* operator (glossed as OP) overtly (because of Stylistic Inversion) moving to [spec, CP] of the comparative clause, as in (20).

(20) *Louis est aussi fidèle* [OP_i *que* [*Marie était* [t_i *infidèle*]]

The difficulty is apparent: if *le* is a pronoun that pronominalizes a category including the AP and the DegreeP, there is no source for the needed quantity operator: (18b) should be deviant the same way **Whose did you see it* (*it=picture*) or **l'homme dont je le connais* (*=l'homme dont je connais le frère*, 'the man whose brother I know' are, in which the original trace of the *wh*-phrase ought to be included in the pronominalized constituent. I conclude that *le* does not pronominalize an AP (or more precisely a DegreeP containing an AP).

The idea I will pursue is that (18b) is analogous to its English translation. The English equivalent, an instance of the Comparative construction, must be analyzed as involving *wh*-movement for the same reasons as Subcomparative (cf. Chomsky, 1977).[9] The analysis assumed that there was one involving *wh*-movement of [*how faithful*] followed by deletion in Comp. Updating it in current terms without deletion operations, we are led to assume that the adjective starts as silent, hence as a *pro*, hence as an AP complement of a silent equivalent of *how* (realized in some dialects as *what*), heading or in the specifier of a DegP.

(21) *Louis was as faithful as* [$_{CP}$ [$_{DegP}$ (*what*) [$_{AP}$ e]]$_i$ [$_{IP}$ *Marie was* t_i]]

The only difference between English and French, I would contend, is that French must identify these silent elements by clitics. This can be done by adopting the proposal made in Sportiche (1992) concerning the syntax of pronominal clitics. There, I proposed that a pronominal clitic was the head,

with some designated property [+P], of a projection part of the inflectional system of a clause. The element XP* with property [+P] that the clitic pronominalizes must move by LF to the specifier XP^ of this projection in order to have its [+P] property properly licensed, as in (22).

(22) $[_{ClP}\ XP\hat{}\ [[_{Cl}\ le_{[+P]}]\ [\ \ldots\ XP^*_{[+P]}\ \ldots]]]$

(I use the notation XP^/XP* to designate respectively the constituent pronominalized by *le* and its base position throughout.) Combining (21) and (22), we get the representation in (23) (with subsequent LF movement when the clitic is present and the adjective absent).[10]

(23) *Louis était aussi fidèle*
que $[_{CP}\ OP_k\ [_{IP}$ *Marie* $[_{ClP}\ [_{Cl}$ *le*$]$ *était* $[_{DegP}\ t_k\ [AP\ e($*infidèle*$)]]]]]]$

The constituent "pronominalized" by the clitic must be in [spec, ClP] at LF. It must contain the trace of the *wh*-operator that has (overtly) moved to [spec, CP]. The presence of the overt clitic element in French vs. its absence in English leads to one difference: the missing AP must be understood as identical to the compared AP in English but not in French: although the interpretation of (23) is most naturally that Louis is as faithful as Marie was faithful, any adjective, rendered pragmatically prominent in some way, can qualify [so (23) could mean, say, that Louis is as faithful as Marie was unfaithful]. This is to be expected, as in effect, the clitic construction is interpreted as a pronominal. In effect, this analysis treats French comparatives and subcomparatives in extremely similar ways.

The necessity to take XP* in the predicate clitic construction to be at least a DegP is corroborated by the paradigm in (24).

(24) a. *Louis l'est, fidèle à ses amis/ friand de gourmandises*
Louis is-it, faithful to his friends/fond of these sweets
b.?*Louis l'est à ses amis, fidèle/ Louis l'est de ce genre de gourmandises, friand*
Louis is it to his friends, faithful/Louis is it of these sweets, fond
c. *Louis leur est fidèle/ Louis en est friand*
Louis to them is faithful/Louis of-it is fond
d.**Louis le leur est/ Louis l'en est*
Louis to them is it/Louis of-it is it

Although (24a) might seem to suggest that the clitic can correspond to the entire AP, (24b) suggests that it may correspond to the bare adjective. This second alternative is disconfirmed by the last two examples. The object of the adjective may cliticize (as dative *leur* or genitive *en*) but only if the predicate has not been cliticized. This is unexpected if *le* could stand for the bare A. If, however, *le* stands for at least A-bar, hence AP (given the general prohibition against affecting intermediate projections, cf. Chomsky, 1986), the ungrammaticality of the last example follows from the clitic having already pronominalized the entire AP. The possibility of (24b) can then be attributed to the PP (*à ses amis* or *de ce genre de gourmandises*) being understood as "extraposed," a conclusion that squares well with its being perceived as a topic or even contrasted. Two related questions remain: first, that of how this PP is ultimately licensed; second, the source of the ungrammaticality of (24d). One might think that (24d) would be ruled out by the following considerations: the source of the clitics *leur* and *en* being the extraposed PPs, they may not be cliticized because extraposed elements generally do not cliticize. But this is insufficient. To see why, turn to the first question, i.e., consider the grammaticality of (24b). How are the objects of the adjective licensed when the AP has been pronominalized? We cannot argue that *le* ambiguously pronominalizes A or A-bar: that would leave us with no explanation for either (17a) or (24d). We must conclude that A SENTENCE CONTAINING THE PREDICATE CLITIC *le* IS WELL-FORMED IF WE ARE IN PRINCIPLE ABLE TO CONSTRUCT AN XP* WITH AN INTERNAL STRUCTURE THAT MEETS ALL THE DEMANDS IMPOSED BY THE VARIOUS OTHER ELEMENTS PRESENT IN THAT SENTENCE. In this respect, (24b) is well-formed because we are able to construct an XP* providing a source for these extraposed PPs. It is possible to have *Il l'est à ses amis* because I can construct an XP*, [*fidèle t*], to "replace" *le* and provide a source for *ses amis*. The ungrammaticality of (24d) is no longer derived: we can reconstruct an XP* containing an adjective with a silent object that would provide a source for the dative or the genitive clitic. The explanation for the ungrammaticality of (24d) must be found elsewhere.

The kind of explanation I would like to give is one that I will invoke several times throughout this chapter: the idea is that the various licensing conditions that have to be met at LF lead to ill-formed representations because the antecedent of a trace must end up lower than this trace at LF. To see how this would come about, consider the kind of representation we would have to construct in order to license a sentence like (24d). Consider *Louis le leur est,* for example. To license the predicate clitic we need to postulate an appropriate $\hat{\text{XP}}$ appearing in [spec, *le*] at LF. To license the dative clitic *leur,* we must make sure that this $\hat{\text{XP}}$ can contain a silent category object of an adjective that will act as source for the dative clitic.

Of course, (22) is meant to apply to all French clitics. This means that there should be a clitic projection associated with the dative clitic as well, in the specifier of which, call it YP^, the phrase licensed by the dative clitic, say YP*, must appear at LF. Now notice the order of the clitics: the predicate clitic precedes the dative clitic (or the genitive clitic). If this order reflects the order of clitic projections, we have conflicting requirements: XP^ must contain a trace of YP* at LF which is bound by a YP^ lower than YP* at LF, as in (25).

(25) $[_{CIP}\ [_{XP\hat{}}\ \ldots\ [_{YP*}\ t]\ \ldots]\ [[_{Cl}\ le]\ [_{CIP}\ YP\hat{}\ [\ [_{Cl}\ leur]\ [\ \ldots\ XP*$

This approach makes the prediction that, were the clitic originating within the predicate higher than the predicate clitic, the result should be well-formed. It turns out that this prediction is correct, and it makes sense of a very odd fact noted in Kayne (1975). He remarks the contrast between (26b) and (26c).[11]

(26) a. *Louis est dévoué à Pierre.*
Louis is devoted to Pierre
b.**Louis le lui est, dévoué, à Pierre/*Louis le lui est fidèle*
Louis it to-him is, devoted, to Peter/ Louis ie to-him is faithful
c.*?Louis me l'est, dévoué/?Louis me l'est, fidèle*
Louis to-me it is, devoted/Louis to-me it is, faithful

First and second person dative clitics, unlike third person, appear higher than the predicate clitic *le*. The resulting configuration is consequently well-formed as the order and thus the c-command relations of YP^ and XP^ are reversed, inducing c-command of YP* by its antecedent.

3.3. Adjectival Small Clauses Are CPs

We have shown that the constituent pronominalized by the clitic is at least DegP, but there is no bar to its being a larger constituent containing a DegP.

There are several advantages to assuming that the small clause complement of the verb *be* is at least a CP. A richer small clause structure explains why *le* appears to pronominalize the array of constituents that it does which is described in part in (16), namely CP, AP, PP, NP, VP. If the small clauses can contain structure over and above the (extended) projection of its predicate, we can explain this property by postulating that all small clauses contain, say, a CP and that non-CPs apparently pronominalized by *le* are actually included in this CP. Besides the example in (16), there are several instances in which *le* seems clearly to pronominalize a CP. Thus the verbs *devoir* 'must,' *pouvoir* 'may/can' or *se demander* 'wonder' in French only

take clausal complements and allow sentences such as *Marie le doit/Marie le pourrait/Marie se le demande* 'Marie must it/Marie can it/Marie wonders it'. CP is in fact the minimal choice that will allow all these various constituents as subparts,[12] and I will from now on assume it is the correct choice.

As a second consequence of this proposal, it allows analyzing some apparent exceptions to the general principle that only phrases of like categories can be conjoined, as most recently noted in Bowers (1993). Such cases of conjunctions as (27) can be analyzed as involving the CP conjunction $[_{CP} \ldots [_{AP}$ *triste*$]]$ *et* $[_{CP} \ldots [_{PP}$ *en colère*$]]$ (an approach which of course carries over to other kind of small clauses such as *I consider John crazy and a good doctor*).

(27) *Louis est* [*triste et en colère*].
Louis is sad and in a rage

Finally, looking at small clause complements of non-raising verbs, we have seen in (13) and (14) that the subject of the small clause must be outside DegP. This also provides evidence distinguishing between option (23) and the option under consideration. If the small clause is a CP, we can assume that the subject occurs where it normally does in a clause, namely [spec, AGR_s] (obviously, we will need to assume that T in such CPs does not turn AGR_s into a Nominative Case assigner). This also allows accommodating the further requirement exemplified in (12) that the subject be at least one projection removed from the DegP projection (because of intervening, rightward-stranded Qs). Under such a view, (14a) will have representation (28) similar to what we would expect a clause to be.

(28) (*avoir considéré*) $[_{CP}$ *e* $[_{IP}$ *les enfants ...* [*très t malades*]]]

This provides an (A-)position for the subject lower than the object agreement position of the participle, as required, and makes it unsurprising that stranded Qs in small clauses distribute similarly to stranded Qs in clauses. Thus, parallel to the examples in (14), we find (29).

(29) a. (*avoir consideré* / have considered)
[*les enfants tous très t malades*]
les enfants sont tous très t malades
the children (are) all very sick
b. (*avoir vu* / have seen)
[*les enfants tous rapidement lancer leurs ballons*]
les enfants ont tous rapidement lancé leurs ballons
the children (have) all quickly throw(n) their balloons

c. (*avoir voulu* / have wanted)
[*les enfants* *tous exactement au milieu de la pièce*]
les enfants sont *tous exactement au milieu de la pièce*
the children (are) all right in the middle of the room

The distribution of degrees and stranded quantifiers with respect to the subject of the predicate adjective of a small clause, as well as the failure of participle agreement, indicate that this subject occupies an intermediate position, which we just took to be subject of clause. The distribution of Predicate *le* can in fact provide an argument that this subject and the rest of the small clause form a constituent (which we will ultimately conclude is indeed a CP). This argument is based on the paradigm in (30).

(30) a. *Louis est fou/ Louis l'est*
Louis is crazy/Louis it-is
b. *Marie considère* [*Louis fou*]
**Marie le considère Louis*
Marie considers Louis crazy
Marie it-considers Louis
c. *Louis a longtemps été considéré fou*
?Louis l'a longtemps été considéré[13]
Louis has long been considered crazy
Louis it has long been considered
d. *Marie croit Louis dans sa chambre*
?Marie y croit Louis
Marie believes Louis in his bedroom
Marie there believes Louis

The puzzle is raised by the difference between (30a,c) and (30b). Clitic placement of *le* appears to be blocked by an overt subject of the predicate as in (30b) but not by a subject trace, cf. (31).

(31) Subject$_j$ Verb t_j A
Louis$_j$ *est* t_j *fou*
Louis$_j$ *a été considéré* t_j *fou*

(30d) illustrates that overt subjects of small clauses do not block the movement of all clitics: the locative *y* replacing the locative predicate may cliticize over it. This shows that the small clause itself is not a general opacity domain for clitic placement. How, then, can we account for the different effects of lexical subjects and traces on the behavior of Predicate *le*? A simple explanation can be constructed under the assumption that predicate *le* actually stands for the entire small clause. If it does, the LF representation of sentences (30a) and (30b) should, according to the proposal in

(22), include raising of the small clause to [spec, *le*]. Furthermore, if the subject of the small clause is an accusative DP, it should raise to [spec, AGR_oP] to sanction Accusative Case. Given that the object agreement projection is lower than the clitic projections, we get the respective representations in (32) for (30a) and (30b) at LF.

(32) a. *Louis*$_j$ ... [[$_{\text{small clause}}$ t_j *fou*] $_k$ [[*le*] *est* ... t_k]
b. *Marie* ... [[$_{\text{small clause}}$ t_j *fou*]$_k$ [[*le*] *considéré* ... [*Louis*$_j$ [AGR_o ... t_k

The raised small clause will in all cases contain the trace of its subject. In the second case, the small clause must at LF raise higher than the (highest A-)position that its subject must raise to. We thus have a failure of proper binding. Not so in the first case, since the subject of the small clause raises to an even higher A-position (specAGR_s).

4. PARTICIPIAL SMALL CLAUSES

4.1. *Avoir, être,* and Predicate *le*

We have noted that the possibility of pronominalizing a variety of constituents by predicate *le* suggests a common categorial analysis for all small clauses. We also have seen some evidence, in the case of adjectival small clauses, that this constituent was reasonably taken to be CP. I now turn to evidence suggesting that (passive and past) participial small clauses should also be analyzed as full clauses and that *le* pronominalizes a CP.

In the most natural cases of predicate cliticization, the main clause contains the verb *be* (or the related *devenir* 'become,' *rester* 'remain'). This is illustrated in (33a) for an adjective case. As expected, passive participles can also enter this construction, as in (33b). That verbs like *be* play a special role in licensing the possibility of predicate clitic would appear confirmed by the impossibility of (33c).

(33) a. *Jean*$_i$ *l'est/ le reste/ le devient* [t_i e_j], *malade*$_j$
Jean it is/ remains/becomes sick
b. *Jean*$_i$ *l'a souvent été* [t_i e_j], [*arrêté par la police*]$_j$
Jean it has often been arrested by the police
c. **Jean l'a, mangé sa soupe*
Jean has it eaten his soup

Although there are a priori many possible approaches to the difference (that might be based on Case properties or invoke differences between

passive and past participles), I will take the central factor to be the nature of the auxiliary involved, i.e., the difference between *have* and *be*. This approach will crucially be based on Kayne's (1993a) proposal concerning the *have/be* alternation and on the clausal character of participial (small) clauses, which I find extremely convincing (in general outlook, with some disagreement in analytical details), and which I briefly summarize.

Kayne starts with two points. First, clausal possessive constructions alternate cross-linguistically roughly between *I have this book* and *a book is with me/to me/mine*. Second, aspectual auxiliary choice of *have* or *be* for a verb V in Romance (and beyond) systematically depends on the internal structure of the VP and correlates with the various possibilities of agreement (subject or object) on the participle. Kayne constructs the following account of this rule-governed behavior: he suggests that *have* and *be* are variants of each other. He motivates the proposal that *have* = *be* + X^0, i.e., that *have* is the verb *be* incorporating some head (which he takes to be like a hybrid P/D category). The relevant part of his proposal deals with aspectual auxiliary selection by a verb in its participial form as it interacts with (a) whether the superficial subject is an external argument of the verb and (b) participle agreement. He suggests that participle phrases are clauses containing at least the participial projection VP, an AGR_O, a T, and an AGR_S projection, as well as an additional projection of D/P whose specifier is an A-bar position (which I will simply note D* and DP* its projection); and that such clauses are complement of the verb *be,* as in (34).

(34) ...BE ... $[_{DP*}$ D* [AGR_S [T [AGR_O $[_{VP}$ $DP_{subject}$ [V $DP_{object}]]]$

The AGR_O projection is present to handle object agreement on the participial V; the DP projection is initially motivated by properties of the possessive constructions. The general idea—as it applies to French—is the following. If the V has an external argument, namely $DP_{subject}$ here, this DP should not be allowed to raise outside DP* by A-movement. The blocking is due to the intervening [spec, DP*], an obligatory A-bar step on the way, which must be neutralized. This can be done either by incorporating D* to BE (yielding HAVE, and, he takes it, making [spec, DP*] an A-position, but I would take it, alternatively, to extend the local domain of A-movement so that [spec, DP*] may be skipped); or by raising a strong—i.e., equipped with relevant features—AGR_S to D, turning [spec, DP] into an A-position. If this AGR_S-to-D*, or D*-to-*be*, takes place, $DP_{subject}$ may then raise out of DP* through [spec, AGR_SP]. We know that this raising does not proceed through [spec, AGR_OP] because it does not trigger participle agreement.

The motivation for having an AGR_S projection comes from Kayne's observation that auxiliary selection is sensitive, in a variety of cases found

in Italian dialects, to the pronominal features of the subject (of subject pronouns in transitive and unergative sentences, of the reflexive clitic[14] in reflexive constructions). The motivation for T is similarly based on the sensitivity to tense exhibited by certain Italian dialects in selecting an auxiliary. The general way in which this sensitivity is worked into auxiliary selection is by letting T or AGR_s incorporate to D*, prior to D* incorporating into BE. The raising of an internal argument, DP_{object}, does not usually require any of this to happen (although it may nevertheless happen). In general, however, a raising DP_{object} transits through [spec, AGR_oP], triggering agreement. Finally, for reasons that we discuss in the next section, reflexives always involve raising out of a subject (and of an object as well, usually with participle agreement). Here, the DP* projection is neutralized by AGR_s incorporating into D*.

Applied to the French situation, this derives the fact that transitives and unergatives (which, agreeing with Chomsky, 1992, and Kayne, we take to be covert transitives) select auxiliary *have* and never trigger participle agreement, while unaccusative constructions (including passive constructions, *arriver* type verbs) select *be* and do trigger participle agreement obligatorily. With some unaccusatives (*la viande a cuit(*e)*, 'the meat has cooked'), the auxiliary *have* is selected. It must then be that escaping through [spec, AGR_oP] is disallowed; and it indeed is, as the impossibility of participle agreement shows. Finally, reflexives involve both raising of a subject, and selection of *be* with participle agreement (when object raising is of a direct object).

It is worth noting that the mechanisms invoked by Kayne mirror exactly what we know happens in clauses: raising to subject (or exceptional case marking, now seen as involving raising to AGR_o) requires S-bar/CP deletion or some kind of S-bar/CP transparency (this corresponds to D* incorporating to BE). Mirroring the reflexive case are the constructions in (35).

(35) a. *Marie voit Louis qui vient*
**Marie voit Louis que/qui Suzanne embrasse*
Marie sees Louis (who is) coming
Marie sees Louis who Suzanne is kissing

b. *Marie les a vus qui venaient*
**Marie les a vus que/qui Suzanne embrassait*
Marie them saw who came
Marie them saw who Suzanne kissed

c. *Qui crois-tu qui est venu*
*Qui crois-tu que/*qui Marie embrasse?*
Who do you believe has come
Who do you believe Marie is kissing?

Rizzi (1991) argues that the availability of Kayne's (1972) *que/qui* rule can be derived from *qui* being analyzed as an agreeing form of the complementizer *que* turning [spec, CP] into an A-position. Movement of anything but the subject immediately following this C into [spec, CP] would violate locality conditions (that we can think of as A-movement skipping over a subject), as is exemplified in (35a,c). Turning [spec, CP] into an A-position would then allow A-movement of the subject of a tensed clause to an A-position outside it, an occurrence of which is presumably found in (35b), where the subject of the embedded clause has raised to [spec, CP] and on to [spec, AGR_o], triggering participle agreement on *voir*.

Return now to (33c). Since the embedded DP* in (34) has most of the properties of a clause, I will take it to be a CP, the null hypothesis. In order to keep Kayne's generalization across possessive and participial constructions, I will continue taking participial clauses to be DPs, that is, with D* taking a CP complement. Putting together our various assumptions, we now attribute it the underlying structure in (36) (IP = AGR_sP).

(36) *le* ÊTRE $[_{DP*}$ D* $[_{CP}$ C $[_{IP}$ AGR_s [AGR_o $[_{VP}$ *Jean* [*mangé sa soupe*]]]

To license the raising of the subject *Jean* to subject of the main clause, the $DP_{subject}$ *Jean* can raise to spec AGR_s but must be able to skip the CP and DP boundaries. In such cases, Kayne argues (we slightly modify his proposal to take into account the additional C projection) AGR_s lacks the required properties to turn C (and D) into heads with A-specifiers [obviously, this must be allowed in tensed clauses, if the paradigm in (35) is any indication, as well as in reflexive constructions, to which we return]. The other option is to raise C to D and to BE, thereby extending the local domain within which *Jean* can move (by Baker's, 1988, government transparency corollary). This allows movement of this subject to the main clause and triggers ÊTRE → AVOIR (ÊTRE + D + irrelevantly, C).[15]

Suppose now that *le* pronominalizes CP, as we have assumed without argument so far. By LF, this CP pronominalized by *le* will have to raise to [spec, *le*] in the main clause containing the trace of C. The antecedent of this trace now appears lower in the structure than this trace, as it is incorporated to D*, see (37) (with I = AGR).[16]

(37)

DP_s *le* ÊTRE + D* + C $[_{DP*}$ *e* $[_{CP}$ *t* $[_{IP}$ t_i AGR_s T AGR_o $[_{VP}$ t_s [*mangé sa soupe*]]]]]

As a consequence, the structure is ill-formed. Note that the preceding account does not rule out predicate cliticization on the verb *avoir* in

general. It only does so if the heads incorporating to *être,* turning it into *avoir,* originate within the CP that *le* pronominalizes. Thus, *interessé, Jean l'a été,* 'interested, Jean it has been' is perfectly well formed. There are two participial clauses here, one with *interessé* and one with *été.* It is the first one that is the CP pronominalized by *le.* It is C + D of the second one that yields *avoir* under incorporation.

Here, then, is the general form of the argumentation: *le* should be seen as always pronominalizing the same category. We have grounds to believe, in the adjectival small clause case, that this category is the whole small clause. Kayne provides independent evidence that participial small clauses are CPs. Postulating that *le* pronominalizes the whole participial CP explains a number of restrictions on the distribution of *le.* From this we conclude that *le* sometimes stands for a CP. Consequently it always does. The following sections provide more reasons to assume that *le* pronominalizes participial clauses.

4.2. Reflexives

Having auxiliary *être* in participial constructions turns out not to be a sufficient condition for predicate cliticization of the participle. Cliticization is impossible in reflexive constructions, whether the reflexivized argument is an object or an indirect object, (38a) and (38b) respectively.

(38) a.**Jean se l'est, présenté à Marie*
(← *Jean s'est présenté à Marie*)
Jean himself it is, introduced to Marie
(Jean has introduced himself to Marie)
b.**Jean se l'est, offert un cadeau*
(← *Jean s'est offert un cadeau*)
Jean to himself it is, given a present
(Jean has given a present to himself)

This is utterly unexpected, since (a) participial phrases are able to cliticize, (b) the auxiliary is the verb *be,* and (c) there appears to be an additional clitic—the reflexive—originating in the participial clause but it cliticizes higher than predicate clitic and thus should create no problem, given the discussion of examples in (26). However, this is exactly what we expect when we conjoin Kayne's analysis of the participial clause structure/ *Have-Be* alternation with the idea that *le* pronominalizes CP.

To see why, we first need to understand the syntax of reflexives. Reflexive constructions use auxiliary *be* and they show obligatory subject/participle agreement.[17] There are strong grounds (see Sportiche, 1990, and references therein and below) for assuming that reflexive clitics (in Romance)

correspond to DP_s in (37); and consequently superficial subjects in reflexive constructions are underlying objects raising to subject under A-movement much as in passive constructions. Consider now (39), the structure of (38a), incorporating our general thesis about clitics (22) (I = AGR).

(39) *se le* ÊTRE ... $[_{DP*}$ D* $[_{CP}$ C $[_{IP}$ I_s T I_o $[_{VP}$ DP_{sub} [*présenté Jean*]]]]]

To license the raising of the object *Jean* to subject of the main clause, DP_{sub} (i.e., the *pro* that *se* pronominalizes which we assume matches *se*'s features) must raise at least to AGR_s, Kayne argues, which I will take to mean to [spec, IP] making AGR_s strong.[18] AGR_s subsequently incorporates to C and D to allow A-movement out of DP*. The clitic *le* pronominalizes CP. This CP, containing the trace of C incorporated in D, will have to raise to [spec, *le*] in the main clause. We find again the usual violation: this trace is now lower in the structure than its antecedent, ruling the LF representation out.

4.3. Raising Structures and Non-reflexive *se*

An account along the same lines can be constructed for cases involving the *se* morpheme that are not reflexive (see Ruwet, 1972). Consider the paradigm in (40).

(40) a. *Ce livre s'est bien vendu* → **Ce livre se l'est bien*
'This book sold well.'
b. *L'eau s'est renversée* → **L'eau se l'est*
'The water spilled.'
c. *Jean s'est avéré fou* → **Jean se l'est avéré, fou*
'Jean turned out it, crazy'

Se's function is not restricted to indicating reflexive constructions. It may also be used to indicate middle constructions (40a), appear in a lexically determined class of inchoative verbs (40b) with causative counterparts (*renverser, disperser, réunir,* 'spill, disperse, gather') or be inherent, i.e., appear on a lexically determined class of verbs without any apparent semantic or grammatical correlations (*s'évanouir, s'avérer,* 'lose consciousness, turn out'). All these constructions have the same characteristics as reflexive constructions: they use auxiliary *be,* they show obligatory subject/participle agreement, and are naturally analyzed in the same way. On the same grounds (see Sportiche, 1990), we assume that all French *se* clitics, whether reflexive, middle, neutral, or inherent (a) correspond to DP_s and consequently (b) superficial subjects in *se* constructions are underlying objects. The ill-formedness of (40a) follows: *se* pronominalizes the thematic subject of *vendre,* and the account proceeds as in the reflexive case (the only

difference is that the subject is interpreted as existentially bound rather than bound to the object, as in reflexive constructions).

The case of (40b) and (40c) cannot be treated exactly alike because the verbs involved lack thematic subjects altogether (this is one of the major differences between inherent and middle constructions). What then does *se* pronominalize? To understand what happens here, it is necessary to review the reasons leading to the adopted analysis of Romance *se/si.*

We have already noted that *se* constructions use auxiliary *être* (a fact especially significant in languages like standard Italian in which this is a diagnostic property of unaccusativity) and trigger participle agreement (which is always object agreement in French) with the superficial subject. Furthermore, Bouchard (1982) notes that reflexives are impossible with verbs lacking external argument; thus we have the contrast in (41).

(41) *Jean lui semble être pâle/*Jean se semble être pâle*
'Jean seems to him(*self) to be pale).'

These facts point to the same conclusion: reflexive constructions are unaccusatives, with the superficial subject being the underlying object (this is why *be* is used, and obligatory participle, i.e., object, agreement is triggered exactly like passive constructions). Then (41) follows if we assume that *se* always pronominalizes the external argument of the verb: since *seem* lacks one, there is no source for the reflexive. This analysis is compatible with the properties of middle constructions (middle verbs always have an implicit external argument), but not with the existence of neutral *se* verbs or inherent *se* verbs, particularly when they are raising verbs like *s'avérer,* which all lack external arguments. The essence of the problem is that we want *se* to be able to be an expletive, a proposition incompatible with it being an (external) argument. Instead, this suggests that *se* should be linked to a position "subject of a clause," but lower than say, Tense of the main clause. This is exactly what the full clausal structure of participial constituents provides: suppose that the morpheme *se* is not inherently linked to the external argument of a predicate but rather, as stated in (42), to [spec, AGR_s], and in the case of participial clauses to that of the participial clause [as a consequence we now lose the account for (41)].

(42) The morpheme *se/si* is inherently linked to [spec, AGR_s][19]

By the extended projection principle, this is a position that exists regardless of whether the participle has an external argument. Hence there is no bar to having it in the neutral or inherent cases. The facts in (40b,c) follow now, exactly as in the reflexive case, (43).

(43) ... *se le* ÊTRE ... $[_{DP*}$ D* $[_{CP}$ C $[_{IP}$ *pro* AGR_s [T AGR_o $[_{VP}$ [*avéré/ renversé* ... DP**]]]]]]

An expletive *pro* must be sitting in [spec, AGR_S] which will have to raise to [spec, *se*] at LF (a chain must be formed). This raising of *pro* out of DP* requires transparency of CP and DP*, i.e., raising of AGR_S to C and D. Raising of CP to [spec, *le*] at LF will then create the offending configuration.

One question we have not addressed is how objects in passives, reflexives, or *arrive*-type unaccusative structures escape DP*. The unaccusative case is different from the reflexive case because the verb only has one argument (passive is like either unaccusative or reflexive depending on whether the external argument of the predicate is represented or not). For unaccusatives, Kayne suggests the DP* projection is absent (it would be absent too for adjectives, explaining why they never take *have*). In our terms, even if AGR_S-to-C takes place, CP raising to [spec, *le*] would not create an offending configuration. In the presence case, DP** raising out of DP* and IP takes place (which participle agreement indicates is through [spec, AGR_O]). There are two ways of allowing this to happen: if *pro* is an expletive, as in the present case, it would be enough to move DP** through [spec, AGR_S]. Since it must move to [spec, *se*], DP** will have to move to [spec, *se*] on its way to the subject position of the main clause: we end up with expletive *se* agreeing with the superficial subject (*je **me** suis avéré malade, nous **nous** réunissons*). Kayne (1993a), however, provides reasons to believe that movement from [spec, AGR_O] to [spec, AGR_S] is never possible in these participial clauses. Let us then adopt a second option which will work even if *pro* is an argument, as in reflexive or middle constructions. Assume incorporation of AGR_O into AGR_S prior to AGR_S raising higher. Since the resulting category $AGR_S + AGR_O$ is able to have only one set of pronominal features, this will derive subject/object pronominal agreement; that is, the same agreement facts as previously (*je **me** suis avéré malade, nous **nous** réunissons*). It might also be the source of the surprising agreement found in middle constructions in French between the *se* morpheme and the superficial subject (viz. a talking book: *je **me** vend bien*).[20]

5. CLAUSAL STRUCTURE

5.1. The Complement Structure of Tense

We still need to account for the facts of (41) under assumption (42). Before we do so, it is worth pointing out that the facts about the possibility of having predicate *le* are in fact independent of the presence of the aspectual auxiliaries. Thus the full paradigm is duplicated, as in (44).

(44)a.**Jean le, mange sa soupe*
Jean it eat his soup
b.**Jean se le, présente à Marie*
(← *Jean se présente à Marie*)
Jean himself it is introduces to Marie
'Jean introduces himself to Marie'
c.**Jean se le, offre un cadeau*
(← *Jean s'offre un cadeau*)
Jean to himself it is gives a present
'Jean has given a present to himself'
d.**Ce livre se le, vend bien*
← *Ce livre se vend bien*
'These books sell well.'
e.**L'eau se le, renverse*
← *L'eau se renverse*
'The water spills.'
f.**Jean se l'avére, fou*
← *Jean s'avére fou*
Jean turns out it, crazy

It might appear that all but (44f) would be ruled out independently by the necessity for *le* to cliticize, but this is far from obvious given Kayne's (1991) proposal that clitics may attach to (silent) functional heads, and thus may appear to be left stranded in front of adverbials [cf. the archaic sounding *le bien connaitre,* 'know him well,' orders of magnitude better than (44a–e) or the comparable ***connaitre Jean, le bien,* 'know Jean, it well' with *le* standing for the string *connaitre Jean*). It might also appear that (44f) could be ruled out in a way parallel to the slightly deviant (45).

(45) a.?*Jean$_i$ le semble, fatigué$_j$*
Jean it-seems tired
b.?*Jean le paraissait, fou$_j$*
Jean it appears crazy

But again the magnitude of deviance is quite different from that found in (44f).[21] The facts of (41) strongly suggest that we find under Tense a structure similar in the relevant respects to that of participial clauses. Suppose T takes a CP complement with the main verb in it, as in (46).

(46) ...T... [$_{CP}$ ... [$_{VP}$ $DP_{subject}$ [V DP_{object}]]]

Attempting to pronominalize this CP is incompatible with the requirement that V incorporate to T at LF (in fact overtly in French). All the facts of (44) follow immediately.

We can now return to (41) the underlying structure of which will be as in (47).

(47) *se* ...T... [$_{CP}$ C [$_{IP}$ pro_{expl} AGR_s [... AGR_o [$_{VP}$ *semble* DP* [DP** *être pâle*]]]]]

In essence the account here is that both DP* and DP** compete for the same subject position: DP* because of the presence of the reflexive, DP** because we are dealing with a raising-to-subject predicate. In the absence of the reflexive construction, *sembler* selects auxiliary *avoir* and DP** raising does not trigger participle agreement. This is an indication that the raising of DP** cannot go through [spec, AGR_o], and hence must go through [spec, AGR_s]. The same can be said of the raising of DP*. As an indirect object in French, it does not trigger participle agreement and hence does not raise through [spec, AGR_o] either. Both DPs must therefore transit through the same position, [spec, AGR_s], which is impossible.[22]

5.2. Some General Consequences about Clause Structure

I have suggested that the predicate clitic *le* pronominalizes a CP. This hypothesis, taken in conjunction with Kayne's analysis of participial clauses can derive a number of complex distributional properties of this clitic. One consequence is that it confirms the clausal character of small clauses. In particular, we have concluded above in (47) that the VP small clause complement of T is in fact a full-fledged CP. The same conclusion is reached on independent grounds by Sportiche (1994), who proposes to eliminate adjunction and adjunction structures altogether from the grammar. There I argued that there was some benefit in taking each VP to be a CP, as it allowed strict locality conditions on *wh*-movement to be kept without any recourse to adjunction structures (intermediate or not), with the consequence that *wh*-movement is exclusively to [spec, CP] (because landing sites for movement to specifier are target-specific and because adjunction structures do not exist). I further argued that, if we take seriously Stowell's (1993) view of Tense as temporal ordering predicates and the idea that cross-linguistic variation should be kept to a minimum, the reason T takes a CP complement is that it is of the category V (or P) itself (I will pick V for concreteness). Putting all these results together, the structure of a simple clause changes from (48a) to (48b), with the first AGR corresponding to AGR_s, and the second to AGR_o.

(48) a. [$_{CP}$ C AGR_s T AGR_o [$_{VP}$ V ...
b. [$_{CP}$ C [AGR [$_{VP}$ V [$_{CP}$ C [AGR [$_{VP}$ V ...

That is, that clausal structure is constructed by stacking Verbs, each with its extended projection, i.e., an Agreement Projection and a Complementizer Projection, a basic architecture that should be extended to all lexical categories. Naturally, we expect the evidence for these intermediate structures to be quite complex and remote. I furthermore believe them to be obscured by the existence of the well-documented process of restructuring that is

apparent in several Romance and Germanic languages (e.g., Italian, see Rizzi, 1978; Burzio, 1986; and Dutch, Evers, 1974). This process makes it appear that two clauses behave as one with respect to a number of phenomena (e.g., clitic placement, A-movement, etc.), and its existence is established on the basis of pairs of biclausal sentences, identical in all relevant respects except for the fact that one sentence behaves as monoclausal and the other does not. Granting the existence of such a process, it should not be surprising to find cases of biclausal structures that obligatorily restructure, and thus systematically obfuscate underlying syntactic organization. I would argue that this is what happens in French tensed clauses (explaining why tensed verbs raise to "T"), or with French sequence of auxiliaries (explaining why the pronominal argument of a main verb must appear on the highest auxiliary of its clause or why passive may skip all auxiliaries—recall that we would treat them as regular verbs, each with its own clause).

If, furthermore, we take seriously the idea of VP shells introduced by Larson (1988), a transitive VP such as [*John cook the food*], reasonably composed of two VPs, each with one argument in its specifier,[23] represents two small clauses, one on top of the other. By parity of reasoning, such a VP would have to be analyzed as two clauses, understood as above, i.e., as (49b) instead of (49a), so that the sentence *John cooked the food* would have the structure (49c).

(49) a. $[_{VP}$ *John* V $[_{VP}$ *food cook*$]]$
b. $[_{CP}$ C $[AGR_s$ $[_{VP}$ *John* V $[_{CP}$ C $[AGR_o$ $[_{VP}$ *food cook* ...
c. $[_{CP}$ C $[AGR$ $[_{VP}$ $[_{V}$ *ed*$]$ $[_{CP}$ C $[AGR$ $[_{VP}$ *John* V* $[_{CP}$ C $[AGR$ $[_{VP}$ *food cook* ...

We can now reasonably take V* as essentially being CAUSE, i.e., adopt a lexical decomposition analysis to syntactic structure, a consequence already implicit in the work of Hale and Keyser (1991). Again here, we expect the evidence to be complex. But even so, some suggestive evidence exists. Consider a VP with a double object construction alternation $[_{VP}$ *John give a book to Bill*$]/[_{VP}$ *John give Bill a book*$]$. Larson's idea was to assimilate the double object alternation to active/passive alternation. That there should be an essentially transformational approach (i.e., an exceptionless rule expressing redundancy) to this question is surely the null hypothesis. We should try to adopt it, but we can follow a different route than Larson's, conceptually similar to the one taken by Stowell (1981) to account for *there* insertion. His insight was to implement the idea that *There is a man on the roof* and *A man is on the roof* are transformationally related by deriving them both from a common source (an underlying small clause structure),

rather than try to derive one directly from the other. A biclausal approach to the VP offers just that, as in (50).

(50) $[_{CP}$ C [AGR $[_{VP}$ *John* Cause $[_{CP}$ C [AGR $[_{VP}$ be $[_{DP}$ *Bill's book*] ...

Under such a view, we can paraphrase the structure of *give Bill a book* by *cause there to be Bill's book,* with the expletive (*there*) in [spec, AGR*]. The double object alternation would then reduce to the two ways in which possessive constructions are realized (as construed by Kayne, 1993): *give Bill a book* would correspond to *cause Bill to have a book,* with *Bill* raising to [spec, AGR*], while *give a book to Bill* would correspond to *cause a book to be to Bill.* This approach would provide an account of some striking similarities: e.g., *give John this new kind of cold/*give this new kind of cold to John* is mirrored by *John has this new kind of cold/*this new kind of cold is John's.* . . .

I will not pursue this any further here, but its logic is clear.

6. FURTHER PROPERTIES AND RESIDUAL PROBLEMS

6.1. Idiomatic *le* and Raising

I now turn to other prohibitions on predicate pronominalization by *le.* First of all, idiomatic predicates cannot undergo it, as seen in (51).

(51) a. *Marie tombera malade/*Marie le tombera*
Marie will fall ill
b. *Louis voit juste/*Louis le voit*
'Louis is right (lit. sees correct).'

In the present case, the idea is the following: *tomber-malade* behaves syntactically like a V+A pair. Each member can be modified (by adverbials or degrees), moved in a limited way (to T for V) . . . , yet form a semantically non-compositional unit. Koopman (1994) shows that there are good grounds to assume that idiom chunks must incorporate (under head movement) to their highest member (basically to explain their restricted movement possibilities). Applied to the present case, this means that in order to get the idiomatic reading, *malade* incorporates into *tomber.* Suppose now we pronominalize *malade* with *le.* The possibly silent *malade* will have to be incorporated to *tomber* at LF, while the constituent XP* containing the trace of this silent A will have to appear in $XP\hat{}$ = [spec, ClP], which is higher than the verb. The antecedent will thus end up lower than its trace; see (52).

(52) $[_{ClP}\ [_{CP}\ t_k\ ..]_i\ [[_{Cl}\ le]\ [tombera + [_C\ C_k\ ..[_A\ malade]]]]\ [_{CP}\ t_i]]]]]$

For this account to work, the possibility of reconstruction must be prevented. I have assumed throughout that when a phrase is targeted for movement, say XP, X^0 cannot reconstruct, only complements of X^0, possibly adjuncts to XP, and higher pied piped material may (i.e., a P taking XP as complement). The clitic pronominalizes CP. Then C must be in [spec, ClP] at LF. In effect, the antecedent of this pro-CP must be understood as including an incorporated A (*malade*). Incorporation of this A being subject to the head movement constraint, all heads intervening (in the sense of c-command) between the A and its ultimate incorporation site will have to incorporate too, and this includes C. Note that we cannot attribute the ungrammaticality of the examples under discussion to the impossibility of pronominalizing an idiom chunk as pronominalization of (some) idiom chunks appears to be possible: *La justice, Saint Louis la rendait sous un chêne; Il l'a cassée et bien cassée, sa pipe* 'Justice, Saint Louis, dispensed it under an oak tree; He kicked it, his bucket.'

In the case of *voir juste* or *travailler fort,* 'work hard,' *le* is ruled out because *juste/fort* really are adverbials rather than adjectives (as their lack of agreement with the subject indicate: **elle travaille forte*).

6.2. Adjunct Small Clauses

Adjunct predicates cannot be cliticized, an observation leading to substantial complications in various areas of syntactic analysis that I will not pursue here. I will limit myself to sketching the basic idea of an account; see (53).

(53) a. *Louis lis son journal allongé*
**Louis le lis son journal*
Louis reads his newspaper lying down
Louis it reads his newspaper
b. *Marie travaille ivre/* Marie le travaille*
Marie works drunk/Marie it works
c. *Jean dort couvert/*Jean le dort*
Jean sleeps covered/ Jean it sleeps
d. *Marie mange sa viande crue/Marie le mange sa viande*
Marie eats her meat raw/ Marie it eats her meat
e. *Henri est arrivé fatigué/*Henri l'est arrivé*
Henri arrived tired/ Henri it arrived

f. *Jean mourra jeune/*Jean le mourra*
Jean will die young/ Jean it will die

Why should this be? Intuitively, these deviant sentences feel wrong because the predicate is not a complement of the main verb. Since cliticization involves movement (see, e.g., Sportiche, 1992), it is tempting to capitalize on this intuition by attributing the deviance to an argument/adjunct distinction, i.e., to the empty category principle (ECP). The simplest way to bring in the ECP is to postulate enough structure so that we get an adjunct island violation. Assuming that *le* pronominalizes CPs, these adjunct constituents will have to be postulated to be larger constituents XP out of which a CP will be extracted, yielding a violation of the adjunct island condition.

This simple account, however, cannot be the whole story. First, it is not completely clear what this constituent XP could be. A sort of a *while/during* clause (*en/pendant* clauses in French), as in *Jean travaille en sifflant,* 'Jean works while whistling' is plausible in certain cases (54) but seems not to give rise to the right interpretation. It seems to me that the correct semantic interpretation can be paraphrased by introducing an existential or universal frequency adverb [that may be redundant in case it is pragmatically clear that only one (potential) event is referred to] or a sort of generic when the sentence can be and is understood generically. For example, see (54).

(54) (for 53a): *Sometimes (/Always), when John reads his paper, John is lying down.*
or *Typically, when John reads his paper, John is lying down.*

Second, extraction facts out of this putative adjunct give the results in (55).

(55) a. *John works drunk/*how drunk does John work?*
**John works drunker than Bill works/*John works as drunk as Bill works sober*

b. *John eats his meat rare/?how rare does John eat his meat?*
**John works drunker than Bill works/*John works as drunk as Bill works sober*
?John eats his meat more cooked than Bill eats his chicken/?John eats his meat as rare as Bill eats his chicken cooked

c. *John will die young/?how young will John die?*
?John will die younger than Bill will die/?John will die as young as Bill will live long

d. *John considers Bill intelligent/how intelligent does John consider Bill?*
John considers Mary more intelligent than he does Bill/John considers Mary as intelligent as he considers Bill stupid

These examples show the paradigm of *wh*-extraction of small clause adjectives respectively in *wh*-questions, comparatives, and subcomparatives. The judgments, although not secure, seem to be graded more or less as indicated: Subject-controlled adjunct small clauses (55a) yield the least acceptable results. Object-controlled adjunct small clauses [(55b), and (55c)—an unaccusative case, i.e., a case of trace control by the subject] yield better results, perhaps almost as good as in the case of complement small clauses (55d) or the similar raising case *John is t sick* ...][24,25] My own judgments in French are more mixed, as in (56).

(56) a.??*Louis travaille aussi ivre que Marie travaille sobre*
'Louis works as drunk as Marie works sober.'
??*Les couvertures dont Marie dort couverte sont chinoises*
'The blankets that Mary sleeps covered with are Chinese.'

b. *Louis mange le boeuf aussi cru que Marie le mange cuit*
'Louis eats beef as raw as Marie eats it cooked.'
??*La confiture dont il mangeait son pain tartiné était faite maison*
'The jam he ate his bread spread with was home made.'

c. *Pierre est arrivé aussi fatigué que Paul est arrivé ivre*
'Pierre arrived as tired as Paul arrived drunk.'
??*Les travaux dont Pierre est arrivé satisfait ne sont pas les siens*
'The works Pierre arrived satisfied with are not his.'

d. *Pierre considère Marie aussi intelligente que tu la considères stupide*
'Pierre considers Marie as intelligent as you consider her stupid.'
Les gourmandises dont je crois Marie friande viennent de Cambrai
'The sweets you believe Marie fond of come from Cambrai.'

Under the account given here, the relative acceptability of the examples in (56a–c) as compared to the (totally unacceptable) cliticization case is problematic: we would expect extraction out of these adjunct small clauses to be unacceptable. The two questions we are faced with are the following, the first one being most crucial to us: (a) Do these facts affect the conclusion that the small clause is a CP? (b) What accounts for the better than expected status of these cases of extraction out of adjuncts?

Let us address the impossibility of cliticization as it relates to the first question. There is another way of construing the intuition locating the problem in a distinction between the type of dependent that these small clauses instantiate. Trying to parse, say (53b), one wonders: Work what? In fact in all the grammatical cases of predicate cliticization, the pronominalized constituent can be replaced by *quoi,* 'what,' whereas in these bad cases, the question word would have to be *comment,* 'how.' Let us take this to suggest that the missing element is perceived as an accusative object of

the verb. We could then attribute the ungrammaticality of the examples in (53) to the fact, reflected by the choice of question word, that they are not getting Accusative Case. Some support for this idea comes from what happens with control structures. Subject control verbs allow pronominalization of their CP infinitival complements, viz., *Partir, Jean l'a voulu/essayé/espéré/promis à Pierre,* 'Leave, John it has wanted/tried/hoped/promised,' but they are never transitive. Object control predicates systematically disallow it: **De partir, Pierre l'a persuadé Henri,* 'To leave, Pierre it has persuaded Henri,' but indirect object control allows it: *De partir, Pierre l'a ordonné à Henri,* 'To leave, Pierre ordered it to Henri.' The emerging generalization is that predicate cliticization is impossible if there is an accusative object that may also cliticize as *le.* This would follow if *le* were accusative and could only pronominalize accusative-marked CPs. An additional advantage, noted previously, would be to explain the homophony between the predicate clitic *le* and the pronominal accusative clitic *le* (a homophony also found in Italian with *lo*). As I mentioned at the outset, this raises many questions that I will leave unaddressed (the Case-marking status of verbs like *be,* the relationship between Accusative case and participle agreement, Burzio's generalization, etc.).

Turn now briefly to the second question. If *le* must be accusative, these adjunct small clauses could be either adjuncts or non-accusative complements. The extraction facts are surprising either way. Additionally, if indeed we were treating these adjunct small clauses as CPs, we would expect that they would in principle be cliticizable with an appropriate kind of oblique clitic (locative adjuncts, for example, may cliticize as *y* in French). I know of no language allowing this. If these small clauses were complements, the reverse problem would arise (why aren't extractions simply perfect, and why don't they cliticize with oblique clitics, e.g., *lui?*). That they should not be complements is corroborated by Dutch facts involving overt incorporation, with the pair of subject/object-controlled small clauses (indicated by the choice of auxiliary *have* vs. *be*) in (57).

(57) a. ...**omdat Jan heeft dronken gewerkt*
'because Jan has worked drunk'
b. ...**Omdat Jan is dronken vertrokken*
'because Jan is gone drunk'

The presence of the adjective *drunk* between the auxiliary and the participle indicates that this adjective has incorporated. Both sentences are out, as we would expect given the adjunct status of the adjective. So it would seem we want these small clauses to be neither complements nor adjuncts.

I have no solution to offer. Instead, I will offer a radical speculation (further explored in Sportiche, 1994) based on the paraphrase given in (54).

The idea is to make the adjunct predicate be the main predicate of the clause and include what appears to be the main clause as a subconstituent. The missing frequency adverb behaves semantically as a quantifier comparing the frequency of events (de Swart, 1991). In example (54), these events are denoted respectively by [*John reading his newspaper*] and [*John lying down*], i.e., roughly speaking where the first one corresponds to the restriction of the quantifier and the second one to its nuclear scope. We might pursue the idea that these kinds of relations are always mapped syntactically the same way. On the model of [[*All* [*the children*]] *came*], we would be led to postulate the equative substructure for (58a) with its intuitive paraphrase (58b) and a simplified derived structure as in (58c).

(58) a. [*Sometimes* [*John reads the paper*]] BE [*John lying down*]
b. [*Some occurrences of* [*John reading the paper*]] *are* [*occurrences of John lying down*]
c. [*John*$_i$ Tense [*sometimes* [t_i *read the paper*]] [*be* [PRO$_i$ *lying down*]]]

We would then expect that predicate cliticization and extraction would work as in equative structures, disallowing predicate cliticization (the "object" is referential) and assimilating problems of extraction out of this object to difficulties in extracting out of specific DPs. It is easy, however, to imagine the obstacles that such a view encounters.[26]

6.3. Some Residual Problems

I now go through some further observations about properties of predicate cliticization, for some of which I have no account to offer. Predicate cliticization with raising verbs is not perfect: *?Jean le semble* (for unknown reasons), but much less degraded than if an idiom chunk is subject, as in **Justice le semble, avoir été rendu.* I take the latter as showing that infinitival complement to *seem* do not pronominalize. This correctly captures the contrast *Malade, Jean le semble* but not **Être malade, Jean le semble.* This impossibility might be related to "CP-deletion" in view of the better (although not perfect) *?que Jean soit/est malade, il le semble.*

Secondly, cliticization is impossible in unaccusative and extraposition impersonal constructions, as in (59).

(59) a. *il est arrivé trois hommes* → **il l'est.*
there is arrived three men → 'there is it'
b. *il est important que Jean parte* → **il l'est.*
it is important that Jean leave → 'it is it'
c. **important, il l'est que tu partes.*
important it is it that you leave

Comparing (59b) with *c'est important que Jean parte* → *Ca l'est,* which differs minimally from it by having an argument rather than an expletive subject,[27] suggests invoking the necessity of expletive replacement as a source of ungrammaticality. This does not seem compatible with the well-formedness of the previously mentioned *il semble que Jean soit parti* → *?Il le semble,* 'it seems that John left → it seems it,' or with the impossibility of (59c) [compare (24b)]: there is no generalization that expletive subjects prevent predicate clitics.

Start with sentence (59a). Recall that we assumed unergatives to be covert transitives. Unaccusatives then become monadic predicates essentially so that the underlying structure of (59a) would be as in (60).

(60) ... [$_{VP}$ *être* [$_{CP*}$ C* ... [$_{VP}$ *trois hommes arrivé* ...

How, then, is the order Verb Subject reached? Postulating that this arises from the verb *arriver* raising beyond the CP boundary (where it incorporates to *être,* which may then excorporate (see Koopman, 1994, for discussion of the relevant theory of head movement and an analysis of causatives along these lines), we derive both the word order and the impossibility of (59a) for the usual reason: the pronominalized CP will contain the unbound trace of C* (since raising of the V will have to be through C*). Reformulating Belletti's (1988) analysis, let us make the raising of *arriver* responsible for allowing the subject to stay in post-verbal position (by making the availability of Case contingent on this raising). We derive the impossibility of impersonal constructions with small clauses (which Belletti, 1988, attributes to the inherent nature of the Case assigned by the participle), as in (61a).

(61) a.**Il a été considéré* [*trois hommes malades*]
it has been considered three men sick
b. *Il a été considéré+malades*$_i$ [*trois hommes* t_i]
It has been considered sick three men

Case on the subject of the small clause is available only if the predicate of the small clause raises out of it. When this does not take place, the structure is ruled out, as in (61a). If this raising does take place, the result improves, as in the much improved (61b).

This account can be extended to (59b) in the following manner. Suppose that the adjective *important* incorporates to *être* as well.

(62) ... [$_{VP}$ *être+important*$_i$ [$_{CP*}$ t_i... [$_{IP}$ [*que Jean parte*] ... t_i]]]]

Kayne's (1994) general thesis implies the nonexistence of rightward movement. The clause interpreted as subject of the adjective is, according to this thesis, not extraposed. Suppose instead it stands in the usual

subject–predicate relation (e.g., [*que Jean parte*] *est important*), clearly the null hypothesis. To account for the surface word order, we now need to raise the adjective, as indicated in (62). This would derive both (59b)—for the same reason as (59a)—and (59c) because there is no available CP to pronominalize.

ACKNOWLEDGMENTS

Many thanks to Hilda Koopman and Jean Roger Vergneaud. A grant from the UCLA Academic Senate partially funding this research is gratefully acknowledged.

REFERENCES

Abney, S. (1987). *The noun phrase in its sentential aspect.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Aoun, J., E. Benmamoun, and D. Sportiche. (1994). Agreement, word order and conjunction in several varieties of Arabic. *Linguistic Inquiry* 25, 195–221.

Baker, M. (1988). *Incorporation.* University of Chicago Press, Chicago.

Belletti, A. (1988). The case of unaccusatives. *Linguistic Inquiry* 19, 1–34.

Bhatt, R., and J. Yoon. (1991). On the composition of COMP and parameters of V2, in *Proceedings of the West Coast Conference on Formal Linguistics.*

Bouchard, D. (1982). *On the content of empty categories.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Bowers, J. (1993). The syntax of predication. *Linguistic Inquiry* 24, 591–656.

Burzio, L. (1986). *Italian syntax.* Reidel, Dordrecht.

Chomsky, N. (1977). On Wh-movement, in P. Culicover, T. Wasow, and A. Akmajian (eds.), *Formal syntax.* Academic Press, New York.

Chomsky, N. (1986). *Barriers.* MIT Press, Cambridge, Mass.

Chomsky, N. (1992). A minimalist program for linguistic theory in K. Hale and S. J. Keyser (eds.). *The view from building 20: Essays in linguistics in honor of Sylvain Bromberger,* MIT Press, Cambridge, 1–52.

Cortes, C. (1992). *Issues in Catalan syntax.* Ph.D. dissertation, University of California, Los Angeles.

Corver, N. (1990). *The syntax of left branch extraction.* Ph.D. dissertation, Tilburg University.

Corver, N. (1993). A note on subcomparatives. *Linguistic Inquiry* 24, 773–781.

Evers, A. (1975). *The transformational cycle in Dutch.* Ph.D. dissertation, University of Utrecht.

Grimshaw, J. (1987). Subdeletion. *Linguistic Inquiry* 18, 659–669.

Hale, K., and J. Keyser. (1991). On argument structure and the lexical expression of syntactic relations. Unpublished manuscript, Massachusetts Institute of Technology, Cambridge.

Huang, C.-T. J. (1993). Reconstruction and structure of VP. *Linguistic Inquiry* 24, 103–138.

Kayne, R. (1972). French relative QUE, in *Recherches Linguistiques* 2. Université de Paris 8.

Kayne, R. (1975). *French Syntax.* MIT Press, Cambridge.

Kayne, R. (1991). Romance clitics, verb movement and PRO. *Linguistic Inquiry* 22, 647–686.

Kayne, R. (1993). Toward a modular theory of auxiliary selection. *Studia Linguistica* 47, 1, 3–31.

Kayne, R. (1994). *The Antisymmetry of Syntax.* MIT Press, Cambridge, Mass.

Kayne, R., and J.-Y. Pollock. (1978). Stylistic inversion, successive cyclicity and move NP in French. *Linguistic Inquiry* 9, 595–621.

Koopman, H. (1984). *The syntax of verbs: From verb movement rules in the Kru languages to universal grammar.* Foris, Dordrecht.

Koopman, H. (1993). *The internal and external distribution of pronominal DPs.* Unpublished manuscript, University of California, Los Angeles.

Koopman, H. (1994). Licensing Heads, in N. Hornstein and D. Lightfoot (eds.), *Verb movement.* Cambridge University Press, Cambridge.

Koopman, H., and D. Sportiche. (1991). The Position of Subjects. *Lingua* 85, 211–257.

Larson, R. (1988). On the double object construction. *Linguistic Inquiry* 19, 335–392.

Pollock, J.-Y. (1990). Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20, 365–424.

Ritter, E. (1991). Two Functional Categories in Noun Phrases: Evidence from Modern Hebrew. Unpublished manuscript, Université du Québec à Montréal, Montreal.

Rizzi, L. (1978). A Restructuring Rule in Italian Syntax, in S. J. Keyser (ed.), *Recent transformational studies in European languages,* 113–159. MIT Press, Cambridge.

Rizzi, L. (1991). *Proper head government and the definition of A-positions.* Paper presented at GLOW Conference, Leiden, The Netherlands.

Ruwet, N. (1972). *Théorie syntaxique et syntaxe du français.* Le Seuil, Paris.

Sportiche, D. (1988). A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry* 19, 425–449.

Sportiche, D. (1990). *Movement, agreement and case.* Unpublished manuscript, University of California, Los Angeles.

Sportiche, D. (1992). Clitic Constructions, to appear in J. Rooryck and L. Zaring (eds.), *Phrase structure and the lexicon,* Kluwer, Dordrecht..

Sportiche, D. (1993). Subject clitics in French and Romance, complex inversion and clitic doubling, to appear in K. Johnson and I. Roberts (eds.).

Sportiche, D. (1994). Adjuncts and Adjunctions. Unpublished manuscript, University of California, Los Angeles.

Stowell, T. (1981). *The origins of phrase structure.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.

Stowell, T. (1991). Small clause restructuring, in R. Freidin (ed.), *Principles and parameters in comparative grammar,* 182–218. MIT Press, Cambridge.

Stowell, T. (1993). *Syntax of Tense.* Unpublished manuscript, University of California, Los Angeles.
Swart, H. de (1991). *Adverbs of quantification: A generalized quantifier approach,* Ph.D. dissertation, Rijksuniversiteit Groningen.
Szabolcsi, A. (1987). Functional categories in the noun phrase, in I. Kenesei (ed.), *Approaches to Hungarian,* vol. 2, 167–190. JATE, Szeged.
Travis, L. (1984). *Parameters and effects of word order variations.* Ph.D. dissertation, Massachusetts Institute of Technology, Cambridge.
Valois, D. (1991). *The internal syntax of DP.* Ph.D. dissertation, University of California, Los Angeles.
Williams, E. (1980). Predication. *Linguistic Inquiry* 11, 203–238.
Williams, E. (1983). Against Small Clauses. *Linguistic Inquiry* 14, 287–308.

NOTES

[1]For example, Schein (this Volume), or Williams (1983), who disputes the small clause analysis of *Someone seems* [*t sick*] because *someone* takes scope necessarily wider than *seem,* unlike in the raising case of *Someone seems* [*t to be sick*]. Some of these problems are discussed in Stowell (1991).

[2]Another might be Right Node Raising: *Louis a emprunté et Marie a rendu* ***un livre à Jean hier,*** 'Louis borrowed and Marie returned a book to/from Jean yesterday.'

[3]Further discussion of some of these issues is found in Sportiche (1993), especially concerning the exact structural relationship between *t* and the Q *tous,* argued to be [*t*[Q[*t*]]].

[4]The same argument can be constructed for English on the basis of bare nominals: *I consider the children fool*(s).*

[5]This is true even if participle agreement and AGR_O are two distinct projections, as long as AGR_O is higher, which is plausible in the event the two positions are not identical (participle agreement is always available while the availability of Accusative depends on the larger context in which the participial complex is found, e.g., with auxiliary *have* but not with auxiliary *be*).

[6]Also in need of an explanation is why (12c) is ill-formed (no Pied Piping) and why (12b,d) are ill-formed (not all *t** are eligible stranding sites for Q).

[7]This conclusion is close to that of Bowers (1993). Bowers suggests that small clauses are instances of Predicate Phrases that can be thought of as a kind of VP layer similar to Larson's (1988), not as clauses as argued here and elsewhere. See also Starke, this Volume, and references therein.

[8]Respectively exemplified by the alternatives in (16). The distinction is made apparent by the choice of preposition introducing the agent (*de* vs. *par*) and correlates with a stative/eventive difference in interpretation that can be corroborated by the kind of modifier they take (*si* 'so' vs. *tant* 'so much,' cf. Ruwet, 1972).

[9]Grimshaw (1987) and Corver (1993) argue that subcomparatives in English and Dutch do not involve *wh*-movement. Strictly speaking, my arguments are only concerned with French and at any rate with the location of the missing quantity quantifier. I remain convinced that movement is involved because it overtly occurs in French Quantity *wh*-question questions with *combien* (thus violating the left branch condition and more generally undermining their most potent arguments against movement).

[10]In this structure, t_k must not interfere with the raising of the DP *Marie* out of the small clause.

[11]The contrast between (26b) and (26c) going in the direction indicated seem to be shared by all speakers, but the absolute degree of acceptability of (26c) varies. The same is found in passive partiple cases and follows in the same way: *Cette lettre a été envoyé aux enfants/*Cette lettre le leur a été/?Cette lettre me l'a été,* 'this letter has been sent to the children/This letter it to them has been/This letter to me it has been.'

[12]This might explain why the predicate clitic *le* has the same form as the accusative clitic *le* under the assumption that CPs need Case. This would mean that the verb *be* may assign accusative.

[13]The relative unacceptability of (30c) needs to be explained. I suggest it might be related to the marginal availability of restructuring the *considérer* clause with the previous one in French to allow the clitic to "climb." The same marginality is perceived in (i) *?Jean en a longtemps été considéré fier/?Il lui a longtemps été considéré fidèle,* 'Jean of it has long been considered capable/He to him has long been considered faithful,' for the same reason.

[14]See Sportiche, 1990, and references therein for extensive support that (a) all French *se* clitics, whether reflexive, middle, neutral, or inherent, correspond to DPsubjects and consequently (b) superficial subjects in reflexive constructions are underlying objects. This conclusion seems to extend to other Romance languages (see, e.g., Cortes, 1992, for Catalan).

[15]These aspects of Kayne's proposal are those crucial to what follows, namely that either (a) C (and D) must incorporate to allow A-movement out of the participial clause, or (b) AGR incorporates to C (and D) for the same reason. Thus, essentially, what follows would be consistent with there being no T and only one AGR projection within the participial clause.

[16]Recall that strictly speaking the structure is well-formed if a well-formed "antecedent" for *le* can in principle be constructed. I will ignore this in order to simplify exposition.

[17]Except when the reflexive "is" an indirect object in Standard French (e.g., *Marie s'est offert(*e) un cadeau/Marie s'est parlé(*e),* 'Marie gave herself a present, Marie spoke to herself.' The standard Italian situation is different with participle agreement with indirect reflexives, but only in the absence of a direct object clitic (if there is such a clitic, the participle agrees with it).

[18]Kayne suggests that *se* actually adjoins to AGR_s to make it strong. This is incompatible with our treatment of clitics. I assume the relevant effect is triggered by the *pro* that *se* stands for raising to [spec, AGR_sP]. My skepticism concerning

clitic placement as successive incorporation is also based on considerations similar to those discussed in Sportiche (1992) in connection with restructuring and agreement.

[19]There is another undesirable feature of the analysis stating that *se* is an external argument, namely that we have to stipulate external. Under this new formulation, it might be possible to drop specific reference to AGR_s and simply state that *se* is linked to AGR. I will not pursue this question here.

[20]How to handle the passive case is less clear, given the well-formedness of passive participle predicate cliticization. Kayne suggests that, just like adjectives and unaccusatives, they lack the DP* projection because they all lack Tense interpretation.

[21]Kayne (1975) actually attributed the first one to the impossibility of pronominalizing a raising complement, before the theory of small clauses multiplied the existence of raising structures.

[22]The same result would hold for standard Italian, but for the opposite reason, as *sembrare* takes *essere* and its participle agrees with its derived subject. At the same time, reflexivizing an indirect object (without cliticizing or passivizing a direct object) also triggers participle agreement. In Italian, the structure is thus ruled out because both DPs compete for [spec, AGR_o]. This account predicts that (41) should be well-formed in a language unlike French but like Italian in selecting *be* with *seem,* and like French but unlike Italian in not having participle agreement with indirect object reflexive.

[23]This is slightly different from Larson's proposal but preserves its essential features.

[24]Judgments vary somewhat on the intermediate case. Chomsky (1986) gives them as unacceptable. There seems to be agreement, however, on the intermediate status.

[25]Absent from consideration here are subject control and object control COMPLEMENT small clauses, which seem not to exist (nothing like *John persuaded/promised Bill [PRO sick]*—this gap is discussed in Schein, this Volume—nor certain raising-to-subject complement small clauses such as, e.g., *John strikes me [as t intelligent]*).

[26]For example, how exactly to derive the surface structure; what is a root clause. One problem, namely how to account for the fact that PRO can only be controlled by subjects and objects—cf. Williams's (1980) contrast *He ate the meat raw/*He ate at the meat raw*—could be linked to objects and subjects having to raise high enough in the structure [if, say, the relevant AGR_o is above *sometimes* in (58c)].

[27]The syntactic structures also differ as the latter is more akin to right dislocation in correlating the clause forming its own intonational phrase, unlike what happens in (59b).

INDEX

T

This page intentionally left blank

SYNTAX AND SEMANTICS

Volume 1
edited by John P. Kimball

Volume 2
edited by John P. Kimball

Volume 3: Speech Acts
edited by Peter Cole and Jerry L. Morgan

Volume 4
edited by John P. Kimball

Volume 5: Japanese Generative Grammar
edited by Masayoshi Shibatani

Volume 6: The Grammar of Causative Constructions
edited by Masayoshi Shibatani

Volume 7: Notes from the Linguistic Underground
edited by James D. McCawley

Volume 8: Grammatical Relations
edited by Peter Cole and Jerrold M. Sadock

Volume 9: Pragmatics
edited by Peter Cole

Volume 10: Selections from the Third Groningen Round Table
edited by Frank Heny and Helmut S. Schnelle

Volume 11: Presupposition
edited by Choon-Kyu Oh and David S. Dinneen

Volume 12: Discourse and Syntax
edited by Talmy Givón

Volume 13: Current Approaches to Syntax
edited by Edith A. Moravcsik and Jessica R. Wirth

Volume 14: Tense and Aspect
edited by Philip J. Tedeschi and Annie Zaenen

Volume 15: Studies in Transitivity
edited by Paul J. Hopper and Sandra A. Thompson

Volume 16: The Syntax of Native American Languages
edited by Eung-Do Cook and Donna B. Gerdts

Volume 17: Composite Predicates in English
Ray Cattell

Volume 18: Diachronic Syntax: The Kartvelian Case
Alice C. Harris

Volume 19: The Syntax of Pronominal Clitics
edited by Hagit Borer

Volume 20: Discontinuous Constituency
edited by Geoffrey J. Huck and Almerindo E. Ojeda

Volume 21: Thematic Relations
edited by Wendy Wilkins

Volume 22: Structure and Case Marking in Japanese
Shigeru Miyagawa

Volume 23: The Syntax of the Modern Celtic Languages
edited by Randall Hendrick

Volume 24: Modern Icelandic Syntax
edited by Joan Maling and Annie Zaenen

Volume 25: Perspectives on Phrase Structure: Heads and Licensing
edited by Susan D. Rothstein

Volume 26: Syntax and the Lexicon
edited by Tim Stowell and Eric Wehrli

Volume 27: The Syntactic Structure of Hungarian
edited by Ferenc Kiefer and Katalin É. Kiss

Volume 28: Small Clauses
edited by Anna Cardinaletti and Maria Teresa Guasti