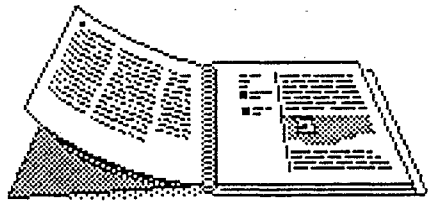
Zentrum für Allgemeine Sprachwissenschaft,
Sprachtypologie und Universalienforschung

ZAS Papers in Linguistics

Volume 26
Dezember 2001



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ISSN 1435-9588

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Syntax of Predication

Proceedings of the Workshop on Syntax of Predication
Nov. 2-3, 2001, ZAS-Berlin

Edited by

Niina Zhang

This volume is downloadable: http://www.zas.gwz-berlin.de/papers/zaspil/infos/index.htm

ZAS Papers in Linguistics 26, 2001

Syntax of Predication

Edited by
Niina Zhang

Contents

Preface

This volume presents working versions of presentations heard at and selected for *the Workshop on Syntax of Predication*, held at ZAS, Berlin, on November 2-3, 2001 (except the editor's own paper).

Predication is a many-faceted topic which involves both syntax and semantics and the interface between them. This is reflected in the papers of the volume.

Tor A. Åfarli & **Kristin M. Eide**'s paper 'Predication at the Interface' asks a basic question what role predication plays in the computation of human language. They aim to show that syntactic operations are basically semantically driven. David Adger & Gillian Ramchand's 'Predication and Equation' investigates how the structures of predication, especially that of nominal predication, tell us the relationship between syntax and semantics.

Peter Svenonius' 'Case and Event Structure' and **Kylie Richardson**'s 'What Secondary Predicates in Russian Tell us About the Link Between Tense, Aspect and Case' both reveal the interpretable side of formal features such as case in primary and secondary predication.

Ana Ardid-Gumiel's 'The Syntax of Depictives, Subjects, Modes of Judgement and I-L/S-L Properties,' explores the syntactic and semantic properties of depictives in Spanish. Readers will see an interesting link between the conditions she finds for Spanish Individual Level depictives and Richardson's description of Russian depictives in Instrumental case.

Focussing on Pseudo-Relatives in Romance, Prepositional Infinitival Constructions, and *regard-as & take-for* constructions, **Joan Rafel**'s contribution, 'The Syntax of Small Clause Predication,' proposes a unified syntactic configuration for predication in general.

In **Kleanthes K. Grohmann**'s 'On Predication, Derivation and Anti-Locality,' the proposed constraint on movement, i.e., Anti-Locality, is tested in the derivations of secondary predication constructions.

Three papers touch the topic how to explain cross-linguistic variations in secondary predication. **Jaume Mateu**'s 'Small Clause Results Revisited' provides a morpho-syntactic account for the well-known typological distinction between 'satellite-framed languages' such as English and German and 'verb-framed languages' such as Catalan and Spanish. In 'Secondary Predication and Default Case,' **Youngjun Jang** & **Siyoun Kim** claim that the fact that if a verb is intransitive, the subject of a secondary predicate is nominative in Korean, rather than Accusative as expected from the English point of view, is the result of default case. Finally, **Niina Zhang**'s 'On Nonprimary Selectional Restrictions' makes a proposal that in computing nonprimary predication, verbs show a special type of c- and s-selectional restrictions, which account for cross-linguistic and language-internal variations in the constraints on category and semantic type of nonprimary predicates.

The contributions represent research on central syntactic and semantic topics that throws light on properties of primary and secondary predication from different point of view.

Papers presented at the workshop that do not appear in this volume:
Primary Predicates as Matrix Small Clauses (John Frederick Bailyn)
The Recursion of Predication (Edit Doron & Caroline Heycock)
Building Complex Events in Hindi/Urdu (Miriam Butt & Gillian Ramchand)
Primitive Elements of Verbal Predicates: Evidence from Persian (Karine Megerdoomian)

It has been a pleasure to be both an organizer of the workshop and an editor for this volume. I thank all participants and local colleagues for contributing to the success of the workshop, and the authors of this volume. I also thank Mathias Krüger for making this first online volume of *ZASPIL* possible.

I hope you will enjoy these papers as much as I did.

Berlin, December 20, 2001
Niina Zhang

Predication and Equation

David Adger and Gillian Ramchand

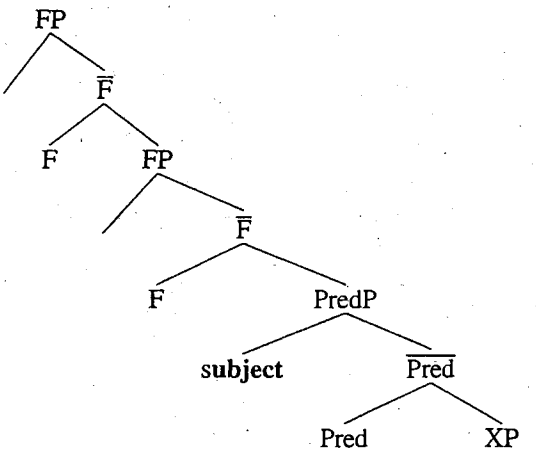
August 9, 2001

1 Introduction: Predication and the Syntax-Semantics Interface

Natural language propositions are often considered to contain a thematic core expressing predicate argument relationships (often termed a *small clause*). Work exploring this idea has been foundational, both to our understanding of clause structure (Williams 1980, Williams 1983a, Manzini 1983, Hoekstra 1984, Bowers 1993, Stowell 1981 and many others) and the semantic construction of predicational relationships (Higginbotham 1985, Rothstein 1995, Doron 1983, Rapoport 1987, among others). This paper defends the view that there is an extremely tight relationship between the syntax and semantics of predication, and that semantic predication always feeds off a syntactic structure containing a predicational head (following Bowers 1993; Svenonius 1994). We do this on the basis of data from Scottish Gaelic, which appears to challenge such a tightly constrained relationship between syntax and semantics. We show that this data, when understood properly, actually provides extra motivation for this approach. This means that it is not necessary to postulate different types of underlying structure to account for apparent differences in the interpretation of predication (contra Rothstein 1995, Rapoport 1987, Pereltsvaig 2001).

More specifically, the view that we defend is that a clause consists of a predicational core where thematic relations are licensed, and which is delimited by a head, Pred. Pred acts as the syntactic edge of the predicational core (Chomsky 1998, Chomsky 1999) and its projection is surmounted by an articulated functional domain containing heads which check formal features, trigger displacement, and mediate other important grammatical and information structural properties of the clause. The predicational core itself is asymmetrically constituted such that the 'argument' of the predicate constructed by the head and its complement sits in the specifier position of the predicate phrase.

(1)



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This kind of view of the lower domain of clause structure developed from early work by Stowell (1981) which took lexical categories themselves to be predicational. Once it is assumed that predication is mediated through an (essentially) functional head (see, for example, Hornstein and Lightfoot 1987, Raposo and Uriagereka 1990, Moro 1988), the question arises as to what may be the complement of this head. More specifically, are there constraints upon the category, or the semantic type, of XP? A natural translation of Stowell's original insight into the current framework answers this question with a yes: the syntactic category of XP is restricted to the set of lexical categories (N, V, A, P) and semantically these categories may all be unsaturated, in the Fregean sense (see Higginbotham 1985).

The most pressing empirical challenge then becomes equative sentences. Equatives consist of two DPs and a copular verb:

(2) Mairead's songs are Micheal's joy

Since DPs are not lexical categories, and since at least some DPs are usually assumed to be saturated (Higginbotham 1985; Higginbotham 1987), it appears that we have a type of sentence which cannot be reduced to the predicational structure outlined above.

One way of dealing with this problem, is to site the source of the two kinds of predication in the copular verb *be*. This entails that the copula is ambiguous, appearing as both a semantically empty auxiliary, and as a true verb signifying identity between its arguments (Higgins 1973, Rapoport 1987, Zaring 1996, Carnie 1997, Higginbotham 1987). From this perspective, (1) has a reading familiar from classical logic, where the identity predicate is introduced by the copula:

(3) **Mairead's-songs = Micheal's-joy**

Closely related to this idea are analyses where there are two different types of small clause, one underlying equative sentences, and the other underlying predicative sentences (Heycock 1994, Carnie 1997, Heycock and Kroch 1999), each with an associated logical representation. This idea divorces the kind of predication from the copula itself, thus avoiding having to specify an ambiguous copula. However, it weakens the tight one-to-one mapping between the syntax and semantics of predication represented by (1) above.

An alternative is to reject the assumption that proper names and other DPs such as possessives and definites are obligatorily saturated. This approach has been taken by Heggie (1988), Moro (1997) and, for pseudo-clefts, Williams (1994). These authors argue that, in cases where two DPs appear in copular sentences, one of them is semantically and syntactically the predicate, while the other is referential:

(4) (a) Jenny is the doctor.
(b) The doctor is Jenny.

Under this view, *the doctor* is the predicate in both these examples. Syntactically, the (b) example involves raising this DP predicate to some higher position ([Spec, CP] for Heggie (1988), [Spec, IP] for Moro (1997)). Heggie and Moro provide syntactic evidence (from extraction, cliticisation, pronominalisation, focus effects etc) that there is a syntactic asymmetry in these cases. This kind of analysis entails either that we give up the PredP framework, or that somehow DPs may be the complement of Pred.

Assuming that we maintain the PredP framework, and that Pred always takes an unsaturated complement, we are forced to assume a more complicated picture of the relationship between the syntax and semantics of nominal projections. We have to allow DPs to have more than one interpretation, since they can be referential but also apparently predicative (Partee 1987). If DPs can be both predicative and referential then we do not have an obvious way of maintaining a strict one-to-one mapping between the syntactic category and the semantic type.

Summarizing then, there are two broad lines of attack on the problem of how to approach sentences which contain two DPs: (i) adopt the idea that there are two kinds of predicational structure available, correlating roughly with predicational and equative interpretations; (ii) take the perspective that there is only one kind of predicational structure, but that the complement of Pred is not restricted to lexical categories.

English is one language where equative sentences and non-equative sentences have a similar surface syntax (but see Heggie 1988 and Moro 1997 for a discussion of more subtle differences). In this paper we address the fact that many other languages appear to use radically different morphological means which seem to map to intuitive differences in the type of predication expressed. We take one such language, Scottish Gaelic, and show that the real difference is not between equative and non-equative sentences, but is rather dependent on whether the predicational head in the structure proposed above is eventive or not.

We show that the aparently odd syntax of "equatives" in this language derives from the fact that they are constructed via a non-eventive Pred head. Since Pred heads cannot combine with non-predicative categories, such as saturated DPs, "equatives" are built up indirectly from a simple predicational structure with a semantically bleached predicate. This approach not only allows us to maintain a strict one-to-one syntax/semantics mapping for predicational syntax, but also for the syntax of DPs. The argument we develop here, then, suggests that the interface between the syntactic and semantic components is maximally economical — one could say perfect.

2 Scottish Gaelic Predicational Structures

One of the major arguments we present in this paper is that DPs cannot be the complement of Pred, a fact, which if true, receives an explanation based on the function of the D-layer in a DP and the syntactic requirements of Pred. We begin by outlining the syntax of clauses, and specifically predicative clauses in Scottish Gaelic with a view to establishing this claim.

2.1 Basic clause structure

Scottish Gaelic is a language closely related to Modern Irish. It has a basic VSO structure, with the finite verb preceding the subject and object. The arguments adduced by McCloskey (1983) to show that Modern Irish VSO is derived from an underlying SVO order can be replicated for Scottish Gaelic (Adger 1996, Ramchand 1997). We assume, therefore, that an example like the following has the structure indicated, with the verb raising from its base position to some head within the functional domain of the clause.

(5) Chunnaic$_i$ Calum [t_i Mairi].
See-PAST Calum Mairi
'Calum saw Mairi.'

The difference between Scottish Gaelic and more familiar SVO languages is just that in Scottish Gaelic, the main verb raises to T while the the subject phrase remains in situ. Chung and McCloskey (1987) provide a compelling range of arguments which show that in Irish, when the verb does not raise (because T is absent, or filled with an auxiliary), the string containing the *in situ* subject and predicate behaves like a constituent. Once again, the same arguments can be made for Scottish Gaelic (Ramchand 1997).

This general picture of Irish and Scottish Gaelic clause structure is uncontroversial. For concreteness, however, we will translate these basic ideas and intuitions into a broadly Minimalist framework, following the notation and some of the ideas of Pesetsky and Torrego (2000), Chomsky (1999) and Chomsky (1998).

The approach to clausal structure we will follow is roughly that of Adger (2001). We adopt the idea that the VP domain is split into more than one head position (Larson 1987; Chomsky 1995b), and that the subject is Merged in the specifier of a 'little v', which is a particular flavour of Pred.

We assume that heads and phrases consist of syntactic features, some of which are specified as *uninterpretable*. Uninterpretable features must be marked for deletion during the derivation, since they are not tolerated by the interface systems of Spellout or LF-Interpretation. We notate a feature [F] as uninterpretable by prefixing it with a *u*: [*u*F], following Pesetsky and Torrego (2000).

In addition to interpretability, features may also have an EPP property. The EPP property of a feature [F_{EPP}] is satisfied by filling the specifier of the head which [F] sits on (H(F)) with some XP with which F has Agreed, where the XP contains phonological material. This means that we adopt a view of the EPP which sees it as a structural licensing requirement for particular heads which feeds into well-formedness requirements of the spellout component. In some ways, EPP on a head is like an affixal-feature.

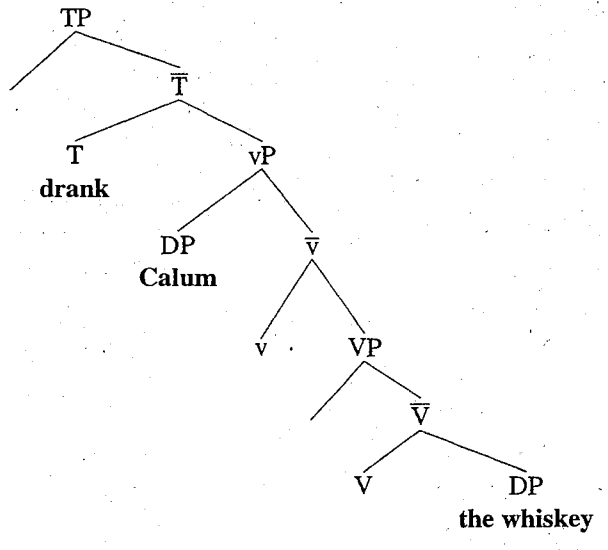
As far as head movement is concerned, we assume that if XP is the complement of H(F), then the head of XP (H(XP)=X) moves and adjoins to H(F). Once again, we assume that the satisfaction of EPP is sensitive to phonology, making EPP which attracts heads even more like a stray-affix requirement.

To implement the generalisation that some overt material always appears in T, we assume that T bears an EPP feature as a sub-feature of its category feature [T_{EPP}] (following Pesetsky and Torrego 2000). We follow Alexiadou and Anagnostopoulou (1998), who propose that languages differ in whether the EPP feature of T is satisfied by movement to T^0 or [Spec, TP], and assume that the parameter is set for T^0 in Scottish Gaelic.

In Scottish Gaelic, the EPP feature of T can actually be satisfied in one of two ways. The first way involves movement of the main verb from V through v and up to T (as in (6, 7)).[1]

(6) Dh'òl Calum an t-uisge beatha.
Drink-PAST Calum the whiskey
'Calum drank the whiskey.'

(7)



The second way to satisfy the EPP feature of T involves the Merge of an independent lexical item carrying pure tense features; compare (6) above with (8).

(8) Bha Calum ag òl uisge beatha.
Be-PAST Calum ASP drinking whiskey
'Calum was drinking whiskey.'

[1]This movement is mediated by the relation of Agree and is driven by the existence of uninterpretable v and T features on V and v respectively. See Adger (2001) for the details of the implementation in the Scottish Gaelic case.

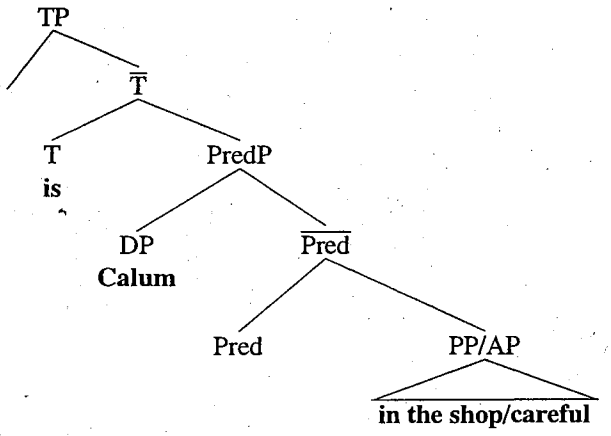
In this example T is filled by the finite auxiliary shown in the example above, which is usually a form of the verb *bith*, 'be'. *Bith* is, in the traditional grammatical literature, termed the *substantive auxiliary* and we will accordingly refer to these constructions as *Substantive Auxiliary Constructions* (SACs). The SAC allows us to see more clearly the range of constituents which can appear in the PredP position of the sentence. We demonstrate some of these possibilities in the following examples[2]:

(9) Tha Calum faiceallach.
Be-PRES Calum careful
'Calum is (being) careful.'

(10) Tha Calum anns a'bhuth.
Be-PRES Calum in the shop
'Calum is in the shop.'

In the above examples, we see an AP predicate and a PP in the predicate position. We will assume that the subjects of these predicates are introduced by another variety of a little v head, which we will notate as Pred (Bowers 1993, Svenonius 1994, Adger 2001). Pred contains only interpretable features and so does not enter into an Agree relation with T. The EPP property of T's tense features is satisfied by Merging in a version of the substantive auxiliary *bith*.

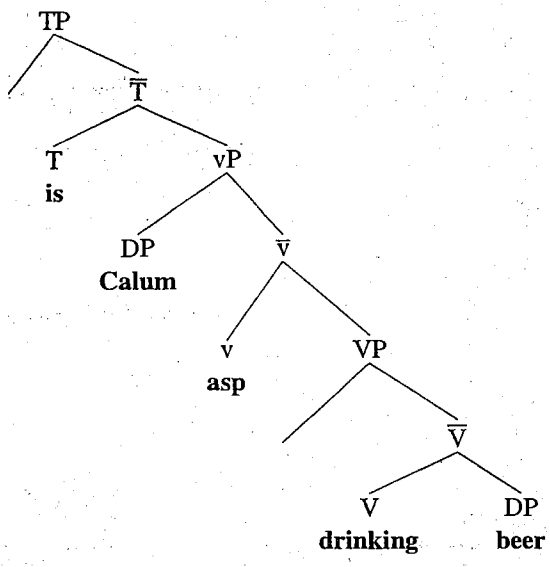
(11)



We adopt the same kind of analysis in the case of constructions where the little v head encodes some aspectual property, such as (8) above:

[2]The forms *bha* and *tha* are respectively suppletive past and present versions of the substantive auxiliary.

(12)



This approach predicts that the string *Calum ag òl leann* in (8) is a constituent independent of the appearance of the substantive auxiliary, a prediction which is backed up by the appearance of [Subj AspP/AP/PP] strings in small clause structures such as the tenseless absolutive construction in the following examples:

(13) Chunnaic mi Calum agus [e ag òl leann].
See-PAST I Calum and [him prog drinking beer]
'I saw Calum while he was drinking beer.'

(14) Chunnaic mi Calum agus [e air a mhisg].
See-PAST I Calum and [him on his drunkenness]
'I saw Calum while he was drunk.'

(15) Chunnaic mi Calum agus [e uamhasach toilichte].
See-PAST I Calum and [him terribly happy]
'I saw Calum while he was really happy.'

2.2 Nominal predication and the Substantive Auxiliary

We now turn to cases where the predicative core of the clause consists of two nominals. In such cases, a simple NP predicate is barred:

(16) *Tha Calum tidsear.
Be-PRES Calum teacher
'Calum is a teacher.'

(17) *Chunnaic mi Calum agus [e tidsear].
See-PAST I Calum and [him teacher]
'I saw Calum while he was a teacher.'

Similar facts are noted for Irish by Chung and McCloskey (1987). In place of a simple NP predication, we find a richer structure:

(18) Tha Calum 'na thidsear.
Be-PRES Calum in+3sg teacher
'Calum is a teacher.'

(19) Chunnaic mi Calum agus [e 'na thidsear].
See-PAST I Calum and [him in-3MS teacher]
'I saw Calum while he was a teacher.'

The particle *'na* seen before the NP in these sentences consists, morphologically at least, of the preposition *ann*, "in," incorporating a possessive pronoun which agrees in ϕ-feature specification with the subject, so as well as (18), we have (20):

(20) Tha mi 'nam thidsear.
Be-PRES I in+1sg teacher
'I am a teacher.'

Why should there be this extra material? Under the system of assumptions we have built up so far, we might expect to be able to use the Pred head which cooccurred with APs, and PPs with NPs too, an expectation which is clearly not met.

We put this difference down to the different denotational properties of NPs as opposed to PPs, APs, and verbal constructions: NPs denote properties of individual entities, whereas APs, PPs and verbal constructions denote properties of individuals with respect to an eventuality. The idea that nominals lack an eventiality variable in their logical representation has been argued for by Higginbotham (1985) and Parsons (1990), among others. One way of expressing the distinction is to say that NP predicates are individual-level in this language, while APs etc. are stage-level. We follow Ramchand (1996) in taking the SAC in Scottish Gaelic to have an obligatorily stage-level type interpretation because the substantive auxiliary must bind an eventuality variable, and thus will reject the use of NP predicates as the complement of the null Pred head. Instead, the language employs an expletive prepositional head *ann*-'in' which by virtue of being a P possesses an eventuality variable, and also selects an NP complement. This PP projection is now possible as the complement of the null Pred head, which needs to bind an eventuality variable in its complement domain. In essence all that the overt prepositional head does is semantically convert the NP into a stage-level predicate with an appropriate variable position to bind (see Ramchand 1996 for details and evidence).[3]

The data we have presented so far does not constitute a challenge for the PredP approach to predication, and, in fact, provides some support for the existence of a separate predicative head. NP predication uses the same mechanisms as AP and PP predication, and in fact is unified with finite verbal structures at the right level of abstraction. All of these structures involve a predicative head which introduces an external argument and which enters into various feature-checking relationships with other heads and XPs in the structure.

However, it is worth noting at this point that, although NPs may be predicates within an SAC, DPs cannot be:

(21) *Tha Calum an tidsear.
Be-PRES Calum the teacher
'Calum is the teacher.'

This is equally true in other constructions which take a PredP, such as the absolutive construction we met earlier:

[3]Note here also that the aspectual heads found in Scottish Gaelic are also etymologically derived from a prepositional source, suggesting the naturalness of this kind of diachronic reanalysis of preposition to event structural functional head from a language internal point of view.

(22) *Chunnaic mi Calum agus [e an tidsear].
See-PAST I Calum and [him the teacher]
'I saw Calum while he was the teacher.'

(23) *Bhuail mi Calum agus [e mo bhràthair].
Hit-PAST I Calum and [him my brother]
'I hit Calum while/though he was my brother.'

(24) *Bhuail mi Calum agus e [an càraid as fheàrr agam].
Hit-PAST I Calum and him the friend best at-me
'I hit Calum while he was my best friend.'

Unlike in the case of NP predication, there is no way of "saving" this structure by using some extra morphological material, such as the *ann* particle we saw earlier:

(25) *Tha Calum anns an tidsear.
Be-PRES Calum in the teacher
'Calum is the teacher.'

Summarizing, then, whereas projections of lexical categories such as NP, PP, VP or AP may occur as the complement of Pred, DPs cannot. We return to a more formal discussion of this restriction in section 4.2.

3 A Challenge: Inverted Copular Clauses (ICCs)

In addition to the Substantive Auxiliary Constructions, Scottish Gaelic has another, more unusual, way of forming predicative structures. These constructions appear to involve the inversion of the predicate to a position in front of the subject, and we will therefore refer to them as Inverted Copular Constructions (ICCs). In Scottish Gaelic, inverted copular constructions are less productive than they were only a century ago, and, except for (an admittedly large number of) idiomatic locutions, they have an archaic flavour, or are high register.

3.1 Copular Inversion structures

Inverted copular constructions consist of the *defective* copula *is/bu* which is immediately followed by the predicate and then the subject. This verb has only these two forms, in contrast to the substantive auxiliary *bith*, which inflects for four tenses (present, past, conditional, future). The form *is* is used when the predication is present, while *bu* marks past, future or conditional[4]:

(26) Is mòr an duine sin.
Cop big that man
'That man is big.'

(27) Is le Calum an cù.
Cop-PRES with Calum the dog
'The dog belongs to Calum.'

[4]It may be that the functional head that appears within clauses of this type is not T at all, but a modal category signalling realis vs. irrealis features. We continue to assume the T functional projection here for concreteness, and because nothing crucial hinges on the particular properties of the functional head here.

The copular verb here is phonologically weak and cliticises to the following predicate. There is evidence that the copula actually forms part of the onset of the syllable following it, suggesting it is incorporated into the following phonological word. This evidence is of two types: the *is* form of the copula is pronounced with a palatalised *s* sound when a front vowel follows, a process which happens within but not between phonological words; if the copula is followed by an aspirated voiceless stop, this stop loses its aspiration, following a general restriction on aspirated stops in word initial *s*-clusters.

Example (26) shows an adjectival predicate, while (27) shows a PP predicate. There is no alternative order, with the subject preceding the predicate:

(28) *Is an duine sin mòr.
Cop that man big
'That man is big.'

(29) *Is an cù leamsa.
Cop-PRES the dog with+ me
'The dog belongs to me.'

As is shown by the translations, the predication in these examples is never tied to particular situations. The ICC always signifies that the predicate is conceived of as holding inherently of the subject, rather than accidentally. This contrast can be seen most clearly through examples like the following, where the use of the past copula is only felicitous if Calum is no longer alive. This is explained if the ICC, in contrast to the SAC, does not contain an eventuality variable. We return to the semantics of the ICC below.

(30) Is tidsear Calum.
Cop-PRES teacher Calum
'Calum is a teacher.'

(31) Bu thidsear Calum.
Cop-PAST teacher Calum
'Calum was a teacher.'

Notice that NP predication follows the same pattern as AP and PP predication: the copular verb is followed immediately by the predicate, which in turn is followed by the subject.

A related restriction on the simple copular construction is that it does not tolerate bare existential subjects (32).

(32) *Is mòr duine.
Cop-PRES big a man
'A man is big.'

The lack of an existential reading is expected, given the individual-level nature of the predication.[5] A detailed analysis of the interaction between generic and existential interpretations of nominals and the relation to the individual-level/stage-level distinction is beyond the scope of this paper (but see Ramchand 1996 for an analysis of the relevant constructions in Scottish Gaelic). We merely note the restriction here, and correlate it with the lack of eventuality variable in these constructions: we surmise that the default existential

[5]It is possible to have a generic reading of the bare nominal in this kind of sentence type. Ramchand (1996) shows that the bare nominal is not independently kind-referring (i.e. this is not a case of D-genericity in the sense of Krifka et al. (1995)) but that the generic reading arises from the binding of the individual variable provided by the nominal by a default Generic operator. Crucially, only this operator is available in ICCs, while default *existential* closure is only possible in SACs.

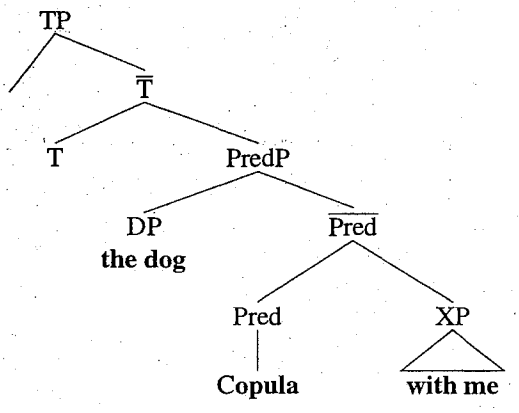
closure found in stage-level propositions (Heim 1982, Diesing 1992) is responsible for the indefinite reading of common nouns in those constructions. This is absent in the inverted copular clause because of the lack of an eventuality variable.

The ICC might be thought to pose an immediate challenge for the PredP approach to predication, since the predicate appears on the 'wrong' side of the subject. There is a debate in the literature as to the exact analysis of these structures which we will only mention here (see Doherty (1996), Carnie (1995), Doherty (1997), Ramchand (1996), Cottell (1997) for fuller exposition, and see Rouveret (1996) for discussion of related questions in Welsh.) The two broad lines of attack can be characterised as follows: (i) these clauses are completely different in their structure from SACs and are built up from different syntactic atoms; (ii) ICCs are derived from SACs via inversion of the predicate phrase.

The empirical evidence which might allow us to choose between these two approaches is rather equivocal, and both approaches seem to be compatible with the data. In the interests of reducing predication to a single structural configuration, we will pursue the second strategy. We assume that the copula is a manifestation of the Pred head, and that it encodes the peculiar semantics of this construction (see below for our explicit proposal). The following shows the phrase structure we assume for sentence (33) below.

(33) Is leamsa an cù.
Cop-PRES with-me (emph) the dog
'The dog belongs to me.'

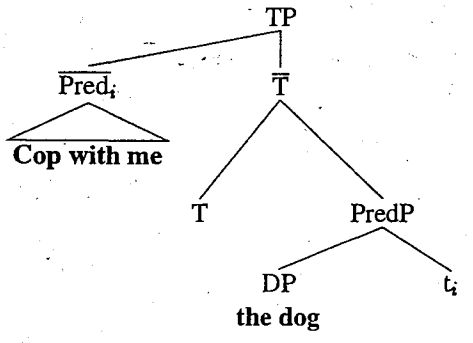
(34)



As before, we adopt the idea that T has the EPP property which must be satisfied by an element which the tense feature Agrees with. The extreme phonological weakness of the copula means that it cannot, on its own, satisfy the EPP property of T. This means head movement of the copula to adjoin to T does not take place. However, the [*u*T] features of the copula are present on its projection, and so Pred′ raises into the specifier of T. In essence the copula pied-pipes its complement to ensure that enough phonological material is carried along to satisfy the EPP requirement of T.[6]

[6]Note that within a Bare Phrase Structure type theory (Chomsky 1995a, Chomsky 1995b) Pred′ is a syntactic object just like any other, and so may move and target a position where it can satisfy the EPP requirements of T. Unlike Carnie (1995), we do not assume that satisfaction of this requirement takes place adjoined to T^0 but rather to T′.

(35)



The ICC is reminiscent of a discussion in the literature about inverted copular structures in other languages. As mentioned in the introduction, Heggie (1988) and Moro (1997) argue that inversion of a predicate takes place in copular clauses in English examples like the following[7]:

(36) (a) Jenny is the teacher.
(b) The teacher is Jenny.

In both of these examples, these authors claim that *the doctor* is the predicate and has raised to its surface position, inverting over the subject.

However, although the ICC construction in Gaelic is reminiscent of these approaches, it cannot be reduced to them for a number of reasons. Firstly, whereas this kind of predicate fronting is restricted to definite DPs in English, as we have seen, it applies to all lexical categories except finite Vs in Gaelic. This gives the following minimal contrast, where an indefinite or bare NP cannot be fronted in English, but must be inverted in a Gaelic ICC:

(37) *(A) teacher is Jenny.

(38) Is tidsear Calum.
Cop-PRES teacher Calum
'Calum is a teacher.'

(39) *Is Calum tidsear.
Cop-PRES Calum teacher
'Calum is a teacher.'

Even more strikingly, the same generalisation that we saw with SACs also holds of ICCs: DPs are incompatible with the predicate position of an ICC.

(40) *Is an tidsear Calum.
Cop-PRES the teacher Calum
'Calum is the teacher.'

(41) *Is Calum an tidsear.
Cop-PRES Calum the teacher
'Calum is the teacher.'

[7]We discuss the case of English constructions in more detail in section 5

Note that constructions with the defective copula in Pred accept NP as well as AP and PP as complements. This copula, unlike the substantive verb, does not require an eventiality variable to bind but rather predicates the property denoted by its complement directly of its subject.[8] We assume that NPs denote simple atomic properties (see Chierchia (1984) and (4.1) for fuller discussion) and propose that the semantics of the defective copula is as follows:

(42) $[\![\text{is}]\!] = \lambda\pi\lambda x[\text{holds}(\pi, x)]$

Here, π is the semantic type of simple properties. The copula's function is to state that the property denoted by its complement holds of its specifier. The lack of any variable signifying spatio-temporal location is what results in the distinction in interpretation between the defective copula and the substantive one.[9]

We noted earlier that these constructions were not fully productive in Scottish Gaelic, and this is also true in Irish for APs and PPs (Stenson 1981). We assume that this is because the defective copula in the colloquial language is now highly selective of the lexical items with which it can combine. However, the forms that do exist all conform systematically to the syntax and semantics we have outlined above, and our informants possess robust intuitions about them.

3.2 A Further Challenge: Augmented Copular Constructions (ACCs)

We have now seen the two major ways of constructing predicational structures in Scottish Gaelic: the SAC, where the predicate stays in situ unless it is a tensed verb, and the ICC where the movement of the copula pied-pipes the copula's complement, leading to an inverted structure. Both of these constructions can be profitably analysed as involving the PredP structure discussed in section (1), and neither is compatible with a DP predicate.

However, it is possible to join two DPs with the defective copula as long as an extra element appears. This extra element is morphologically a third masculine singular pronoun, and is traditionally termed *the pronominal augment*. We will therefore refer to these copular constructions as *Augmented Copular Constructions* (ACCs). In an ACC, the augment imediately follows the copula, which is then followed by the two DPs:

(43) 'S e Calum an tidsear
Cop 3sg Calum (**DP1**) the teacher (**DP2**)
'Calum is the teacher.'

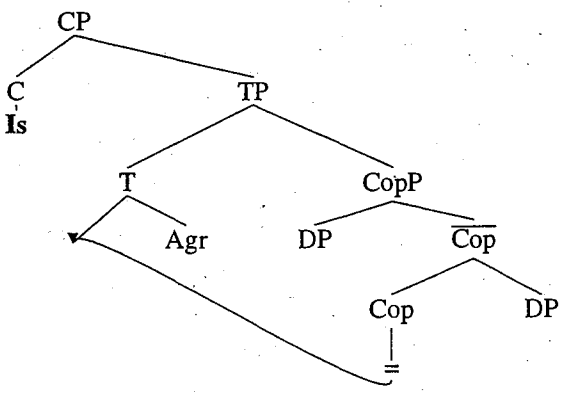
Augmented copular constructions are not restricted to Scottish Gaelic and Irish. Pronominal elements appear in copular clauses in Hebrew (Doron 1988); Arabic (Eid 1983); Polish (Rothstein 1986); Zapotec (Lee 1999) and other languages. Our contention is that where such pronominals appear, they are the true predicates of the construction, which means that one of the DPs is interpreted via a link with this pronominal. We shall argue that this account both allows us to maintain a maximally simple relation between the syntax and semantics of predication, as well as explaining a range of empirical properties of these constructions.

[8]The intuitive difference between SACs and the ICCs shown in this section could be described in terms of the stage- vs. individual-level distinction of Kratzer (1995). However, we way we implement this does not involve a difference in lexical entries of predicates. Rather, we follow Ramchand (1996) in seeing the difference as a syntactic/semantic property of the construction: in the SAC the proposition involves the assertion of the existence of an event of a particular type; in ICCs, an atomic property is predicated directly of an individual.

[9]Note that this implies that APs and PPs also denote nominalised properties in these constructions. This seems to be the right result: ICCs are fully productive in Irish for NPs but restricted in a fairly idiosyncratic way for APs and PPs. Where APs are productive in this environment is in comparative forms, which have been independently argued to be nominalisations by Stenson (1977) and Adger (1999). See section (4.2) for further discussion.

ACCs have been previously addressed in the literature on Irish copular constructions. Carnie (1997) argues that these constructions are true equatives, and that there is a null copula which takes two arguments and equates them (see also Zaring 1996). Under this view, the pronominal element is simply an agreement head (following proposals of Doron (1983) for Hebrew). Schematically, this analysis looks as follows:

(44)



This proposal appears to receive support from considerations brought to bear by Heycock and Kroch (1999) who argue on the basis of sentences like (45), that true equatives really do exist:

(45) (a) Your attitude towards Jones is my attitude towards Davies.
(b) My attitude towards Davies is your attitude towards Jones.

In these examples it is difficult to treat one or the other of the two DPs as truly a predicate. Either one can be the syntactic subject with little apparent difference in interpretation. If such sentences exist in English, then one might be tempted to argue that this is what is going on in the Irish and Scottish Gaelic ACCs. However, there are a number of arguments against going down this path. Perhaps most strikingly, there is always an interpretive asymmetry between the two DPs in Scottish Gaelic (and also in Irish: see Stenson 1981). In (46), the only interpretation is that DP2, *Hamlet* is the name of a role. If we swap the two DPs around, it is impossible to interpret the sentence in the same way, even given world knowledge about actors and parts in plays:

(46) 'S e Sean Hamlet a-nochd
Cop he Sean Hamlet tonight
'Sean is (playing) Hamlet.'

(47) *'S e Hamlet Sean a-nochd
Cop he Hamlet Sean tonight
'Sean is (playing) Hamlet.'

We see here a contrast with what happens in other languages. Williams reports that the inverted sentences are fine in English (Williams 1983b), as does Pereltsvaig (2001) for Russian.

(48) Sean is Hamlet tonight.

(49) Hamlet is Sean tonight.

10

[10]We will give our account of the differences between English and Scottish Gaelic in section 5.3. In fact, we will argue that there are asymmetries in interpretation even in the English cases, which indicate syntactic and predicational asymmetries at work. But, regardless of the analysis given to the English cases, the point here is that it is impossible to avoid the conclusion that there is no identity predicate in the case of Scottish Gaelic.

(50) Vysotskij byl Gamlet
Vysotsky-NOM was Hamlet-NOM
'Vysotsky is (playing) Hamlet.'

(51) Gamlet byl Vysotskij
Hamlet-NOM was Vysotsky-NOM
'Vysotsky is (playing) Hamlet.'

To further emphasise the point, an equality interpretation is simply not available in ACCs. This means that an example like (53) is not an appropriate translation of (52). The paraphrase in (54) must be used instead.

(52) Cicero is Tully.

(53) * 'S e Cicero Tully
Cop-PRES aug Cicero Tully
'Cicero is identical to Tully.'

(54) 'S e Cicero agus Tully an aon duine
Cop-PRES aug Cicero and Tully the same man.
'Cicero and Tully are the same person.'

Aside from the semantic asymmetry, there are a number of other difficulties with an equality predicate based approach to ACCs. Note that such an analysis makes these ACCs structurally identical to a true transitive verb construction, with the second DP in object position. Given this, one would expect that the first DP would behave just like the subject of a transitive verb, and the second just like an object. This expectation is not borne out in a number of ways.

Firstly, certain temporal and speaker-oriented adverbs are barred from appearing between the subject and object in a transitive sentence:

(55) * Chunnaic Mairi an uair sin Sean
See-PAST Mairi then Sean
'Mary saw Sean then.'

(56) * Chunnaic Mairi gu fortanach Sean
See-PAST Mairi fortunately Sean
'Mary fortunately saw Sean.'

However, these adverbs may appear between DP1 and DP2 in an ACC:

(57) 'B e Mairi an uair sin an tidsear
Cop-PAST Aug Mairi then the teacher
'Mairi was the teacher then.'

(58) 'S e Calum gu fortanach Hamlet a-nochd
Cop Aug Calum fortunately Hamlet tonight
'Calum is fortunately (playing) Hamlet tonight.'

Secondly, either the subject or object of a transitive verb may be questioned or relativised upon:

(59) Cò$_i$ a chunnaic thu t$_i$?
Who saw you
'Who did you see?

(60) Cò$_i$ a chunnaic t$_i$ Calum?
Who saw Calum
'Who saw Calum?

However, speakers report that there are asymmetries in extraction from ACCs: DP1 is extractable, but DP2 is not:[11]

(61) Cò an tidsear/Hamlet?
Who the teacher/Hamlet
Answer: 's e Calum (an tidsear)/(Hamlet)

(62) ??Cò Calum?
who Calum
(seeking the answer: 'S e Calum an tidsear')

In addition, interpreting the augment as agreement raises problems of its own: in Scottish Gaelic, agreement is always in complementary distribution with overt DP arguments (see Hale and McCloskey 1984 for Irish and Adger 1996 for Gaelic); if the augment were an agreement marker, it would be the only agreement of its kind in the language.

The ACC then does look like a prima facie challenge for the strong claims made about the syntax and semantics of predicational structures in the introduction. It cannot be reduced to a transitive construction, and we have seen already that the Pred head in predicative constructions does not accept a DP complement.

We mention two further facts about ACCs that we believe any analysis of these structures should be able to account for. Firstly, no analysis assimilating ACCs to transitive clauses with agreement accounts for the generalisation that these structures have the property that the first DP after the augment is in presentational focus and receives the main sentence stress. An extremely natural way of answering a wh-question like (61) above is by using the appropriate ACC, with the new information occurring immediately after the augment. It is impossible to answer this question with the DPs the other way around:

(63) Cò an tidsear?
Who the teacher?
Answer: 's e Calum an tidsear.
Answer: * 's e an tidsear Calum.

The focus properties of the ACC are especially striking considering that, in all other cases, nuclear stress always falls on the *rightmost* stressable element of the final phrase in the clause, unless some dislocation operation has taken place:

(64) Chunnaic Màiri SEAN.
See-PAST Mairi Sean
'Mary saw Sean.'

[11] Stenson (1981) reports that such asymmetries are also marked in Irish, although she does not give the same judgement as we report here. All that we wish to emphasis is that there is a contrast between the behaviour of the ACC and that of simple transitive clauses. The marked nature of these constructions appears to be dependent on their informational status, which, in section (4.4) we tie down to their syntax.

The second fact about ACCs is that they involve the same morphological material as ICCs. An analysis which treats the ACC as involving an equality predicate misses this generalisation.

In the next section, we will argue that, despite appearances, we do not need to allow a different structure for the kind of predication that involves two DPs. We will analyse ACCs as a subtype of ICCs, involving the copula. We will argue that the augment is the predicate in these constructions, and that it inverts with the subject in the same way that other predicates in copular clauses do. The difference between ACCs and ICCs is not really the augment, it is rather the presence of an extra DP which is semantically linked to the augment, in much the same way as DPs are linked to argumental pronouns in pronominal argument languages (see Jelinek 1984).

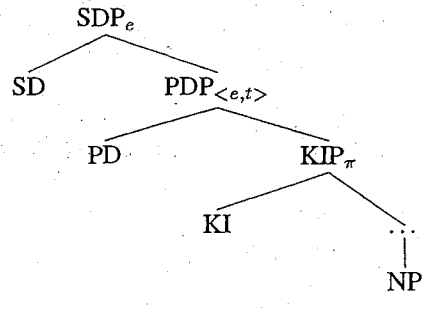
4 Analysis of ACCs

At this stage, it is clear that definite DPs give rise to serious deviations from the normal predicational structures found in this language. We will argue that the special status of these DPs derives from their semantics, and moreover that the semantics of nominal projections is correlated with their syntactic status within an articulated DP projection (Zamparelli 2000, Longobardi 1994). Firstly, we lay out our assumptions concerning the number and type of projections found within the DP, assumptions based on Zamparelli (2000). Then, we analyse the different types of nominal projection found in Scottish Gaelic and demonstrate the way in which pronouns, proper names, and common nouns pattern together to the exclusion of definite DPs. We use these results together with the semantics of the copula given in section (3.1) to motivate the existence of pronominal predicates in copular constructions. Finally, we show how the analysis of ACCs as involving a pronominal predicate related to a right-adjoined nominal phrase accounts for all the syntactic, semantic and discourse related properties of the construction and allows us to maintain the idea that there is only one underlying predicational structure in the language.

4.1 The Semantics of DPs

We follow Zamparelli (2000) in decomposing the DP into different layers of functional projection. Zamparelli argues on the basis of a wide range of data from English and Italian, that (i) three distinct semantic types can be distinguished within nominal projections, and (ii) these semantic types correlate with distributional and morphological facts to motivate a straightforward one-to-one mapping between syntactic projection and the semantics. These levels of projection and their semantic correspondences are shown below in (65).

(65)



According to Zamparelli, the only truly referential part of the nominal projection is the element heading the *Strong Determiner Phrase* (SDP) position. At this level the DP is of semantic type e. [12] The PD projection is the site of numerals and of certain types of adjectives, it is a *Predicative Determiner Phrase* of

[12] Zamparelli assumes, in addition, that all quantified phrases raise at LF, leaving behind a variable of type e. We will not be concerned with quantified NPs in this paper.

type ⟨e, t⟩. The KIP, the *Kind Determiner Phrase*, is the phrase which denotes an atomic property, or a kind (related to the nominalised properties of Chierchia (1984)). We have already appealed to such a semantic type in our discussion of the semantics of the defective copula. There, we proposed that the defective copula *is/bu* takes an atomic property of type π as its argument and predicates this property of its subject.

Thus, Zamparelli argues for the following correspondences between projections in nominal phrases and their syntactic/semantic distribution:

- SDPs are referential, and only they can appear in argument positions
  'The **dog** is barking.'
- PDPs are predicative and can appear in certain contexts which host, for example, APs
  'Fido is **a dog**.'
- KIPs represent pure properties, and can appear, for example, as the complement of the 'kind of' construction in English.
  'This is a friendly kind of **dog**.'

We adopt this basic proposal, that there are layers of projection within the nominal phrase, and that these layers correspond to distinct semantic types in a one-to-one fashion. This proposal clearly fits in well with the general perspective on the syntax semantics interface that we adopt. We will show that, for Scottish Gaelic, at least two of these levels can be independently motivated: the referential SDP level, and the property-denoting or KIP level.[13]

The semantics associated with SDP and PDP are familiar enough. We assume a semantics for the head KI of KIP which results in KIP denoting an atomic property:

(66) $[\![\text{KI}]\!] = \lambda x\, [\, \iota\pi$: where π is the relevant distinguishing property associated with x]

Take a case where the head of KIP combines with the lexical root *dog*. Once the KIP layer has been projected, we have the following semantics:

(67) $[\![\text{KIP}]\!] = [\, \iota\pi$: where π is the relevant distinguishing property associated with dog]

Other approaches are compatible with what we will say below, as long as the KIP denotes some kind of an atomic type associated with spatio-temporarily undifferentiated properties (see Carlson 1977, Chierchia 1984 for different approaches).

Within Zamparelli's system, there are a number of different ways in which the referential level of projection (the SDP) can be instantiated in natural languages. Firstly, languages may come equipped with lexical determiners that are of category SD. It can also be argued that some pronouns, e.g. clitic pronouns in Italian, are base generated in SD (see Cardinaletti 1993 for a proposal along these lines). Secondly, some Ns can bear a feature which allows them to raise from the lowest position to fill the SD slot of the extended projection. This is plausibly the case with proper names and some pronouns (cf. Longobardi 1994). A third possibility is the insertion of an expletive determiner in the SD position, if one exists in the lexical inventory

[13] We will not make use of Zamparelli's PDP projection in what follows. In our analysis, nominal phrases have only two distinct semantic types: property-denoting or individual denoting. The PDP layer, if it exists in Scottish Gaelic, appears to be syntactically and semantically inactive and we have been unable to identify any empirical effects. However, the analysis we will develop is, with minimal elaboration, broadly compatible with the existence of such a projection. If it truly turns out to be the case that PDP is always inactive in Scottish Gaelic, then this raises interesting questions about the limits of syntactic and semantic variation language allows. In our system, the projection that is interpreted as being of type <e,t> is PredP, and it can select for any projection which is property denoting, regardless of its syntactic category.

of the language.[14] In the case of common nouns, a null expletive head can be generated to create SDPs when found in argument position. In general within this framework, null expletive SD heads need to be bound by anaphoric reference or default existential closure to be semantically well-formed (see Zamparelli 2000:sec 4.4).

Within this overall framework, we will argue that Scottish Gaelic nominals come in two flavours: SDP and KIP. Crucially, we will show that pronominal elements may be bare KIPs in positions where they are not arguments. This will open up the way to an analysis of ACCs.

4.2 Nominal Projections in Scottish Gaelic

In comparing Scottish Gaelic nominal phrases with their English counterparts, the most obvious difference is that Scottish Gaelic possesses an overt definite determiner (see (68)), but no indefinite one (69).

(68) an tidsear - the teacher

(69) tidsear - a teacher

The form in (68) is obligatorily definite, and as we have seen, may never appear as the complement of Pred in a small clause selected in SACs by the substantive auxiliary *bith* (70) (unlike nominal phrases headed by '*the* in English), or as the complement of the copular Pred head *is* in ICCs (71).

(70) *Tha Calum an tidsear.
Be-PRES Calum the teacher

(71) *Is an tidsear Calum.
Cop-PRES the tidsear Calum

From this evidence, we infer that Scottish Gaelic definite determiners are base generated in SD, and that DPs headed by such determiners are obligatorily SDP and can only appear in non-predicative positions. In particular, they can never denote properties and therefore never appear as the complement to Pred.

On the other hand, a bare determinerless nominal can have the meaning of either a nonspecific indefinite (72), or a specific indefinite (73):

(72) Tha mi a'lorg tidsear.
Be-PRES I seeking a teacher
'I am looking for a teacher.'

(73) Bha tidsear ann an seo a-raoir.
Be-PAST a teacher in here last night
'There was a teacher in here last night.'

This indicates that determinerless nouns in Scottish Gaelic can also project to full SDPs and appear in argument position. In general then, nominals may project the SDP layer in argument positions. Nominals with overt determiners are obligatorily SD by virtue of the category of the determiner, while bare nominals project to SD by virtue of the fact they are in argument positions.

[14]Zamparelli argues that some dialects of Italian possess such null expletive determiners for proper names, as opposed to others which raise proper names to SD.

We implement this observation by adopting Zamparelli's idea that certain DPs may contain expletive determiners in SD. Bare NPs in argument position contain an SD layer with an expletive determiner. The projection of SD in argument positions can be forced by assuming that SD is the locus of Case features in the language. Since DPs in argument positions require Case, they have to project to SD. Recall that the ability of the bare noun to get an existential interpretation (whether specific or not) is dependent on the existence of an eventuality variable in the representation. The binding of the individual variable introduced by the null expletive SD head in these cases is achieved via default existential closure triggered by the existence of an eventuality variable. Recall also that in individual-level constructions (specifically, the ICC), bare nouns are impossible as existential subjects of predication, due to the lack of an appropriate binder that semantically identifies the variable supplied by the SD head.

In addition to its use as an argument, the bare noun can also appear as the predicate in the SAC (74) and in these circumstances the particle *ann* inflected with ϕ-features appears. We showed in section (2.2) that whereas adjectives and prepositions could provide an event variable for the null Pred head to bind, an expletive prepositional head is required with nominals, since nominals lack an eventuality variable of their own. This expletive prepositional head appears as *na* in (74).

(74) Tha Calum 'na thidsear.
Be-PRES Calum in+agr teacher
'Calum is a teacher.'

We assume, then, that bare nouns are KIPs where the function of the KI head is to turn the lexical concept expressed by the root into a property, in the way discussed in (4.1). In (74) Pred combines with a bare KIP and adds an eventuality variable into the representation. Note that the complement of Pred is not a Case position, and so no expletive SD is generated.

Bare KIPs may also appear as the complement of the defective copular Pred head in the ICC (75), where they are again Caseless. We argued in section (3.1) that the Pred head in an ICC does not contain an event variable but rather predicates the atomic property directly of its subject, leading to an interpretation analogous to the individual level predication of Kratzer (1995):

(75) Is tidsear Calum.
Cop-PRES teacher Calum
'Calum is a teacher (by vocation).'

We will assume that APs and PPs also combine with the KI head in ICC constructions, and that this combination is lexically restricted, accounting for the differential productivity of these categories. The KI head nominalises the eventuality-bearing predicate expressed by the AP or PP. As mentioned in section (3.1) there is independent evidence for the idea that APs and PPs are nominalised in ICCs.

In summary, then, nominal projections in Scottish Gaelic are either SDPs, in which case they are may appear in argumental positions, or they are KIPs, in which case they occur as the complement of some Pred head.

The next main categories of nominal we need to examine are proper names and pronouns. Once again there is cross-linguistic variation in how these elements are syntactically represented. There are at least three ways in which pronouns and/or proper names can give rise to SDPs in Zamparelli's sense: (i) they could be base generated in SD (as in the case of Romance clitic pronouns); (ii) they could possess a null expletive determiner (as in some varieties of Italian) or (iii) they could raise from the base position to the SD functional head. If (i) were the case, we would expect pronouns and proper names to pattern with DPs headed by overt determiners in Scottish Gaelic in not appearing as the complement of a Pred head. However, if either (ii) or (iii) is the case in Scottish Gaelic, then we would expect that they would pattern with bare nouns in allowing the less articulated property-denoting projection, side by side with the full referential

projection of SDP. SDP would be obligatorily projected in positions where the pronouns check Case, while KIP projections would be licensed elsewhere.

We show that the evidence is that pronouns and proper names do not pattern with the full determiner nominals of the type shown in (68). In what follows, we will concentrate on the analysis of pronouns, since they will be crucial to our analysis of the augment in ACCs, but we will also make passing reference to the facts concerning proper names as well.

4.3 Pronominal Predicates

There is interesting evidence that pronouns in Scottish Gaelic are not generated directly in SD. This evidence comes from a peculiar agreement marking on prepositions (see Adger 2000 for fuller discussion of the contexts for prepositional inflection).

Consider the following paradigm. In Scottish Gaelic, prepositions change form depending on whether the DP following them contains an overt determiner. Thus, in (76) we see a preposition *ri*, 'with' in its plain form; while (77) shows what we will call its *D-agreeing* form *ris* when it occurs with a determiner headed nominal.

(76) ri tidsear
with-INDEF. tidsear
'with a teacher'

(77) ris an tidsear
with-DEF. the teacher
'with the teacher'

(78) ris na tidsearan
with-DEF. the-PL teachers
'with the teachers'

(79) *ri an tidsear
with-DEF. the teacher
'with the teacher'

The same agreement appears on prepositions with the determiner *gach*, 'each/every':

(80) ris gach tidsear
with-DEF. the teacher
'with each teacher'

(81) *ri gach tidsear
with-DEF. the teacher
'with the teacher'

D-agreement does not occur with bare nouns (76), or with nouns which have adjectival quantifiers or numerals:

(82) ri/*ris mòran tidsearan
with-DEF. many teachers
'with many teachers'

(83) ri/*ris trì tidsearan
with-DEF. three teachers
'with three teachers'

We will not develop an analysis of this construction here (see Adger (2000)), but will simply appeal to the generalisation that D-agreement appears on the preposition when there is an overt element in SD. Under the analysis developed in section (4.2), bare NPs contain a null expletive determiner in SD, and so do not trigger D-agreement.

With pronouns, the parallel cannot be made in its most straightforward form, since pronominal objects of prepositions in PPs always appear as *pro* with agreement appearing on the preposition (84).

(84) rium
with-1SG 'pro'
'with me'

(85) rithe
with-3FSG 'pro'
'with her'

The presence of ϕ-features on the preposition means that it is impossible to determine whether the following *pro* is triggering D-agreement. However, there is another context where D-agreement shows up, and where the nominal is not the actual complement of the preposition. The contexts in question concern sentences which contain what looks like the equivalent of exceptionally case marked subjects. Consider (86) below, where the preposition *ri* selects a whole clausal complement, and appears in its *ris* form with the determiner-headed nominal in subject position of the non-finite clause. See Adger (2000) for motivation for this structure:

(86) Dh'fheuch mi ris [an leabhar a leughadh].
try-PAST I with-DEF [the book to read]
'I tried to read the book.'

Crucially, when the subject of the nonfinite clause is a bare nominal, the preposition *ri* reverts to its bare form (87).

(87) Dh'fheuch mi ri [leabhar a leughadh].
try-PAST I with-INDEF. [book to read]
'I tried to read a book.'

The interesting case for us is what happens when the subject of the nonfinite clause is a pronoun: it turns out that the preposition retains its bare form (88).[15]

(88) Dh'fheuch mi ri [esan a bhualadh].
try-PAST I with-INDEF. [he-EMPH to hit]
'I tried to hit HIM.'

All of these nominals are SDPs since they appear in argument positions. However, since pronouns in Scottish Gaelic do not trigger a change in prepositional form, they are not base generated in SD nor do they obligatorily raise there, unlike clitic pronouns in Romance. This eliminates options (i) and (iii), set

[15]We use the emphatic form of the pronoun here, because the non-emphatic pronoun is obligatorily realised as *pro* in this position.

out at the end of section (4.2) and suggests an analysis where pronouns occurring in argument positions are SDPs by virtue of a null expletive determiner.[16] This predicts that in contexts where Case is not checked, it should be possible to find pronouns in KIP, with a property denotation. The relevant context is of course the complement position of Pred. This prediction is confirmed: pronouns are well-formed in the complement position of the copular Pred head, as the examples in (89) and (90) attest.[17]

(89) Is mise Catriona.
Cop-PRES me Catriona
'I am Catriona.'

(90) Is iadsan na h-oileanaich.
Cop-PRES they the students
'They are the students.'

On the other hand, pronouns cannot appear as the complement of the null Pred head found in *bith* clauses, as we saw in section (2.2). We repeat the example here:

(91) *Tha Calum mise.
Be-PRES Calum mise
'??Calum is me.'

However, this is straightforwardly accounted by the fact that pronouns are implausible stage-level predicates; interpretations constructed by combining a pronoun with an eventuality variable are pragmatically ill-formed. Interestingly, it is marginally possible to force proper names to appear in an SAC in special contexts, where a spatio-temporally bound interpretation is forced, such as the following:

(92) Tha e na Einstein an diugh.
Cop-PRES he in-his Einsten today
'He's being an Einstein today.'

This contrasts sharply with the ungrammatical cases with SDPs we saw in (2.2), where it is not even clear to native speakers how to do the appropriate morphology.

To summarise, the morphology and distribution of pronouns in this language is consistent with them allowing both KIP and SDP syntax, showing that they are not generated in SD. Assuming that pronominals are really functional categories, it follows that they are simply KIs in Scottish Gaelic. The particular interpretation we associated with KIPs in section (4.1) can be straightforwardly carried over to pronouns, with the caveat that there is no root category for the KIP to attach to. We suggest the following interpretation for pronouns:

(93) $[\![\text{KIP}]\!] = [\ \iota\pi$: where π is the relevant distinguishing property associated with some contextually given individual x]

where the interpretation of x is filled in by the context, and constrained by the grammatical features of the pronoun. Given the interpretation of the defective copula that we motivated in section (3.1), an example like (90) has a paraphrase like that in (94):

[16]The data from proper names is exactly the same as for pronouns here: no D-agreement is triggered either in the simple PP cases or in the nonfinite clause cases.

[17]Proper names, on the other hand are never good in this position in SGaelic. This is not surprising, given the highly restricted set of lexical items that can be selected by the copula in the modern language.

(94) 'The relevant distinguishing property associated with a plurality of some contextually given individuals' *holds of* 'the students'

In this particular case, the relevant distinguishing property might be identified via deixis, or anaphora, depending on the context of the utterance.

In the next section, we exploit this set of ideas about simple copular clauses to provide a natural (but to our knowledge novel) analysis of the Augmented Copular Construction.

4.4 The Syntax and Semantics of ACCs

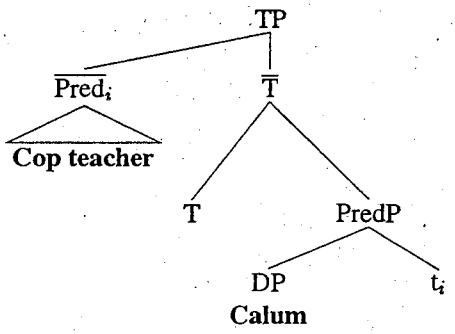
Recall the analysis we developed for ICCs in section (3.1). The idea was that the defective copula headed PredP, and combined with a property denoting element. We gave the following rough semantics to the copula:

(95) $[\![\text{ is }]\!] = \lambda\pi\lambda x[\text{holds}(\pi, x)]$

In order to satisfy the EPP property of T, the copula raises and pied-pipes its complement, ending up in the specifier of TP. This means that an example like (96) has a structure like that in (97):

(96) Is tidsear Calum
Cop-PRES teacher Calum
'Calum is a teacher (by nature or vocation).'

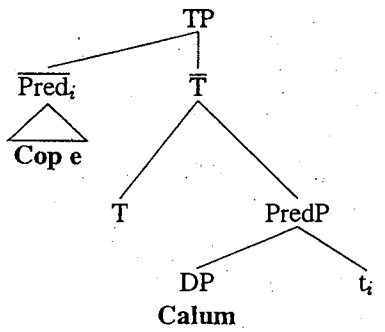
(97)



The bare nominal here is a KIP, is the complement of the copula, and raises with it to the specifier of TP.

Now recall that we have shown that pronouns may be KIPs with a KIP interpretation. Our expectation is that pronominals may also occur as complements to the defective copula, and we saw cases of this in section (4.3). If we take an unmarked, third person masculine pronoun, we predict the following well-formed structure:

(98)



This derivation, under the assumptions we have defended so far, predicts the well-formedness of (99), with the interpretation in (100):

(99) 'S e Calum.
Cop-PRES Aug Calum
'It's Calum.'

(100) 'The relevant distinguishing property associated with some contextually given individual' *holds of* 'Calum'.

In fact such sentences are perfectly well formed, and are used as answers to wh-questions, or as exclamations to introduce someone after some event has taken place (such as someone knocking at the door). Clearly the interpretation given in (99) is exactly correct for these situations. In wh-questions, the relevant distinguishing property is that given by the stated content of the question, while in the exclamation case it is supplied directly by the context.

This particular result immediately offers us a way of understanding ACCs: the augment is no more than a pronominal generated in the complement of Pred, with exactly the interpretation of a KIP pronoun. The DP which appears immediately after the augment is simply the subject of the construction, while the second DP is right adjoined. The right adjoined DP's function is to explicitly identify the 'contextually given individual' in the semantics of the pronominal augment with overt linguistic material.

The way that this identification takes place is via a purely semantic operation, akin to cross-sentential anaphora, or apposition. The adjoined SDP fills in information within the semantic representation of the pronoun without reference to any syntactic agreement or coindexing information, in much the same way as certain appositional phrases can. See (101) in Spanish (and its English translation) for a situation where the subject pronoun and the coreferential left-adjoined phrase are mismatched in number and person features.

(101) Las mujeres somos contentas.
The women 'pro'-1PL/F be-1PL happy
'We, the women are happy.'

The operation of referential identification of the augment with the right-adjoined DP is a case where the semantic mechnisms and the syntactic specification is decoupled. Although the mapping between the syntax and the semantics is tightly constrained, there are purely autonomous semantic operations which establish this kind of effect.

Take an example like (102):

(102) 'S e Calum Hamlet.
Cop he Calum Hamlet
'Calum is Hamlet.'

The interpretation predicted is given in (103):

(103) 'The relevant distinguishing property associated with some contextually given individual' *holds of* 'Calum'.
Where: The contextually given individual is referentially identified with 'Hamlet'.

Clearly this interpretation, in conjunction with world knowledge about what names are parts in plays, gives the right meaning for the example. If the two DPs are swapped around, the sentence is perfectly grammatical, but clashes with our word knowledge, and appropriate contextualisation renders it perfectly

acceptable (if, for example, Calum is a part in a play and Hamlet is an actor). In general, the meaning of the second DP forms part of a property description, which accounts for the role interpretation.

This approach also correctly explains the fact that ACCs can never have the meaning of pure identity statements, and require the paraphrase discussed in section (3.2). There is no identity statement in the semantic representation which is built up on the basis of the syntactic atoms and they way they have been combined. Instead, there is always a predicational asymmetry stemming from the fact that an ICC ascribes a property to an individual.

In addition to correctly predicting the interpretational asymmetries observed in ACCs, the idea that the second DP is adjoined rather than being a true argument explains the fact that adverbs may occur between the two DPs of an ACC, in contrast to the impossibility of adverbs between the subject and object of a transitive sentence. We repeat the relevant data here:

(104) * Chunnaic Mairi an uair sin Sean.
See-PAST Mairu then Sean
'Mary saw Sean then.'

(105) 'B e Mairi an uair sin an tidsear.
Cop-PAST Aug Mairi then the teacher
'Mairi was the teacher then.'

The adjoined nature of this second DP also explains why it does not take the primary sentence stress, in apparent violation of normal clausal stress patterns in the language. The semantic function of the DP is to provide information usually given by the context, since this is the interpretation of the augment. As such, this DP signifies backgrounded information, and is destressed. The same fact accounts, of course, for the focus properties of this construction. Since there are essentially only two major constituents in the proposition, and one is destressed, the other is obligatorily in focus. It is this that also accounts for the strict constraints on the two DPs in an ACC which answers a wh-question:

(106) Cò an tidsear?
Who the teacher?
Answer: 's e Calum an tidsear.
Answer: * 's e an tidsear Calum.

Since the DP immediately after the augment (the subject) is in focus, only it can felicitously serve as the element that introduces the new information required by the fact that the utterance is being used to answer a wh-question.

The analysis we present here also explains why only a definite DP can appear in the second position in an ACC:

(107) 'S e Daibhidh *tinn/*tidsear/an tidsear.
Cop-PRES aug David sick/teacher/the teacher
'Its David who is *sick/*a teacher/the teacher.'

(108) 'The relevant distinguishing property associated with some contextually given individual' *holds of* 'David'.
Where: The contextually given individual is referentially identified with 'the teacher'.

Since the function of the pronominal predicate is to provide a property containing reference to an individual which needs to be contextually specified, the role of the right-adjoined element is to identify that *individual*. Thus, the right adjoined element must be an SDP. Recall that bare NPs are KIPs and only project

to SDP when they are arguments (a fact which is perhaps related to Case). This means that an SD determiner must be present in the adjoined DP, or else the adjoined DP would not be referential, and would not be able to identify the relevant individual.

Finally, the restrictions on the subject of an ACC also follow directly on our account. The defective copula states that a property holds of some individual, as an inherent fact. Thus, the subject of such a clause must be individual denoting. We saw that in the simple ICC construction, the subject position had to be a name or a determiner-containing definite because of the restriction of bare NPs to eventive predication. That restriction carries over straightforwardly to the first Nominal of the ACC, since under our analysis this position is identical to the Subject position of a simple ICC.

The approach we have developed here is remarkably successful in explaining a range of semantic and syntactic facts about the ACC which appear, at first, to be seemingly unrelated. Furthermore, it does so on the basis of plausible and independently motivated syntactic and semantic specifications for the constituent parts of the ACC, so that the apparently peculiar properties of the ACC are all reduced to well-motivated properties of other constructions. Perhaps most importantly, the ACC no longer constitutes a challenge, in this language at least, to the idea that predication is always constituted via the same basic syntactic structure.

5 Linguistic Variation in Copular Constructions

The hypothesis we have been exploring here is that apparently different types of predicational structure all reduce to one underlying case. In Scottish Gaelic, the differences arise because of the particular semantic specification of the predicational head (whether it is eventive or not) and its syntactic and phonological properties (how and where it satisfies EPP). This particular language has no identity predicate and obligatory projection of SDP. The use of a pronominal predicate to link two DPs is one of the strategies that can be followed. In this section we explore how this strategy might be adopted in slightly different guises by a range of other languages.

5.1 Polish

Polish marks the distinction between temporary/accidental properties and inherent properties not with different copulas, but rather via case marking. A predicate NP or AP which is eventive is marked with instrumental case (109), while an individual-level predicate is marked with nominative (110):

(109) Ewa jest studentką.
Eva be-PRES student-INSTR.
'Eva is a student.'

(110) Ewa jest studentka
Eva be-PRES student-NOM
'Eva is a student.'

Rothstein (1986) describes the difference between the two examples above in the following way: the instrumental version is the neutral unmarked version of the sentence; while the nominative one is more affective and indicates a closer psychological identification of the subject with being a student. Here, we assume that the verb *być*-'be' in Polish is simply a tense carrying functional head. Under the system we have developed here, two different predicational heads are implicated in this distinction. The eventive head checks instrumental case of its complement, while the non-eventive head (corresponding to the defective copula in Scottish Gaelic) checks nominative. Interestingly, like the Scottish Gaelic ICCs, the structures shown in (110) are reported to be more restricted than the ones of type (109), although, again like Scottish Gaelic they are commonly used for simple statements of identity such as 'I am Janek' (111).

(111) Janek jestem.
Janek-NOM be-PRES1SG
'I'm Janek.'

When two definite DPs are to be identified, neither of these structures is possible. Instead, Polish requires the use of a pronominal demonstrative element to link the two SDPs, as in (112), but allows *być*-'be' plus the instrumental case when the ascription is predicative (113).

(112) Ta pani to premier Anglii.
This woman DEM-3SM premier-NOM England-GEN
'This woman is the premier of England.'

(113) Ta pani jest premierem Anglii.
This woman be[PRES, 3SM] premier-NOM England-GEN
'This woman is a premier of England.'

Under the analysis proposed in this paper, the use of a pronoun in precisely these identificational contexts is not accidental, but derives from the strategy of using pronominals to construct predicational structures, while allowing them to be referentially identified with the predicationally inert SDPs in the language.

5.2 Modern Hebrew

Another well known case of a language in which pronouns are implicated in the construction of identity statements is Hebrew. Once again, we suggest that the existence of the pronoun is not accidental but derives from a strategy similar to the one we have already seen for Scottish Gaelic.

To summarise briefly, nominal sentences in the present tense contain a third person pronoun as shown in (114) below.

(114) dani hu more.
Danny pron-3MSG teacher
'Danny is a teacher.'

Doron (1983) argues that the pronoun is not a tensed verb, but is simply the realisation of agreement features and is located in Infl. In Hebrew, the pronoun is optional in many situations, but there are contexts in which the deletion of the pronoun is not possible. Many researchers (Doron 1983, Rapoport 1987, Rothstein 1995) have argued that the descriptive generalisation is that the pronoun is obligatory in identity predications such (115), but optional in predicatives such as (116).[18]

(115) ha-horim Seli *(hem) shira ve-yosi kats
the parents mine pron-3MPL Shira and Yosi Kats
'My parents are Shira and Yosi Kats.'

(116) Bill Clinton xaxam /ba-xeder Seli /more le-'anglit
Bill Clinton wise /in the-room mine /teacher to-English
'Bill Clinton is wise/in my room/an English teacher.'

However, Greenberg (1997), Greenberg (1998) points out that this descriptive generalisation is not quite right. There are other contexts in which the pronoun is obligatory where there is no statement of identity being made. Consider the contrast between (117) where the pronoun is obligatory and (118), where it is not.

[18] The data here is taken from Greenberg 1997.

(117) zmaxim *(hem) yerukim
plants pron-3MPL green
'Plants are green.'

(118) ha-zmaxim ha-ele (hem) yerukim
the plants these pron-3MPL green
'These plants are green.'

Greenberg claims that the crucial generalisation is that of genericity, with the pronoun being the "overt syntactic marker of genericity" in this language.

There are problems with both sorts of descriptive claim here. On the one hand, the proposals of Doron (1983), Rapoport (1987) and Rothstein (1995) cannot account for why the pronoun is obligatory in these generic contexts, while it is mysterious under the system developed by Greenberg (1998), why the pronoun should be obligatory in non-generic identity contexts.

The analysis we have proposed in this paper has the virtue being able to unify the two contexts straightforwardly. First of all, notice that in Scottish Gaelic, both identity statements and attributions of a permanent property to an individual are constructed using the defective copula, *is*, not the substantive auxiliary. They form a natural class because they both involve property predication over an individual as opposed to involving an eventuality variable.

The difference between the identity statements (ACCs) and the simple property predications (ICCs) is that the former involves the postulation of a pronominal predicate to mediate the relation between the two SDPs while the latter does not. This is because of the strict syntactic and semantic requirements of Pred. In accounting for the Hebrew data, we need only assume that grammaticalisation has led to reanalysis of this pronominal predicate, and that the pronoun *hu* (in its various forms) is now actually just a spellout of agreement features on the null copular Pred head in the present tense. In essence, a Hebrew example with the pronominal is just like a Scottish Gaelic example with the defective copula. This captures the interpretational similarities between the two constructions.

What of the apparent equative sentences? The system we have developed predicts that there is a null *pro* predicate in the structure in these cases, perhaps related to Hebrew's *pro*-drop status. Our hypothesis is that the null present tense true copula (that is, the non-eventive Pred head) is an obligatorily agreeing form, while the null present tense substantive auxiliary (which simply satisfies requirements of T) is not.

The cases in Hebrew where the agreement is optional are all cases where the predication can be constructed using *either* a situational variable *or* a simple individual variable as the subject of the predication. Recall that in Scottish Gaelic, predication using adjectives and predicative nominals could be formed using both the ICC and substantive SAC construction types. The following examples from Greenberg (1997) make clear the difference in interpretation. In (119), with the pronominal form, we are unambiguously ascribing the property of blueness to the sky, where the latter is conceived of as a spatio-temporally unbounded individual; while in (120), without a pronoun, the statement is about the present situation, where the sky happens to be blue.

(119) ha-Samayim hem kxulim
the sky pron-3MPL blue
'The sky is blue (in general, by its nature).'

(120) ha-Samayim kxulim.
the sky blue
'The sky is blue (now, today).'

The analysis we have proposed for Scottish Gaelic therefore has the striking property that it can unify the contexts in which the *hu* form appears in Hebrew—a unity absent from previous accounts of the phenomenon. It also offers a natural reason for why it is the *pronominal* form *hu* that has ended up being the etymological source of predicate agreement in copular contexts.

5.3 English

The hypothesis we have been defending in this paper is that predicational constructions all reduce to the same syntactic/semantic type: there is a Pred head which takes a property as its complement. the Pred head may either be eventive or non-eventive, but its basic function is the same in either case. The selectional requirements of the Pred head are always for a property denoting complement. It follows from the strongest version of this hypothesis, that no language should have a pred head which takes a complement of SDP type. This means that Pred can never encode an identity predicate.

This naturally raises a question for English, where it has been argued by various researchers, either that the verb *be* itself is ambiguously an identity predicate (Higginbotham 1987), or that one of the small clause types in English involves an identity predicational head (Heycock and Kroch 1999).

The first obvious difference between English and Scottish Gaelic, is that, in the former language, nominals headed by many determiners (e.g. *the* and *a*) can also appear in predicative contexts. The evidence from small clause complements of a verb like *consider* shows that there are environments which demonstrate a clear predicational asymmetry between the two nominals. Thus, in examples like (121a,b) below, *these* can appear in subject position but not in predicate position of the small clause.

(121) (a) I consider [these the best pictures of Mary].
(b) * I consider [the best pictures of Mary these].

Under the approach taken so far in this paper, this is expected. Following Zamparelli, we take determiners in English to be generated lower down in the structure than SD. Zamparelli provides arguments that English determiners may be generated in PDP. In this sense, they contrast with determiners in Scottish Gaelic, which are obligatorily generated in SD.

Given this difference, we propose that the English determiners themselves are instantiations of Pred heads. In an example like (121a), the determiner *the* is the head of PredP, and the demonstrative *these* is its specifier. The ungrammatical (121b) is predicted by the fact that the demonstrative is obligatorily generated in SD, so there is no preceding position for the subject of a predication. However, the crucial challenge to this simple picture comes from the contrast between the examples above and the constructions using the verb *be* as in (122a,b) below, where no asymmetry is found.

(122) (a) I consider these to be the best pictures of Mary.
(b) The consider the best pictures of Mary to be these.

If we assume that the verb *be* in English is, optionally, the identity predicate, or alternatively, that English possesses a null predicational head with identity semantics that can be selected by this auxiliary verb, then these data receive a straightforward explanation. However, this weakens the force of our discussion in general.

The contrast also receives an explanation within the system of Moro (1997), who posits that the predicate, rather than the subject, may raise to the specifier of TP (see the discussion in section (3.1)). In this framework, the verb *be* provides extra functional material in the clause to which either of the two DPs in the lower predicational structure may raise, giving rise to an apparently *inverted* structure. Such functional material is missing in the complement of a *consider*-type verb.

While this latter account is more consistent with the general approach taken in this paper, it faces the problem of how to constrain and motivate the operation of predicate-raising in sentences using *be*. The facts are that only nominals (and not AP, PP or verbal projections) may undergo predicate raising. Furthermore, it appears that only identificational meanings are possible in the inverted sentence type. Consider sentences (123) and (124) below.

(123) (a) I consider what you are talking about to be garbage.
(b) What you are talking about is garbage.

(124) I consider garbage to be what you are talking about.
(b) Garbage is what you are talking about.

While (123a,b) are ambiguous between an identificational and a specificational meaning (Higgins 1973), (124a,b) can only have an identificational interpretation. In other words, predicate raising of *garbage* cannot be the method by which (124) is derived, unless predicate raising is restricted to small clauses with a particular kind of meaning. It seems that once again we are forced into assuming a null predicational head with identity semantics.

We would like to offer a slightly different account of these data, still along the lines of Moro (1997), which maintains the strongest hypothesis we have been entertaining so far (that there is only one kind of predicational structure mediated by a Pred head). This account relates the existence of identificational readings to the verb *be* in English, and, in some ways, goes back to the spirit of the type-shifting framework of Partee (1987). We assume as before that SDPs must be arguments and that only PredPs are predicates; English nominals headed by *the* can be of either type, but some, like *these* or *what I am talking about* can only be SDPs. This explains the small clause data in (125) and (126).

(125) *I consider garbage what you are talking about.

(126) I consider what you are talking about garbage.

The verb *be* represents extra lexical material— a verbal head which can select either property denoting projections (APs, PPs or KIPs), *or* referential SDPs. In this respect, it is unlike the Pred head, which is part of an extended projection and which can only combine with properties. *Be* is a lexical head which combines with anything of an atomic type (either π or e) to create a derived property (127). This derived property can then be selected by the null Pred head.

(127) $\lambda x[\iota\pi$: where π is the property relevantly associated with x]

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If the verb *be* can combine with either KIPs or SDPs to create something uniformly of type <e,t>, then this explains why (123) is ambigous in English: *garbage* can either be a KIP or an SDP and will give rise to slightly different predicates in each case; while *what I am talking about* which is in subject position will be an unambiguous SDP. We assume, in addition, that English allows the raising of a projection to satisfy the EPP feature of T. However, we stipulate that the projection so raised *must* be an SDP. Technically, we assume that SDPs are the only potentially Case bearing projections, and that only these are of the right syntactic category to bear the syntactic feature that will satisfy EPP in English.[20] This means that only in

[19]The semantics of the property constructed is left deliberately vague and contextual, since properties constructed using the verb *be* in English are notoriously variable.

[20]This remains a stipulation in our account at the moment, but it might find a deeper explanation in generalisations concerning the semantic partition of syntactic structure à la (Diesing 1992).

cases where 'be' has selected an SDP as its complement, will the projection embedded inside the PredP be able to raise to give an inverted structure. This explains the lack of ambiguity in (124): only the SDP version of 'garbage' as the complement of 'be' is a possible source for the inversion structure here. Consider again the situation in (128) below in English.

(128) Hamlet is Sean tonight.

Even though 'Hamlet' is an SDP, it is still interpreted as a role here, because it has been selected as the complement of 'be'. It is in subject position because it has raised to satisfy the EPP feature of T.

The strongly symmetrical equatives such as (129) also have an account in this system.

(129) Cicero is Tully.

We argue that there are two possible derivations for this sentence. Under the first, 'Tully' is the complement of 'be' and gives rise to the derived property 'the property of referring to Tully'. This property is then predicated straightforwardly of the SDP 'Cicero' which raises to satisfy the EPP property of T. The other derivation involves 'Cicero' being selected as the complement of 'be', giving rise to the derived property 'the property of referring to Cicero'. 'Cicero' is then raised to satisfy the EPP feature of T. Thus, in either case there is always a predicational asymmetry, depending on whether the speaker wishes to convey new information about the name 'Tully' or about the name 'Cicero'. We believe that the asymmetry of predication is difficult to detect in the sentence above because of the subtlety of the difference in interpretation and because both readings are actually possible because of inversion.

There are thus two crucial differences between English and Scottish Gaelic: (i) in Scottish Gaelic the copula really is the Pred head, and is constrained to combining with only property denoting projections, and (ii) the EPP in English is satisfied only by SDPs, whereas in Scottish Gaelic it is the predicative head that must raise (pied-piping extra material in the case of the copula).

Of course, this account rests on a basic stipulation about the (perhaps unorthodox) meaning given to the verb *be* in English, and the stipulation that only SDPs may raise in English to satisfy the EPP. However, given that some language-specific stipulation seems to be an irreducible consequence of this data, we believe that it is a natural one to assume. The point of this section has been to show that it is possible to give an account of the English data which eschews the use of an identity predicational functional head.

6 Conclusion

Scottish Gaelic seems to show evidence of a number of strikingly different types of predicational structure, especially when it comes to nominal predication. We have shown in this paper that all of those construction types actually conform to one simple syntactic predicational structure, correlated with one set of semantic relationships. Thus, despite the initial appearances of a particularly knotty counterexample to the claim that there is really only one kind of predicational syntax, Scottish Gaelic ends up confirming the most restrictive hypothesis concerning the nature of predication in natural language.

In addition, we have examined some classic cases in the literature of languages which construct identity predications in radically different ways: (i) Polish, which uses morphological case in addition to a pronominal augment; (ii) Hebrew, a language in which the pronominal element is either obligatory or optional; and (iii) English, which uses neither pronouns nor casemarking and seems to offer evidence for a null identificational predicate. We have shown that the approach taken for Scottish Gaelic can plausibly be extended to account for these superficially different language systems as well. We take this as initial but tantalizing support for the idea that the restrictive hypothesis concerning the syntax and semantics of predication that we have been defending may be on the right track.

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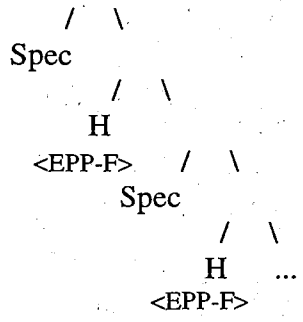
Predication at the Interface[1]

Abstract

We try to show that predication plays a greater role in syntax than commonly assumed. Specifically, we will argue that predication to a large extent determines both the phrase structure of clauses and trigger syntactic processes that take place in clauses. If we are on the right path, this implies that syntax is basically semantically driven, given that predication is semantically construed.

1 Introduction

We will start out with a recent Chomskyan idea, namely the assumption that the subject requirement or EPP triggers generalized movement to specifier positions (Chomsky 2000, 2001). Thus, in Chomsky's newest version of the Minimalist checking theory all core functional projections in the structure of a clause have heads containing EPP-features, which then are the features that drive movement to the respective specifier positions, cf. (1).

(1)


Notice that Chomsky construes the EPP-features as uninterpretable features that have no semantic import, i.e. the EPP-features are just abstract linguistic properties that trigger syntactic processes. However, uninterpretable features and checking theory generally have been criticized, in particular by Roberts & Roussou (1999). Among other things, Roberts and Roussou argue that checking theory "requires the introduction of features whose sole purpose is to be deleted", so that these features "are really only diacritics for movement" (op. cit.: 5). Roberts and Roussou do not find this satisfactory, especially not in a minimalist theory. Therefore, they call for a non-checking theory that contains only interpretable occurrences of features. In a similar vein, Chomsky seems to cast some doubt on his own notion of EPP-feature. Thus, he says that an EPP-feature is "an apparent imperfection, which we hope to show is not real by

[1] This paper is a collocation of two papers. Sections 1-8 are written by the first author. Some of the ideas contained there have been presented at conferences or workshops in Belfast (January 2001), Changsha, China (June 2001), Trondheim (October 2001), and Oslo (November 2001). Thanks to the audiences for valuable feedback. Sections 9-15 are written by the second author. The ideas contained there are mainly adapted from the author's recent doctoral dissertation (Eide 2001). The present joint paper is based on our joint presentation given at the Workshop on Syntax of Predication, ZAS Berlin in November 2001.

appeal to design specifications [...]"(Chomsky 2001: 40-41). In other words, he seems to suggest that EPP-features are non-primitive and that they should be reduced to more fundamental conditions.

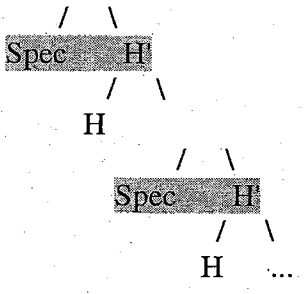
What we will try to do in this paper, is to show that the EPP-features are not real by reducing them to the requirement that a propositional function, i.e. a predicate, must be saturated. In that way, we seek to reconstrue the effects of Chomsky's "EPP-features" in terms of semantic saturation, i.e. by reducing their effects to conditions of the conceptual–intentional interface. Of course, the idea of reducing EPP effects to predication is not new, cf. e.g. Rothstein (1983), Chomsky (1986), or Heycock (1991). However, as will hopefully become clear in what follows, we will try to give this interesting idea a new twist.

2 Layered predication and propositional skeletons

The first problem we are facing is to show how predication is able to do the job that EPP-features do in Chomsky's analysis, notably to drive movement to the various specifier positions in the functional domain of the clause. In other words, we have to show that predication is not only restricted to the canonical subject–predicate relation of the clause, but that it is relevant at each phrase structural layer of the clause, like Chomsky's EPP-features are.

Luckily, a relevant conception of predication is already at hand, namely the conception involved in the idea – extensively argued for in Heycock (1991) – that the phrase structure of a clause is divided into layers of predication, such that there is a predicational relation embodied in each of the projections that constitute the basic phrase structure of the clause. This is depicted in (2), where the shaded relation between Spec(ifier) and H' in each phrase structural layer is understood to be a predicational relation.

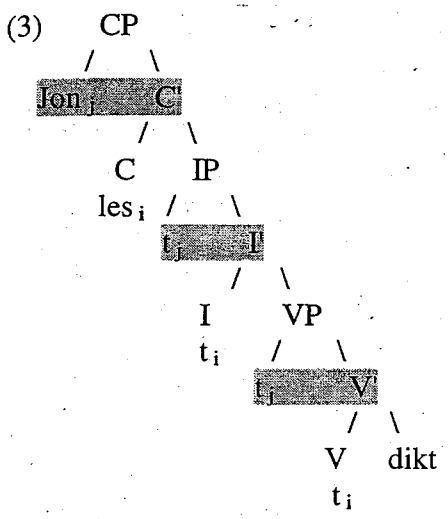
(2)



Thus, Heycock claims that there is a predicational relationship not only in the basic clausal VP, as usually claimed, but in the IP layer and CP layer as well. This is depicted in the Norwegian V2-clause shown in (3), where the shading indicates the three subject–predicate relationships embodied in the clause, according to Heycock.[2]

[2] Our example sentences will mainly be taken from Norwegian (our native language), even though conclusions hopefully will turn out to have general application.

(3)



'Jon reads poems.'

However, whereas Heycock takes predicational relations to be "read off" from syntactic structure, we will claim – assuming a more pronounced semantically based analysis than she does – that predication has a much more fundamental role to play in relation to syntactic structure. In fact, we will claim that our approach makes it possible to explain why the layered predicational relationships identified by Heycock should exist at all.

To be slightly more specific, we will argue that layers of predicational relations constitute the very backbone of a clause in the sense that, underlying any sentence or clause, there is an abstract semantic structure consisting of independently generated layers of propositional skeletons. Furthermore, we argue that movement, as well as insertion, are triggered by a requirement that the elements involved in these propositional skeletons need to be identified (or made visible).[3] In that way, the syntactic structure of the clause will be, to a considerable degree, explained by reference to the structure of predication.[4]

3 The elements involved in predication

The second problem we are facing is to try to find out more precisely what predication is and try to identify the elements involved in predication.[5] Heycock (1991: 14, 42-43), following Rothstein (1983), distinguishes between a semantic and a syntactic notion of predication. Consider the following passage from Heycock (1991: 43), where she refers to Rothstein´s theory.

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[3] See Vangsnes (1999) for a related notion of identification applied inside the DP. Also notice that, despite many differences, the overall separationist system proposed here is not unlike the separationist systems proposed in Distributed Morphology (insertion of Vocabulary Items in structures consisting of abstract "Morphemes", see Halle & Marantz 1993, Harley & Noyer 1999) or in Construction Grammar (constructions that exist independently of lexical items, see Goldberg 1995). On the other hand, it differs from Minimalist systems where syntactic representations are built "directly" by means of Merge and Move from an array of items taken from the lexicon, no separationism being implied.

[4] Interestingly, Chomsky (2000, 2001) assume that the derivation of a clause proceeds by phases and that phases are propositional, thus in effect adopting a notion of layered predication. Otherwise, however, Chomsky´s analysis differs from the one proposed here, and in particular the notions of proposition or predication do not seem to play any roles as explanatory notions for syntax in Chomsky´s theory.

[5] See Stalmaszczyk (1999) for a very useful overview of how the notion of predication has been understood and applied in generative grammar; also see Svenonius (1994).

(4) [...] Rothstein claims that subject and predicate are basic *semantic* notions and that the subject–predicate relation "must be fundamental in a semantic relation" [...]. Far more central to her analysis, however, is the proposal that there is an independent *syntactic* notion of subject–predicate [...].

The independent syntactic notion of predication mentioned here is also central to Heycock´s analysis, and it is the notion of predication that is relevant to her idea of layers of predication. However, in our view, a separate (primitive) syntactic notion of predication only bears a metaphorical relation to the corresponding semantic notion, and used for instance to account for the existence of expletive subjects (as Rothstein and Heycock do), it strictly speaking amounts to a *stipulation* that a syntactic predicate expression must have a syntactic subject.

Therefore, to try to strengthen the explanatory power of the notion of predication, we want to reformulate the idea of layers of predication in terms of genuine semantic predication, so that the syntactic elements involved in predication, namely the syntactic predicate expression and the syntactic subject, are analysed as the direct expressions of the semantic elements involved, i.e. the semantic predicate and its predication subject.[6]

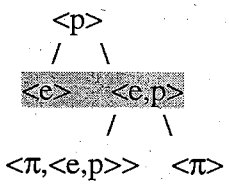
What are the basic semantic elements involved in predication? We have already said that a predicate is a propositional function. However, we will now take a further step. Specifically, we will follow Chierchia (1985) and Bowers (1993, 2001) in assuming that predicates are, in the prototypical cases, propositional functions that are formed from property expressions by means of a predication operator, shown in (5) (in Bowers´ 1993 notation).

(5) <π, <e, p>>

The predication operator is a function that takes the property element <π> and forms a propositional function <e, p>, which in turn takes an entity <e> to form a proposition <p>. According to this analysis, then, a property denoting element does not constitute a predicate on its own, but can be turned into one by means of a predication operator.[7]

The predication operator constitutes the kernel of a complex semantic operator structure that corresponds to a basic propositional skeleton, cf. (6).

(6)



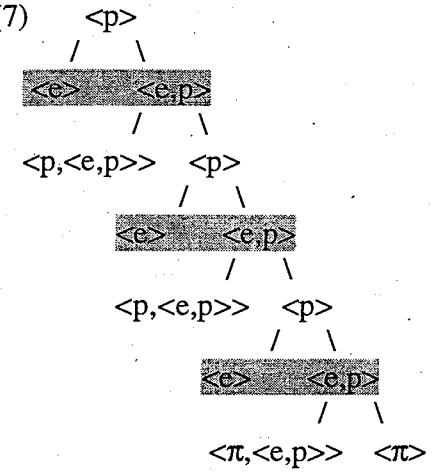
To incorporate this construal of predication into the idea of layered predication, we propose that there is a hierarchy of predication operators (<π, <e, p>> and <p,<e,p>>) where the propositional skeleton produced by the lowest operator, is input to the next lowest operator, and

[6] Our approach to the predicational syntax–semantics relationship is inspired by Bouchard (1995), who proposes a general principle to the effect that there is a homomorphous relationship between syntactic structure and semantic structure. The present paper develops an application to predication of this general principle that was tried out in Åfarli & Eide (2000).

[7] For instance, an attributive adjective is analyzed as a property denoting element that has not been turned into a predicate (it functions as a modifier), whereas a predicative adjective is analyzed as a property denoting element that has been turned into a predicate by means of a predication operator (the predicate must in turn be saturated to express a proposition), cf. Eide & Åfarli (1999b: 157-159). Notice that the idea that a predicate, i.e. a propositional function, is made from a property element by means of an operator, has some precedents in the philosophy of language, notably Strawson (1974) and Wiggins (1984).

so on.[8] This hierarchical "chaining" of predication operators results in a complex structure of propositional skeletons, as indicated in (7).

(7)

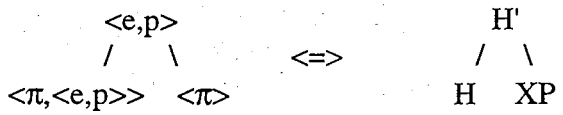


In other words, (7) is a complex structure of layered propositional skeletons, which is the kind of object that constitutes the semantic backbone of a clause according to our proposal.

4 Evidence: Binary branching phrase structure

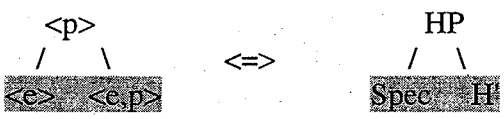
Assuming the underlying semantic structure in (7), the *syntactic* structure of the clause may now be seen as the structural expression of functional application. For instance, in the most deeply embedded propositional skeleton in (7), the predication operator first takes the property element and builds a propositional function element, corresponding to an intermediate phrase consisting of a head and its complement. This is shown in (8).

(8)



Next, the propositional function displayed as the intermediate phrase takes an entity element, corresponding to a specifier, and yields a propositional element, corresponding to the maximal phrase. This is shown in (9).

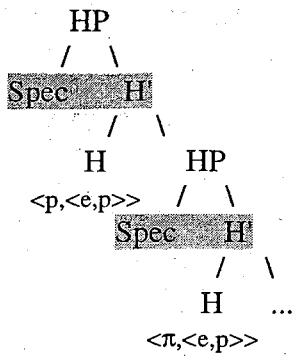
(9)



This process can be repeated to yield a structure like (10) (where the only semantic elements shown are the two predication operators corresponding to the two syntactic heads).

[8] Notice that the lowest predication operator takes a property element (<π>) as input, whereas higher predication operators (typically) take a propositional element (<p>) as input.

(10)



It can now be seen how an operator structure like (7) constitutes a semantic backbone for the syntactic representation of a clause like e.g. (3). Moreover, the basic phrase structure of the clause is now *explained* as the direct expression of the functional organization of the semantic elements involved in the operator structure. In particular, observe that functional application induces binary branching, which is otherwise motivated on independent grounds (Kayne 1984: IX-XIV). Therefore, on the analysis proposed here, binary branching phrase structure must be seen as a syntactic effect of predication, and to the extent that binary branching is independently motivated, its existence may be taken as support for the predication-based explanation pursued here.

To end this section, notice that an operator structure like (7) is a very rudimentary semantic structure. However, a "full" syntactic or syntactico-semantic structure of a clause is construed after an operator structure is identified by (grammatical or lexical) elements from the mental lexicon, which come with their own inherent morpho-syntactico-semantic properties, which then *enrich* the operator structure by adding syntactico-semantic substance to it. In other words, the elements from the lexicon *simultaneously identify and enrich* the elements of the underlying operator structure. This view of the syntactico-semantic composition of the clause will become particularly important in section 7 where the idea that rudimentary operator structures are a type of "pro forma" structures is exploited to give a semantically based explanation of the subject requirement (EPP).

5 Evidence: The existence of predication particles

One small, but quite striking piece of evidence that clausal structures are the direct expression of underlying operator structures like (6), and in particular that predication is mediated by a predication operator, comes from the existence of predication particles in non-verbal secondary predication. To our knowledge, this point was first made in Bowers (1993: 596-597) to explain the occurrence of the particle *as* in certain small clause complements in English.

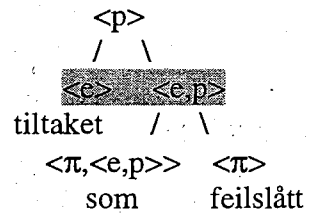
To illustrate, consider examples like the following from Norwegian, discussed in Eide (1998) and Eide & Åfarli (1999a, b).

(11) a. Jon vurderer [tiltaket *(**som**) feilslått]
Jon consider enterprise-the as unsuccessful
'Jon considers the enterprise unsuccessful.'
b. Skjebnen gjorde [Per *(**til**) taxisjåfør]
destiny-the made Per to taxi-driver
'Destiny made Per a taxi driver.'

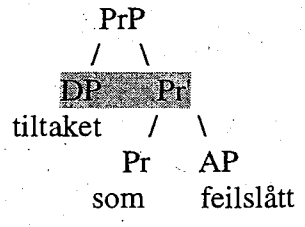
The bracketed small clauses in (11) contain an obligatory predication particle, *som* 'as' in (11a) and *til* 'to' in (11b). The presence of such a particle strongly indicates that there is more

to predication than the two elements assumed traditionally, i.e. the property phrase and its subject. On the analysis proposed here, the third element identified by the predication particle is the predication operator of a propositional skeleton like (6). For instance, the small clause part of (11a) identifies the operator structure in (12), which corresponds to the syntactic representation in (13)

(12)



(13)



The label Pr used in (13) is proposed in Bowers (1993: 595), where it stands for "Predication", i.e. the *syntactic* category corresponding to the predication operator. We adopt Bowers' general understanding of this category here, although we do not adopt every detail of his analysis of clause structure, as made clear in footnote 12 below.[9]

Another possibility for the identification of the predication operator in a propositional skeleton like (6) seems to be by means of the copula (cf. Eide 1998, Eide & Åfarli 1999a, b). We assume that the copula is a light verb belonging to the category Pr.[10] Thus, we claim that (14) is a possible syntactic representations corresponding to the basic operator structure (functional projections above PrP are not shown).

(14) ... [$_{PrP}$ tiltaket [$_{Pr'}$ [$_{Pr}$ er] [$_{AP}$ feilslått]]]
enterprise-the is unsuccessful

To conclude this section, the small clause complements in (11) and the copula case in (14) constitute strong evidence that there is a third element involved in predication, which on our analysis corresponds to the predication operator. Thus, the data presented here provide further evidence for the existence of the underlying operator structure.

6 Evidence: The two-layered structure of the verb phrase

As pointed out above, the construal of a predicate from a property element by means of a predication operator implies that *two* "terminal" semantic elements are required to constitute a predicate, namely the operator element and the property (or content) element. Consequently,

[9] See Eide (1998) and Eide & Åfarli (1999a, b) for further discussion of predication particles in Norwegian. Also see Bailyn (1995) on the predication particle *kak* in Russian and Flaate (1998) on the predication particle *als* in German. Notice that the predication operator of small clauses is phonetically realized by a predication particle only in certain circumstances; in Norwegian roughly in cases where its property element is identified by a nominal phrase or where the small claus is embedded under certain verbs. In other cases, the operator is not directly identified by insertion (or movement), even though it is part of the underlying representation, see Eide & Åfarli (1999b) for discussion.

[10] Notice that Bowers (1993) does *not* count the copula as an instantiation of Pr.

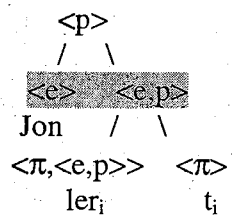
on our analysis, it is expected that both these elements have a correlate in the structure of any clause expressing a proposition. As we have already seen, there are in principle two ways of identifying the two "terminal" semantic elements that constitute the predicate. The first possibility is that they are identified by insertion of separate items, as seen with predication particles and property phrases. The other possibility is identification by movement, as seen with verb movement in (3), where the verb first identifies the lower predication operator by insertion and then identifies the two higher predication operators by movement.

Intuitively, a main verb typically plays a double role. It seems to bring about the predication, but it also has a lexical content of its own. Therefore, we would like to propose, following Bowers (1993: 599-600), that a main verb first identifies the property element by insertion, and that it is then obligatorily raised to identify the operator element. Thus, in the case of ordinary main verbs, the double role played by the verb is that it first identifies the property <π> and then raises to identify the predication operator <π,<e,p>>. This correctly implies that a main verb can either be understood as denoting a property or as denoting a propositional function. It also implies that the old style VP, e.g. as used in (3), is now divided into a PrP and a complement (new style) VP.

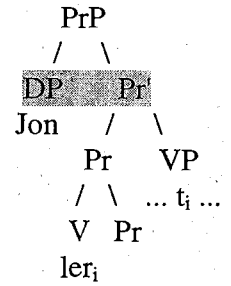
To illustrate, consider (15), which has the semantic structure in (16) and the corresponding syntactic structure in (17).[11]

(15) Jon ler.
'Jon laughs.'

(16)



(17)



Notice that the analysis of verb phrases with transitive verbs is slightly more complex, cf. (18).[12]

[11] We are not concerned with the technicalities of identification in this paper, but for expository reasons one could adopt the mechanics of incorporation suggested in Rizzi & Roberts (1996: 106). In our terms that would amount to a suggestion that the element to be identified is subcategorized for an item that identifies it, i.e. that the element to be identified specifies a slot for the identifier.

[12] The analysis of the verb phrase given here is different from the analysis given in Eide & Åfarli (1999b) in important respects. There it was proposed that the operator and the property element are chunked together in one syntactic projection in the case of main verbs. Here we adopt an analysis that is more similar to the one originally proposed in Bowers (1993). However, there is still one important difference as regrads the analysis of transitive verb phrases. Whereas Bowers analyzes the direct object as the specifier of VP, it is analyzed as the complement of VP here, cf. (18b). The latter analysis is argued for in Eide & Åfarli (1999b: 171-176) and we still see that argument as valid. We take this opportunity to rectify a terminological inadvertence in Eide & Åfarli

(18) a. Jon les dikt.
'Jon reads poems.'
b. ...[$_{PrP}$ Jon [$_{Pr'}$ les$_i$ +Pr [$_{VP}$ t_i dikt]]]
Jon reads poems

Here the verb phrase *les dikt* 'reads poetry' identifies a complex property. Thus, in this instance the property element <π> of the operator structure has the internal composition shown in (19) (it must be compatible with the lexical-conceptual properties of the transitive verb), and the operator structure underlying (18) is (20).

(19) ... [$_{<\pi>}$<e,π> [<e>]],

(20) ... [$_{<p>}$<e> [$_{<e,p>}$<π,<e,p>> [$_{<\pi>}$<e,π> [<e>]]]]
Jon les $_i$ t_i dikt
Jon reads poems

To conclude, an important effect of predication is the division of the verb phrase into a predicational part proper and a property or content part, corresponding to PrP and VP, respectively. This is in accordance with the independently motivated claims of several linguists during the last ten years to the effect that the verb phrase should be divided into an abstract "light" verb and the main verb, see e.g. Hale & Keyser (1993), Kratzer (1993), Harley (1995), Chomsky (1995a), Collins (1997). Although terminology and particular analyses vary, we take it that the general thrust of these analyses supports the present analysis of the verb phrase into a PrP-part and a VP-part. Accordingly, we will from now on use the structure CP–IP–PrP–VP in our exposition of basic clause structure.

Given a CP–IP–PrP–VP structure, in main clauses in a V2-language like e.g. Norwegian, V raises first from V to Pr, and further from Pr to I and from I to C, the successive movement operations being triggered by the requirement that the predication operators be identified. Thus, in a V2 clause the same verb identifies (at least) three predication operators.[13]

7 Evidence: The existence of the subject requirement

Perhaps the strongest evidence for the existence of an underlying operator structure is that it facilitates an explanation of the subject requirement. In this section, we will try to explain how.

Notice first that Rothstein´s and Heycock´s main motivation for adopting a purely syntactic notion of predication that is independent of Theta-role assignment is the existence of expletive subjects (Heycock 1991: 32), as e.g. exemplified in the Norwegian presentational construction in (21).

(1999b: 172): the appeal to the Left Branch Constraint should preferably be replaced by an appeal to Kayne (1984: 165 ff.) or to a generalized version of the Subject Condition.

[13] If C in declarative main clauses contains a predication operator, non-V2-languages pose an obvious problem, given that they have an empty C. Generally, the precise principles that govern identification are not investigated in this paper, but we have seen that although identification by insertion or movement certainly is the general tendency, there are special cases where an element of the underlying operator structure is not directly identified. Naturally, an analysis of identification of C in V2- vs. non-V2-languages raises the problem of the role of parametrization in identification. Discussion of issues concerning this particular problem belong to future research, but see the brief discussion of parametrization toward the end of section 7.

(21) **Det** står gjenferd bak mange dører
it stand ghosts behind many doors
'Ghosts stand behind many doors.'

Since expletive subjects are semantically empty, they cannot act as the predication subject that a predicate "is about". Hence, the need for a purely *syntactic* function to explain the existence of expletive subjects according to Rothstein and Heycock. But now the question is: Since we have abandoned the syntactic notion of predication and substituted it with the semantic notion of a propositional function, how is the existence of expletive subjects explained?

This crucial problem was discussed in Åfarli & Eide (2000: 35-37), and therefore we will not go fully into it here. However, the essential idea proposed there was that the predication operator should be seen as a proposition building device that happens to open an argument position, rather than a device that yields a predicate that necessarily bears some kind of inherent "aboutness-relation" to a subject. Thus, the perspective is shifted from the traditional view that a predicate ascribes some property to a subject, to a view whereby the formation of a predicate is seen as a necessary step in order to form a proposition. One important consequence of this shift, we claim, is that a propositional function does *not* require a referential subject. The predication operator and its propositional function have performed their semantic task of building a proposition when their associated entity element is identified by a morpho-syntactic item, *whether or not* that item is also enriched by semantic Theta-role substance, as it were. Thus, the possibility that there should exist a substantive Theta-relation between the subject and its predicate is *not* essential for predication, but should rather be seen as an extra.[14] In other words, a clause with an expletive subject is explained in terms of (semantic) predication just as well as clauses with referential Theta-subjects are.

One could object against this analysis that the entity element corresponding to the subject could not possibly be semantically empty (as it apparently would have to be in those cases where it is instantiated by an expletive subject), since that is at odds with the way the notion of an entity element is used in semantic type theory. However, recall from the end of section 4 that the (uninstantiated) operator structure is a type of "pro forma" structure, i.e. a structure "provided in advance to prescribe form", according to one of the definitions of "pro forma" given in the 10th edition of Merriam-Webster's Collegiate Dictionary. The actual instantiation of the entity element in a given case will determine the resulting interpretation as referential (true "entity") or not. Thus, in cases where <e> is instantiated by an expletive subject, presumably a kind of type-shifting or type-specification takes place, from a pro forma entity to what could be called a pseudo-entity. This is not surprising, given our approach, since identification, i.e. instantiation, of the elements of the operator structure as a rule implies semantic enrichment, and therefore leads to a shift in, or rather a specification of the

[14] This is quite strikingly indicated by certain homophonous verb pairs where one member of the pair is an impersonal presentational verb that does *not* assign any external role, whereas the other member is an ordinary transtive-causative verb that assigns an external role. This is the case with for instance *rulle* 'roll' in Norwegian. Thus, (i) is ambiguous between interpreting *det* 'it' as a referential personal pronoun or as an expletive pronoun, the expletive subject *det* being homonymous with the corresponding referential personal pronoun.

(i) Det rulla ein stein nedover bakken
it rolled a stone down slope-the
(a) 'It (e.g. the child) rolled a stone down the slope.'
(b) 'There rolled a stone down the slope.'

The operator structure and syntactic structure corresponding to these two interpretations are identical, except that the subject is enriched by an external Theta role in (ia), but not in (ib), leaving an expletive subject in the latter case.

interpretation in relation to the rudimentary operator structure, which only indicates a prototypical interpretation.

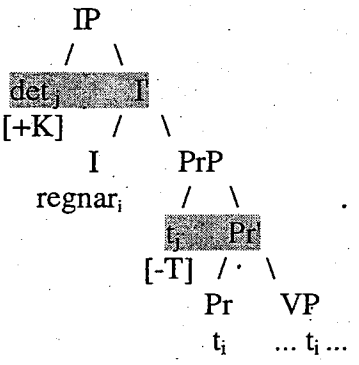
Now, an important aspect of the predicational analysis of the subject requirement (not discussed in Åfarli & Eide 2000), is the assumption that predication does not *license* a subject in the sense that the entity element that saturates the propositional function is *sufficient* for providing a syntactic subject. We will rather claim that predication triggers the *requirement* that the clause must have a subject. It depends on additional language specific principles how or whether a required subject is actually licensed. So, what licenses subjects? Here we take a fairly traditional view (that might need refinements): Subjects are licensed by Theta-role (T) and/or (abstract) Case (K). An external Theta-role is assigned to <Spec, PrP>, depending on the verb raised to Pr, and Case is assigned to <Spec, IP>, depending on the finite nature of I.[15] Thus, we propose that the existence of subjects is a result of the interplay between the requirements of the operator structure and the relevant morpho-syntactico-semantic principles of the given language.

Motivation for this proposal comes from contrasts like those in (22) vs. (23), where the b-versions are English translations of the Norwegian a-versions; the Δs in (23) indicate putative underlying subjects.

(22) a. Det er fint [at **det** regnar]
b. It is nice [that **it** rains]
(23) a. *Det er fint [Δ å regne]
b. *It is nice [Δ to rain]

(22a, b) show grammatical post-adjectival finite clauses (in brackets) with entity elements identified by expletive subjects. Here the subject required by the entity elements in the relevant Specifier positions are licensed by Case. To illustrate, consider the representation of the relevant part of (22a), given in (24):

(24)

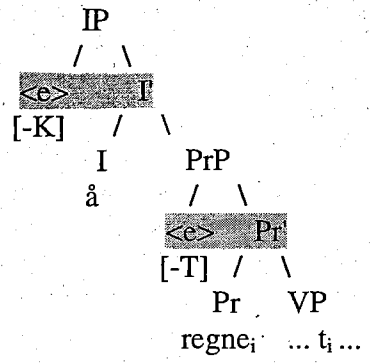


The embedded subject *det* 'it' is only licensed by being assigned Case (the embedded I is finite), and therefore the subject is licensed as an expletive subject.

In contrast, (23a, b), with *non-finite* post-adjectival clauses, are ungrammatical. We suggest that the reason for the ungrammaticality is that the (subject) entity elements provided by the embedded predication operators fail to be properly identified, because a subject cannot be licensed in these positions, see (25).

[15] It is not required that the licensing Theta-role is actually assigned by the verb raised to Pr, cf. structures of the type *det er bra [PRO$_i$ å bli sett t$_i$]* 'it is good to be seen', where PRO's Theta-role is assigned by the participle. Still, PRO thematically identifies the entity element in the subject position.

(25)



That is, the entity elements provided by the operators trigger the subject requirement, but the actual licensing of a subject cannot be accomplished since neither Case nor Theta-role is assigned. Hence the ungrammaticality. [16]

As far as we know, the analysis suggested above provides underpinnings for the subject requirement/EPP that previous analyses have failed to do. Whereas previous analyses have specified the principles that license subjects, including expletive subjects, it seems to us that they have failed to explain why there should be a subject requirement in the first place. What the assumption of the underlying operator structure does, is precisely to explain just that, namely why there is a subject requirement in the first place. We consider this an important independent motivation for the operator structure. Thus, even though subjects may be licensed by different principles in different languages, the subject requirement itself and therefore the existence of subjects, notably the existence of expletive subjects, is derived from the semantic notion of predication on our analysis.

Notice that the analysis proposed here does *not* exclude the possibility of expletive null-subjects in languages like Icelandic and German, which could otherwise be seen as a problem (also cf. Heycock 1991: 50-57). Consider the German example in (26) (from Safir 1985).

(26) a. Er sagte [dass getanzt wurde]
he said that danced was
b. *Er sagte [dass **es** getanzt wurde]
he said that it danced was

According to our analysis, it is not possible to assume that the complement of the complementizer in (26a) is a bare verb phrase. In fact, on our analysis the embedded clause in (26a) contains two predication operators (corresponding to Pr and I), and therefore the embedded

[16] Notice that the expletive subject in (22a)/(24) is inserted in <Spec, PrP> first, identifying the entity element there. Then it is raised to <Spec, IP>, identifying the next entity element. This raising is forced since the expletive subject cannot be licensed in <Spec, PrP>, being devoid of a Theta-role. However, raising provides licensing for the <Spec, PrP> subject via the chain to the licensed raised subject in <Spec, IP>. (Independent motivation for the assumption that expletive subjects are not directly generated in IP, but lower down in the basic nexus is given in Åfarli & Eide 2000: 40-45.) Similar reasoning explains the contrast between (i) and (ii) (=(23a)).

(i) Det begynte å regne.
it began to rain
(ii) *Det er fint å regne.
it is nice to rain

In the raising structure (i), the expletive subject of the matrix verb is raised from the embedded subject position, thus identifying the entity elements corresponding to both the matrix and embedded subject. On the other hand, a similar raising is not possible in (ii), since the post-adjectival clause is not in the complement position (cf. Åfarli & Lutnæs 2001). Therefore, since the embedded subject is not identified, the clause is ungrammatical.

clause also contains corresponding entity elements that must be identified. (Safir – within his framework – reaches a similar conclusion, namely that embedded clauses like the one in the grammatical (26a) contains a covert subject position.)

However, thematic identification of the entity elements that exist in the embedded clause of (26a) is of course impossible since the external Theta-role is suppressed, *getanzt* being a passive verb. Also, as indicated in (26b), the relevant entity elements in <Spec, PrP> and <Spec, IP> are apparently not phonologically identified, as indicated by the exclusion of an overt expletive subject. Therefore, according to our analysis, it seems that (26a) should have been ungrammatical for the same reason as e.g. (23a, b) are.

Interestingly, Safir notices that a sentence corresponding to (26a) with a non-finite complement clause, is in fact *not* grammatical, as expected, see (27).

(27) *Es ist möglich, [getanzt zu werden]
it is possible danced to be

Safir explains this difference by assuming that there exists in German an expletive pronoun that is not phonologically realized, but that nevertheless must be assigned Nominative Case. He proposes the parameterized principle given in (28).

(28) Nom Case must be phonetically realized where it is assigned.

According to Safir, Mainland Scandinavian and English has a positive value for this parameter, whereas German has a negative value, i.e. in German Nominative Case is not necessarily phonologically realized.

In our terms, the parameterized principle in (28) suggests that there are two components involved in Case licensing of the subject in a finite clause: The first and obligatory component is Nominative Case assignment. The parametrization concerns to what extent Nominative Case assignment also implies phonetic visibility, or whether Nominative Case assignment alone is sufficient for licensing. The latter is the case in German, which then allows (and requires) an expletive pro subject in (26a), whereas no subject can be licensed in (27).

Given Safir's parametrized principle (28), we conclude that the German data do not pose a problem for our analysis; they just illustrate a type of licensing of subjects partly different from the type found in Mainland Scandinavian or English.[17]

8 Evidence: The existence of "outer" expletives

Consider now the <Spec, CP> position. According to our analysis, C is headed by a predication operator, at least in main clauses of the V2-type.[18] That means that the relation between C' and <Spec, CP> is a predicational relation. This is also what Heycock claims, and it is hinted at in Rizzi (1997: 286), where it is suggested that there is a kind of higher predication "within the Comp system".

In declarative main clauses, a topicalized constituent identifies the entity element in <Spec, CP>. Now, one might imagine that topicalization is triggered only for semantic-pragmatic reasons, i.e. to provide a given sentence with a topic. However, if the predicational

[17] An obvious topic for future research is to investigate to what extent the detailed analyses of subject licensing found in works like Rizzi (1986) or Vikner (1995) can be integrated in the approach pursued here.

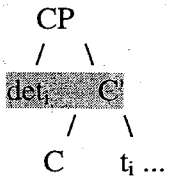
[18] As for embedded adverbial and nominal clauses introduced by a complementizer, we assume that the complementizer identify a non-predicational operator. The same might be the case with main clauses of the V1-type.

analysis is on the right track, topicalization is basically triggered for "formal" reasons, namely by the requirement that the entity element in <Spec, CP> be identified (even though the resulting structure gets a particular semantic-pragmatic interpretation in the end).

Now, the test case for the hypothesis that the Comp system contains a predication operator and a corresponding entity element, is whether expletive elements are ever situated in <Spec, CP>. Since an expletive pronoun cannot act as a topic (in a semantic-pragmatic sense), the occurrence of an expletive pronoun in <Spec, CP> suggests that there is more to this position than providing an optional landing site for phrases that are selected as topics for semantic-pragmatic reasons. On our analysis, this "more" is provided by the entity element of the predication operator in the CP-layer, which must be identified, just like entity elements provided by the lower predication operators in IP and PrP.

The occurrence of expletive pronouns in <Spec, CP> is in fact very common. For instance, subject expletives are often raised to <Spec, CP>, e.g. in an example like (21), resulting in a partial structure like (29).

(29)



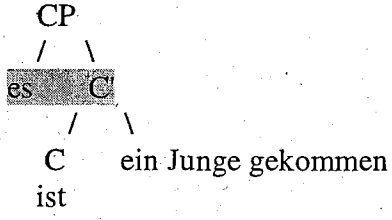
Also, it is a well-known fact that certain languages like German, Icelandic and Yiddish allow expletive pronouns to be directly generated in <Spec, CP>, cf. (30)-(31) (data from Vikner 1995).

(30) a. **Es** ist ein Junge gekommen (German)
there is a boy come
b. **fia›** hefur komi› strákur (Icelandic)
there has come boy
c. **Es** iz gekumen a yingl (Yiddish)
there is come a boy

(31) a. Gestern ist (***es**) ein Junge gekommen (German)
yesterday is there a boy come
b. I gær hefur (***fla›**) komi› strákur (Icelandic)
yesterday has there come boy
c. Nekhtn iz (***es**) gekumen a yingl (Yiddish)
yesterday is there come a boy

Structure of (30a):

(32)



The fact that expletives may be moved to or inserted in <Spec, CP>, as just illustrated, clearly supports the thesis that there is a predicational CP-layer, as we have been propsing.

One might wonder why only subjects, i.e. nominal phrases, are allowed in the specifier positions of the PrP/IP-system, whereas virtually any type of phrasal constituent is allowed in the specifier position of CP. To explain this, we will take our cue from Rizzi (1997: 286) where it is proposed that the predicational nature of the CP-system is due to a Topic-feature. Exploiting that idea, we suggest that C contains a Top property, so that CP is the co-projection of C and Top (Brandner 2001). Furthermore, we assume that Top in C licenses the element that is moved to <Spec, CP> to identify the entity element. Thus, Top assigns a licensing property L in a parallel fashion to the way that tense in I assigns the licensing property Case. However, whereas Agr in I requires that the <Spec, IP> is nominal, no such requirement applies to <Spec, CP>. Therefore, any phrasal category can identify the entity element of CP, i.e. any category can be topicalized.

We conclude that our claim concerning the predicational nature of the CP has been supported. In other words, the existence of "outer" expletives, which are either moved to or inserted in <Spec, CP>, provide yet a kind of syntactic effect of predication that in turn supports the thesis that the clause consists of layers of predicational relations.

9 The thematic properties of the subject and the predicator

Now, consider again the subject–predicate relation, cf. section 7. As pointed out by numerous authors, the existence of a subject–predicate relation is in part independent of thematic saturation; hence, predication is independent of the thematic properties of the subject and the predicate, respectively. We want to address and refine this claim in the following sections.

First of all, the possible combinations of thematic vs. non-thematic properties of the subject and the predicator could be displayed in a table like the following, where the relevant thematic property of the predicator is that of assigning an external theta-role:

(33)

	Thematic subject	Non-thematic subject
Thematic predicator	"Substantive predication"	Non-existent
Non-thematic predicator	"Substantive predication"	"Pseudo-predication"

Note that the term *predicator* is taken here to designate an item which is inserted in or moved to a head position containing a predication operator, e.g. Pr^0, I^0 or C^0. The combination of a thematic predicator with a thematic subject gives rise to a substantive predication relation which simultaneously is a thematic relation, exemplified by (34 a). The combination of a non-thematic predicator with a thematic subject amounts to a raising construction, where the thematic subject is assigned a theta-role at some point in the derivation prior to its raising into the subject position of the non-thematic predicator (cf. 34 b). Even this combination, though, gives rise to what we refer to as a substantive predication relation. Next, a predicator which obligatorily assings an external theta-role demands a thematic subject, hence the combination of a thematic predicator with a non-thematic subject is ungrammatical. And finally, the combination of a non-thematic predicator with a non-thematic subject may be exemplified by a construction like (34 c) or a weather-construction as in (34 d).

(34) a. Nordmenn spiser mye poteter.
'Norwegians eat a lot of potatoes.'
b. Nordmenn ser ut til å spise mye poteter.
'Norwegians seem to eat a lot of potatoes.'
c. Det ser ut til at Nordmenn spiser mye poteter.
'It seems that Norwegians eat a lot of potatoes.'
d. Det regner.
'It rains.'

The sentences in (34 c) and (34 d) exemplify what we want to dub a "pseudo-predication". This relation is a predication relation by virtue of its instantiating and identifying a saturated predication operator structure in the system outlined here. However, we recongnize the possible objections to the claim that this is an instantiation of "predication proper", as pointed out by numerous authors and exemplified here by Fukui (1986):

> It can hardly be claimed that there is a predicational relation in any normal intuitive sense involved between these pleonastic elements and the predicate phrase.

We meet these objections by referring to the relevant relation as "pseudo-predication". Thus, a pseudo-predication ensues whenever the entity element required to saturate the predication operator is identified by an expletive subject, i.e. whenever it does not encode an "aboutness-relation". On the other hand, a thematic subject gives rise to a substantive predication relation (an "aboutness-relation"), regardless of the thematic properties of the predicator.

In what follows, we will focus on predication in raising constructions, i.e. the relation between a raised thematic subject and what is conceived as a non-thematic predicator.

10 Raising constructions and subject scope

It is well known that raising constructions employing a raised thematic subject give rise to scopal ambiguity w.r.t. the relative scope of the subject and the matrix predicate, cf. the two possible readings of (35):

(35) Nobody seems to have left.
I. There is no person x such that x seems to have left.
II. It seems that no person x has left.

This ambiguity arises in raising constructions with a raised thematic subject only, as the corresponding constructions with expletive subjects give rise to a non-ambiguous wide-scope reading of the matrix predicate:

(36) It seems that nobody has left.

Furthermore, it has often been claimed that subject-scope ambiguities do not arise in control structures, i.e. constructions where the matrix predicate obligatorily assigns an external theta-role. This claim is illustrated with examples like the following (Hornstein 1998:109): [19]

(37) a. Someone seems to be reviewing every report.
b. Someone hoped to review every report.

[19] Hornstein ascribes these observations to Burzio (1986).

Hornstein claims that whereas (37 a) is ambiguous w.r.t. the relative scope of *someone* and *every report,* (37 b) requires *someone* to scope over *every report.* However, Horstein admits (p.c.) that there exists a range of control structures where we find scopal ambiguities between the quantified phrases *some* and *every,* just like in raising constructions. Cf. for instance the following data:

(38) a. Someone tried to review every report. (some > every/ every > some)
b. Somone decided to review every report. (some> every/ every > some)

That is, these control structures allow for an interpretation where for every report, someone tried/decided to review it.

Although we object to the claim that the relative scope between quantified phrases like *some* and *every* is ambiguous in raising constructions and unambiguous in control structures (since, as shown, even control structures give rise to this ambiguity), we recognize that there exists a scopal ambiguity between a raised thematic subject and the matrix predicate in raising structures which does not exist in control structures; cf. the following contrast:

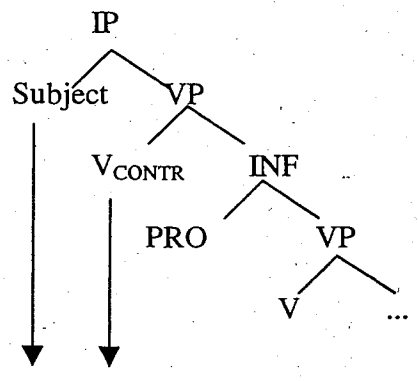
(39) a. Nobody seems to have left.
b. Nobody tried to leave.

The control structure in (39 b) does not allow for a reading where the subject is given narrow scope w.r.t. the matrix verb, unlike (39 a); cf. (35) above. That is, control structures do not allow for their subjects to scope under the matrix predicate, whereas raising structures allow for a narrow-scope as well as a wide-scope construal of the subject w.r.t. the matrix predicate.

11 Subject scope and the predication relation

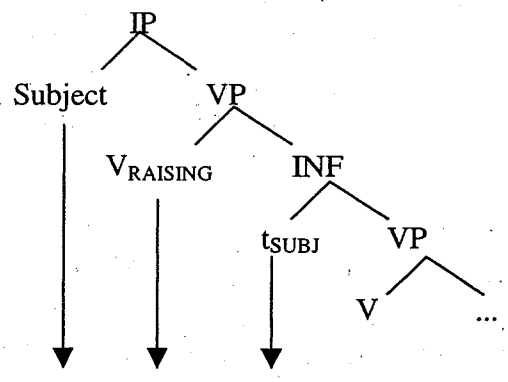
This contrast between control structures and raising constructions has been implemented in a number of approaches; cf. e.g. May (1977, 1985), Bobaljik (1998), Sauerland (1998) among many others. It has been argued by many authors that the contrast between raising structures and control structures as regards possible subject scope is due to an availability of a lower position for the subject at LF in raising constructions but not in control constructions. The following illustration is adopted from Wurmbrand (1999):

(40) a. **Control**



SCOPE: SUBJ > VERB

b. **Raising**



SUBJ > VERB > SUBJ

Assigning narrow scope to the subject in a raising construction is often referred to as "lowering" of the subject. Now, an intriguing question is whether or not "lowering" of the subject affects the (potential) *predication* relation between the subject and the matrix predicate in any significant way.

It has been claimed that a wide-scope versus narrow-scope reading of the subject in raising constructions correlates with the presence versus absence of a predication relation between this subject and the matrix verb, cf. e.g. Zubizarreta (1982), who provides the following data.

(41) a. Nobody seems to have left but somebody seems to have left.
b. ($\forall$x (x does not seem to have left)) but (seems ($\exists$x (x have left)))

Zubizarreta claims that (41 a) could be construed as non-contradictory, e.g. on the interpretation specified in (41 b). The reason for the lack of contradiction, she continues, is that in the first part of (41 b), but crucially, not in the second part, *seem* is *predicated* of x. That is, Zubizarreta's claim is that "lowering" of the subject correlates with the absence of a predication relation between the "lowered" subject and the matrix predicate *seem*.

We want to reject this claim here. In our approach, a predicate must be saturated by an entity element in order to encode a proposition. It is impossible to express a proposition by any other means than by instantiating the predication structure; i.e. one cannot choose to leave the predicate unsaturated, as suggested by Zubizarreta's claims above. The predication structure must be instantiated, and the entity element required by the predication operator must be identified. The element is not identified unless it is licensed, either by Case (e.g. expletives and raised subjects) or by being assigned a (n external) theta-role (PRO). English, like Norwegian, does not allow for a null-realization of nominative Case, hence the predication subject of *seem* in the second part of (41 b) could not be a "null expletive". Furthermore, this subject cannot be PRO, since *seem* is finite and hence does not accept a PRO subject. In addition, *seem* is not construed as assigning an external theta-role. Thus, there is no vocabulary item to identify the entity element required by the predication operator instantiated by *seem*, and its subject position cannot be empty. Accordingly, we reject the claim that "lowering" of the subject correlates with the absence of a predication relation between this subject and the matrix predicate *seem*.

12 Subject scope and thematic ambiguity

Instead, we want to claim that subject-scope ambiguities reside in thematic ambiguities. Specifically, we want to propose that there can be no subject-scope ambiguity where no thematic ambiguity exists. To support this claim, we want to point out that certain raising verbs, like e.g. epistemic modals, which never assign an external theta-role to their subjects, do not give rise to non-contradictory readings of the kind observed with *seem* in (41) above. Cf. the following data, which (according to my informants) are impossible to construe as non-contradictory, in contrast to (41) above:

(42) Nobody must have left but somebody must have left.

Now, epistemic modals are always construed as having scope over their subject (proposition scope). Deontic modals may be construed as scoping over their subjects (proposition scope) or under their subjects. In the latter case, we get what is referred to as a subject-oriented reading (Barbiers 1995, 1999) of the modal. We want to claim here that a subject-oriented reading of a deontic modal involves the assigning of an external theta-role from the modal to

the subject, whereas a proposition-scope deontic modal, just like an epistemic modal, does *not* assign an external theta-role to the subject. One result of this thematic ambiguity of deontic modals is that they give rise to non-contradictory readings of constructions like (41) and (42) above:

(43) Nobody must leave but somebody must leave.
(e.g. it is required that nobody leaves but somebody has an obligation to leave)

13 Modals in pseudocleft constructions

Only subject-oriented modals accept a pseudoclefted complement in Norwegian, (cf. 44 a and b) whereas proposition scope modals reject a pseudoclefted complement, whether the modal is deontic (cf. 44 c) or epistemic (cf. 44 d):

(44) a. Det (som) Jon må, er å være arkitekt.
it (that) Jon must, is to be architect
'What Jon must do, is to be an architect.' (subject-oriented deontic modal)

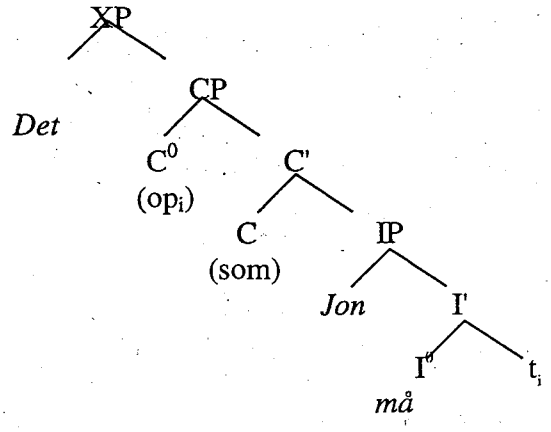
b. Det eneste du skal, er å gjøre leksene.
it only you shall, is to do homework-DEF
'The only thing you will do, is your homework.' (subject-oriented deontic modal)

c.*Det en kvinne burde, er å bli vår neste statsminister.
it a woman should, is to become our next prime minister
(Intended: What should happen is that a woman becomes our next prime minister;
i.e. proposition scope deontic modal.)

d. *Det (som) Jon må, er å være arkitekt.
it (that) Jon must, is to be architect
'What Jon must be, is an architect.' (* on an epistemic reading of the modal)

We explain these facts by assuming that a narrow-scope reading of the subject requires the overt syntactic access to a subject position below the modal; i.e. the "lowering" position. When this lower subject position is elided, as in (44) above, "lowering" becomes impossible, and a proposition scope reading of the modal is unavailable. That is, we suggest that the pre-copula relative clause in (44 a) has a structure like the following:

(45)



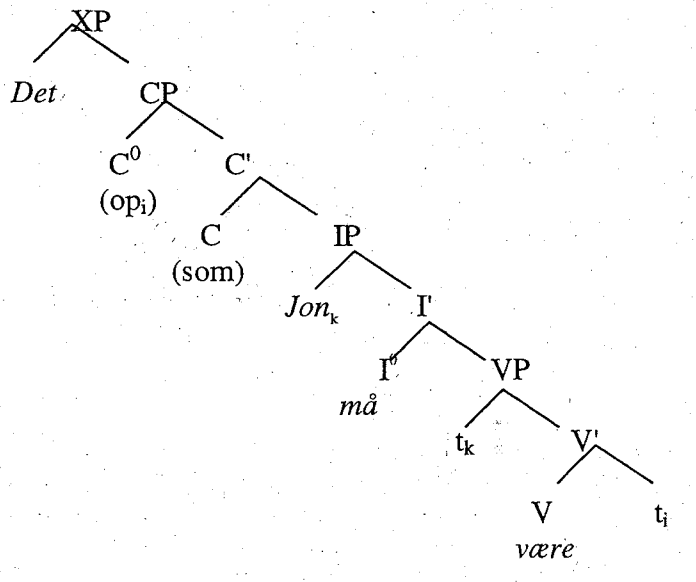
If these assumptions are correct, we would expect that providing the structure with a lower subject position within the syntactic scope of the modal ought to give rise to proposition-scope readings of the same modal; i.e. a narrow-scope reading of the subject. This expectation is borne out; cf. (46):

(46) a. Det Jon må være, er arkitekt.
it Jon must be, is architect
'What Jon must be, is an architect.'

b. ?Noe (som) en kvinne burde bli, er vår neste statsminister.
something (that) a woman should become, is our next prime minister
'What a woman should become, is our next prime minister.'

We assign to the relative clause in (46 a) the structure in (47):

(47)



In these cases, there exists a subject position <Spec, VP> within the scope of the modal, which is retained within this structure, unlike in (45) above. This suffices to allow for the "lowering" of the subject, and the proposition-scope reading of the modal is available.

14 The thematic ambiguity of *seem*

Claiming that subject-scope ambiguity in raising constructions is due to thematic ambiguity of the raising predicate amounts to claiming that most raising verbs come in two varieties, one "true" raising version which does not assign an external theta-role to the raised subject, and another version which does assign an external theta-role to its subject. Although there exist "true" raising verbs which do not have a version assigning an external theta-role, e.g. epistemic modals, we claim that prototypical raising verbs like *seem* and *appear* and their Norwegian counterpart *se ut til å* have both versions. These assumptions are supported by data like the following from Chomsky (1995b), where the PRO subject is said to display a "quasi-agentive" reading:

(48) PRO to appear (/seem) to be intelligent is harder than one might think.

Raising verbs with no theta-assigning version, like epistemic modals, are ungrammatical in this construction (cf. also Vikner 1988):

(49) */??PRO å måtte være morderen er vanskelig å holde ut.
to mustINF be the killer is difficult to cope with
'To have to be the killer is hard to cope with.' (* epistemic reading)

There seems to exist a semantic difference between the two versions of *seem,* such that the theta-assigning version requires direct visual access to the subject by the speaker, whereas the non-thematic version does not. To exemplify, take the sentence in (50).

(50) John seems to be sick.

This sentence has two distinct interpretations, one where the speaker has direct visual access to John and decides that John is showing signs of sickness, and another meaning the same as *it seems that John is sick,* which could be uttered as an explanation why John is not in class. That is, the interpretation where the subject *John* is given narrow scope w.r.t. *seem* does not require the speaker to have direct visual access to *John.*

Interestingly, only the theta-assigning version, i.e. the "direct visual access" version accepts a pseudoclefted complement in Norwegian, cf. (51):

(51) Det Jon ser ut til, er å være syk/*borte.
it Jon sees out to, is to be sick/*gone
'What John seems to be, is sick/gone.'

Recall from the previous subsection that proposition-scope modals (deontic or epistemic) reject a pseudo-clefted complement, whereas subject-oriented modals, which seemingly assign an external theta-role to their subjects,[20] accept a pseudoclefted complement. By analogy, we claim that the "direct visual access" reading of *seem/se ut til* involves the assigning of an external theta role to the subject, whereas the proposition scope reading of *seem*, involving a narrow-scope subject, does not assign an external theta-role. This thematic ambiguity of *seem* is responsible for the subject-scope ambiguity observed with this raising verb, such that the thematic version gives wide scope to the subject, whereas the non-thematic version gives rise to a narrow scope reading of the subject.[21]

15 Subject "lowering" and the predication relation

As shown in the previous subsections, there are indications that what has become known as "lowering" of the subject in raising constructions in fact amounts to an actual lowering of this subject. I.e., this procedure is dependent on overt syntactic access to a subject-position within the syntactic scope of the raising verb, e.g. the modal. When this lower subject position is elided, for instance when the complement of the modal is pseudoclefted, subject "lowering" is impossible, and a proposition scope reading of the modal (or raising verb) is unavailable.

[20] The theta-role assigned to the modal on the subject-oriented reading is sometimes referred to as an *adjunct* theta-role (e.g. Zubizarreta 1982, 1987 and Roberts 1985, 1993), an *additional* theta-role (Vikner 1988, Thráinsson and Vikner 1995), or a *secondary* theta-role (Picallo 1990).

[21] We should mention here that we adhere to the assumptions in Enç1991) that what is known as wide-scope versus narrow-scope readings of *indefinites* is not encoded in syntactic positions like upper and lower subject positions. Instead, these readings reside in a lexical ambiguity of indefinites; cf. also Eide (2001) for a more detailed discussion of this subject.

One way of implementing these facts is to adopt the recent theory of A-chains put forward in Hornstein (1998, 1999, 2000). Horstein suggests that A-links, not A-chains, are the real obejcts of interpretation at LF. Thus, Horstein makes the following assumption:

(52) At the CI Interface (LF) an A-chain has one and only one visible link.

"Lowering", Hornstein claims (1998:102), is effected when higher links of an A-chain are deleted and a lower link is retained. (52) simply requires that all but one link delete. It does not specify which one is retained nor does it favor the deletion of lower links over higher ones. However, there exist restrictions on this "lowering". One such restriction could be formulated as follows:

(53) a. Delete all links in the A-chain except one. BUT:
b. The retained link must be at least as high in the structure as the topmost θ-position.

(53 b) accounts for the fact that obligatory theta-assigners, such as control verbs, do not allow for their subjects to scope under them.

Now, as shown by this outline, we do not rule out the possibility that there exists covert movement such as "lowering" of a raised thematic subject. However, "lowering" does not affect the *predication* relation between this subject and the matrix predicate. Specifically, although the pseudocleft data suggest that proposition scope raising verbs such as epistemic modals (and the proposition scope, non-thematic version of *seem*) involve interpreting a non-topmost link of the A-chain, this operation does not undo the predication relation between the matrix verb and the "lowered" subject. To illustrate, take the sentence in (54).

(54) Jon må ha knust vasen.
'Jon must have broken the vase.'

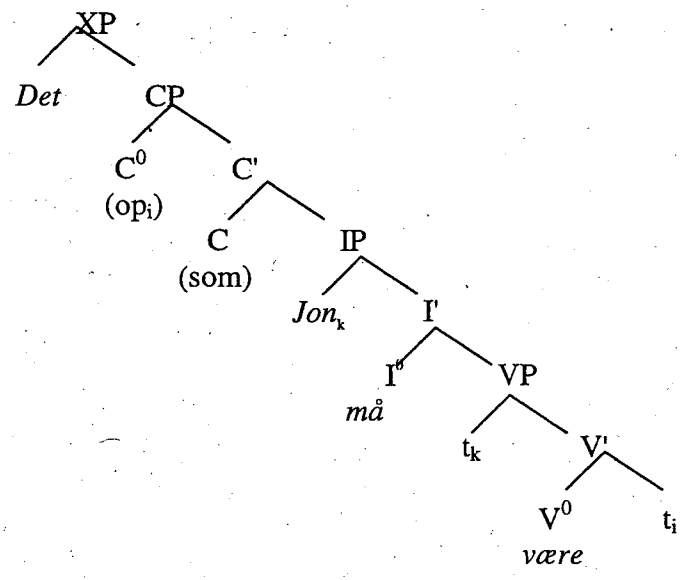
On an epistemic reading, the modal does not assign an external theta-role to the subject. Pseudoclefting the complement of the modal renders the epistemic reading unavailable, cf. (55):

(55) *Det Jon må, er å ha knust vasen.
it Jon must, is to have broken vase-DEF
(Intended: 'What Jon must have done is broken the vase.')

This strongly indicates that the lower subject position, i.e. a subject position within the scope of the modal, is essential to a proposition scope reading, including an epistemic reading, of the modal. Assume that overt syntactic access to the lower subject position is essential for subject "lowering" to take place because this subject position contains the A-link retained at LF. However, if this is correct, it cannot be the case that predication relations are read off the same structures.

Specifically, if all links but one in an A-chain are deleted by LF (as claimed by Hornstein), and if the retained link is situated in a subject position below the topmost predicator, as seems to be happening in the case of subject "lowering", then the topmost predication operator would be unsaturated at the relevant syntactic level (i.e. LF). Cf. the structure in (56), which depicts the pre-copula relative clause of a psedocleft construction:

(56)



Subject "lowering" in this structure involves retaining the A-link t_k in <Spec, VP> instead of the A-link *Jon*$_k$ in <Spec, IP>. That is, the link *Jon*$_k$ is deleted by LF. Now, if predication relations were read off this LF-structure, then the predication operator in I^0 would be left unsaturated; i.e. the entity element required by the predication operator situated in I^0 would not be identified, since the subject position <Spec, IP> is in effect empty at LF. This would not be allowed by the system outlined above, since a predication operator cannot be unsaturated when it encodes a proposition; but much more importantly, it does not capture our intuitions about the predication relation between *Jon* and the modal *må*. No matter the scopal construal of the subject, our intuition is that there exists a predication relation, and furthermore, a *substantive* (i.e. "aboutness") predication relation between *Jon* and *må*. That is, our intuitions (as well as the system outlined in the present work) indicate that there is a predication relation between *Jon* and the modal *må*. On the other hand, the pseuocleft data suggest that an epistemic reading of the modal involves a lowering of the subject which leaves the subject position of *må* empty at LF. There are several possible solutions to this problem.

One possibility would be to invoke the "All-for-One-Principle" assumed within the Minimalist Program (the term is due to Hornstein 1998). Put simply, this principle refers to the assumption that if a link in a chain checks a feature than all links of that chain also check that feature. Applied to the structure above, one might suggest that the A-link [*Jon*$_k$, t_k] identifies the entity elements of the predication operators situated in I^0 and V^0 respectively, before the A-link in <Spec, IP> is deleted and the A-link in <Spec, VP> is retained. However, there is a problem with this assumption within a Horstein-type approach. In Horstein's system, movement is actually [Copy + Deletion], which means that any principle referring to chains is unavailable. In fact, there is no A-chain at any point in the derivation. The only derivational history retained is the collection of features (including theta-features) transferred from syntactic heads to DP by means of checking.[22]

One way to circumvent the problem sketched above would be to reject Hornstein's claim that movement is [copy + deletion] and assume instead that the entire A-chain is estab-

[22] Hornstein (1998, fn. 9): "Lasnik (1995) proposes treating theta-roles as features of verbs. These features can be checked D/NPs A D/NP bears the theta-role corresponding to the theta-feature of the verb that it checks. One can think of this thematic checking operation as a way of transferring the feature from the verb to the nominal [...]. We can represent this by treating theta-roles as features that D/NPs acquire by merging with predicates within lexical domains. This is what the present analysis assumes."

lished before all but one link is deleted; i.e. that this deletion is a late syntactic operation. In this picture, all predication relations are visible at the CI/LF interface, encoded by the retained A-link by means of the "All-for-One-Principle".

16 Conclusion

We have argued that predication is a, if not *the*, decisive factor molding the fundamental syntactic traits of clauses. Thus, we have argued that layers of predicational operator structures construed as layers of propositional skeletons are the basic semantic objects that explain both basic syntactic architecture and the basic syntactic processes that take place in clauses. Needless to say, we have just scratched the surface of some of the very basic problems and questions raised by the hypotheses and ideas advanced in this paper, but we hope to have provided enough evidence to convince the reader that they are worth trying out.

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The Syntax of Depictives, Subjects, Modes of Judgement and I-L/S-L Properties*

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Abstract

In this work, I provide an analysis of adjectival depictive constructions which accounts for most of their fundamental properties. First, I focus on the restrictions having to do with the integration of the depictive and the verbal predicate: they are based on aspectual compatibility between the two predicates, which, in turn, will depend on the ability, on the part of the depictive, to make reference to some (sub)event in the event structure of the verbal predicate. Facts not captured by previous approaches in the literature will be straightforwardly accounted for, among them the possibility to have I-L depictive constructions, and the impossibility to combine a depictive with some non-stative verbal predicates. Second, it will be shown that the informational import of the depictive in the sentence can be equivalent to that of the verbal predicate: both can be the *primary lexical basis of predication*. This is reflected in the sentence in various ways, having to do with aspectual modifiers, and in the properties of the sentential subject. In this connection, we will reconsider the notion of *subject*, arguing that no subject-predicate relation takes place in the lexical domain of sentences, and hence that the argument the depictive is oriented to, the *common argument*, cannot be a subject of the depictive. Finally, a minimalist analysis is proposed for the syntax of the construction, in terms of direct syntactic merge of predicative constituents and sidewards (θ-to-θ) movement for the common argument, from the lexical domain of the depictive to the lexical domain of the verb. As to morphosyntactic properties, a syntactic Double Agree relation is assumed to hold between T/v, as probes, on the one hand, and the common argument and depictive, as simultaneous goals, on the other, which would allow for the deletion of Case features on *both* goals. The assumed presence of Structural Case on the adjectival depictive will be responsible for the well-known restriction on the orientation of depictives to the sentential subject or object.

1. The depictive construction

The example in (1) illustrates the adjectival depictive construction in Spanish, whose characterization is given in (2):

(1) El veterinario me devolvió el gato *enfurruñado*$_{S\text{-}L}$
The veterinarian to-me gave-back the cat upset

(2) *Characterization of the depictive construction:*
The adjectival predicate depicts an individual (represented by the subject or object in the sentence) strictly *insofar as* a participant involved in the event denoted by the verbal predicate, in the specific sense that the property it is attributed to necessarily holds during the internal development of that event (i.e. there is no other implication in relation to the persistence of the property denoted by the depictive, apart from those coming from pragmatic inferences).

Thus, the precise span the property lasts is determined by the Aktionsart of the verbal event in various subtle ways, beyond the assumed broad aspectual compatibility between the two predicates: in the case of (1), it holds just during the transference denoted by the verb.

Therefore, a depictive construction does *not* inform about two independent eventualities that should be temporally linked in one of various possible forms. On the contrary, just a single eventuality is reported: in the case of (1), the sentence reports an event of the veterinarian transferring the cat to me, where either the vet or the cat is upset.

* Many thanks to the audience at the Workshop, for their questions and suggestions, and for the pleasant atmosphere they created. I'm very grateful to Carlos Piera and Gema Chocano, for their generous support in all respects; in relation to this paper, thanks to Carlos for his reviewing of the various drafts, for discussion, and for giving me the examples in note 3 and (53); and thanks to Gema for Latin data (which will be incorporated in the next version). For both their friendship and love, I dedicate this work to Ana Álvarez and Jesús Muñoz

1.1. Depictive constructions are monoclausal

As a point of departure, I'll briefly distinguish between depictive constructions and superficially identical constructions in which the adjectival predicate denotes a time interval - we can call it *concealed time interval constituent*. The sentence in (3) is an example of the latter. It can be given any of the interpretations that are represented in (3)a and (3)b in semiformal terms; these interpretations correspond to the glosses in (3)a.i and (3)b.i, where we can see that *relaxed* acts as a constituent whose denotation must include a time specification independent from that associated with the verbal predicate, with which it establishes a specific time relation. The sentence is a suitable answer to the questions in (3)a.ii and (3)b.ii, and it will show a different intonational pattern depending on which of them it is a reply to: the intonational emphasis will be on the predicative adjective denoting a time interval, if the content of the main predicate is understood as presupposed, so the adjectival constituent is what introduces new information, as in (3)a.ii; and, on the contrary, the emphasis will be on the main predicate and its internal argument, if it is the content of the adjectival constituent that introduces new information, as in (3)b.ii. Both possibilities are indicated by capital letters:

(3) María leyó el periódico relajada
María read the newspaper relaxed

a. $\exists$ {María read the newspaper} [María was relaxed] Head-clause restriction reading
i. *The eventuality of María reading the newspaper is included in the time interval of María being relaxed (reading the newspaper didn't take place in any other circumstances).*
ii. *When did María read the newspaper? María read the newspaper (when) RELAXED*

b. $\exists$ {María was relaxed} [María read the newspaper] Adjunct restriction reading
i. *The time interval of María being relaxed included an eventuality of María reading the newspaper (reading the newspaper was (one of) the activity (activities) performed while being relaxed).*
ii. *What did María do when she was relaxed? María READ THE NEWSPAPER (when) relaxed*

The fact that the sentence has these two interpretations indicates that the adjectival predicate *relaxed* behaves as a *when*-clause: this status allows it to function as what is asserted in the sentence (the eventuality of María reading the newspaper would be presupposed), or as what is presupposed (the eventuality of María reading the newspaper would be what is asserted). The former function is what we have in (3)a, where the verbal (head) clause restricts the existential quantifier; the latter function is represented in (3)b, where the adjectival constituent (adjunct) acts as a restrictor of the existential quantifier (see Johnston (1994), a thesis on adverbial clauses, on which the formal expression of the above readings is based). If the adjectival constituent behaves here as equivalent to an adverbial time clause, it should be taken as the lexical basis for an independent (adjunct) clause, so that the sentence in (3) is biclausal.

But (3) can also be taken as a depictive construction, which is the reading this paper is concerned with. That is the interpretation we have in (3)c, where there is no restriction to the existential quantifier, and the adjectival predicate is integrated in the only existing clause:

c. $\exists$ [María read the newspaper relaxed] No restriction reading
i. *There was an eventuality of María reading the newspaper relaxed, i.e. she was relaxed insofar as a participant in that eventuality*
ii. *What happened?*

As reproduced in the gloss in (3)c.i, the adjectival predicate is in this case a true depictive. The whole sentence would be a suitable answer to the question in (3)c.ii, so the depictive does not

denote a time interval in any sense. There is a unique event, and the time extension through which it can be said that the property denoted by the adjectival predicate holds is dependent on the aspect of the verbal predicate: María was relaxed during the process subevent included in the event structure of *reading the newspaper.*

The ambiguity of (3) makes it relevant to recognize a different status for depictive predicates and concealed time interval predicates, and, further, to recognize the monoclausal nature of depictive constructions. This has the immediate consequence that the constituent formed on the basis of the depictive cannot be given a small clause analysis, which would imply biclausality. Thus, an alternative syntactic analysis is required, which can capture this.

2. Aspectual compatibility between the predicates

In order to determine the syntactic status of the depictive constituent, let's take a closer look at the kind of aspectual compatibility that is required to hold between the two pedicates present in the sentence.

(4) and (5) are equivalent to (1) in that the verbal predicate expresses a simple transition (in the sense of Pustejovsky (1995)): their event structure includes two subevents - a process followed by a state:

(4)

a. Pedro salió de la escuela *asustado*$_{S\text{-}L}$
   Pedro went-out from the school scared-M-SG

b. Pedro salió de la escuela primaria *bilingüe*$_{I\text{-}L}$
   Pedro went-out from the school primary bilingual

(5)

a. Carlos sacó a Gema de la reunión *irritada*$_{S\text{-}L}$
   Carlos took-out (to) Gema from the meeting annoyed-F-SG

b. Carlos sacó a Gema de la secta *paranoica*$_{I\text{-}L}$
   Carlos took-out (to) Gema from the sect paranoid-F-SG

In (4)a and (5)a the state denoted by the depictive is understood to hold of the sentential subject or object during the process subevent: Pedro was scared in the process of going out of school; Gema was annoyed in the process of being taken out of the meeting. Actually, it seems that the depictive refers to this subevent, and can be oriented to any of the two participants it is associated with, a possibility that is often restricted in Spanish by the agreement features of the adjective (in (5)a the gender and number features of *irritada* restrict the orientation to the object). Significantly, the depictive can *only* be stage-level when related to the process subevent.

In (4)b and (5)b the state denoted by the depictive is understood to hold at the turning point between the process and the following state: Pedro was bilingual at the point he was out of primary school; Gema was paranoid at the point she was out of the sect. In both cases, the lexical structure of the verb includes a subevent denoting a state for one of the arguments that is the opposite to a pressuposed initial one (and is brought about by the preceding process): the event of Pedro going out of primary school is followed by a state of Pedro being out of the school; the event of Carlos taking Gema out of the sect is followed by a state of Gema being out of sect. They are *causative achievements* (in Pustejovsky's (1995) terms). Thus, there is in both cases a change of state (hence a turning point) for one of the arguments. Two immediate consequences follow from this: (i) the depictive must be oriented to the only argument associated with the reached state; (ii) the depictive can be individual-level: the turning point denoted by the verbal predicate can be taken as the point at which the property denoted by the depictive can be said to hold of the

entity denoted by the relevant argument.

I am actually proposing, then, that in depictive constructions the state event denoted by the depictive must get to be connected with the event structure of the verbal predicate: either with the whole event, or with some of the subevents it consists of. In particular, this can be seen as an operation of event unification[1] triggered by the syntactic merge of the two predicates.

Assuming this to be the case, we are going to analyze the various possible ways in which this operation works, in order to determine what the aspectual compatibility required between the two predicates should be.

In the preceding examples with transition verbs (achievements), we have seen, on the one hand, that there is the possibility for the depictive to unify with the process subevent, in which case the depictive can only be S-L; on the other hand, the depictive can unify with the whole event, with the transition itself, in which case it doesn't make reference to any of the subevents the transition consists of, and can be I-L.

I-L properties, by definition, denote states that are independent of any eventuality. Then, in principle, we would not expect to find I-L depictive constructions at all, since the depictive in them seems to be dependent on the event denoted by the main predicate. However, I-L properties can perfectly well be restricted to spatiotemporal locations of an individual/entity, as in the following examples in (6):

(6)

a. Riqui es obediente en el colegio
   Riqui is obedient in the school
b. Paco era tímido en su adolescencia
   Paco was shy in his adolescence
c. Ese medicamento fue imprescindible en los años cuarenta
   That medicament was indispensable in the years forty

The prepositional modifiers in these sentences delimit the stage in the existence of the individual/ entity during which the property can be said to hold (they do not ascribe it to particular events). They are properties which can be under the control of an individual (like *obedient)*, or they can be either developed or lost along an individual's existence (like *shy* or *indispensable)*. We will descriptively call them rise/drop (R/D) I-L properties.

Now, notice the following important aspect of I-L-depictive constructions like those in (4)b and (5)b: the source arguments *(primary school* and *the sect)* associated with the verb are not understood as a particular location; they represent an organization, or an institution, where the individual referred to by the relevant argument has been involved in some activity (actively or passively), and that activity is directly responsible for the development and final possession of the property denoted by the I-L depictive. In other words, the achievement denoted by these transitions constitutes a landmark in the existence of the individuals that undergo them, and that landmark is materialized in the acquisition of the property expressed by the depictive. The I-L property does not make reference to the process denoted by the verb itself, but to the turning point that culminates that process: to the transition. This is crucial in two important respects: (i) achievements whose subevent structure lacks a (causing) process are unable to form a depictive

[1] This operation can be taken as event co-composition (in the sense of Pustejovsky (1995)); I will not deal with this issue here, though I suspect that there is some form of qualia unification between the two predicates. I use the term 'event unification' in a noncommittal way to refer to the semantic counterpart to syntactic merge.

construction; and (ii) sentences with an accomplishment, and even with a process main event, which generally reject I-L depictives, can in some cases abstract the content in their lexical domain in such a way that it can be taken as a particular stage of existence, in which case an I-L predicate is allowed.

Let us begin with non-process achievements. As opposed to the previous examples, we find that it is impossible to form a depictive construction when the verb denotes a non-causative achievement: whether the depictive is S-L or I-L, and whether the depictive is subject or object oriented, the constructions we obtain are all ungrammatical. This is illustrated by the examples in (7) and (8):

(7) *María captó el doble sentido *nerviosas*$_{S\text{-}L}$ / *sagaz*$_{I\text{-}L}$
María grasped-3P-SG the irony nervous-F-SG / sagacious-F-SG

(8) *María reconoció mi coche *limpio*$_{S\text{-}L}$ / *lujoso*$_{I\text{-}L}$
María recognized-3P-SG my car clean-M-SG / luxurious-M-SG

Contrary to the achievements in (4) and (5), the achievements in (7) and (8) denote punctual events: even if a process can be identified in the event of grasping, or in that of recognizing, it is not a causing process - informally, there is no grasping process that ends up in the grasp of the irony, and there is no recognizing process that ends up in the recognition of the car. Probably, the subevent structure of a punctual achievement consists of two individual stative subevents, one immediately following the other, where the first one would express the lack of a certain state and the second one its presence. Thus, the event of grasping something would be an instantaneous transition from the state of not possessing the knowledge of something to the state of possessing it: in the grammatical counterpart of (7) (with no depictive), María goes from the state of not having gotten mental hold of the irony to the state of having gotten it. Similarly, in (8), María goes from a state of not having identified the car to the state of having identified it. This particular subevent structure is what makes the transition be strictly punctual. Therefore, on the one hand, in these cases there is no process subevent an S-L depictive could make reference to; on the other, there is no activity implied that can bring about the acquisition of a property, be it S-L or I-L in nature. Thus, the ungrammaticality of (7) and (8) is neatly accounted for: no depictive is aspectually compatible with the kind of event expressed by a punctual achievement, taking aspectual compatibility in this subtle way; there is no possibility for the depictive to make reference to the appropriate event or subevent.

Let us see now what the situation is with accomplishment and process verbal predicates. As we can check in the examples in (9) and (10), there is no problem in forming depictive constructions with an S-L adjective in these cases:

(9)

a. Matías escribió una canción *entusiasmado*$_{S\text{-}L}$ / **pobre*$_{I\text{-}L}$
Matías wrote-3P-SG a song enthusiastic-M-SG / poor-M-SG

b. Matías escribió su primera novela *entusiasmado*$_{S\text{-}L}$ / *pobre*$_{I\text{-}L}$
Matías wrote-3P-SG his first novel enthusiastic-M-SG / poor-M-SG

(10)

a. Jorge caminaba *pensativo*$_{S\text{-}L}$ / **rico*$_{I\text{-}L}$
Jorge walked-3P-SG meditative-M-SG / rich- M-SG

b. Jorge creció *enfermo*$_{S\text{-}L}$ / *rico*$_{I\text{-}L}$
Jorge grew-up-3P-SG sick-M-SG / rich-M-SG

The S-L depictive in these examples makes reference to the process of writing, walking and growing, respectively. However, the contrast we see in these examples when the depictive is I-L *(poor/rich)* illustrates what was mentioned above: if the content of the accomplishment or the process can be abstracted as a particular stage of existence for an individual, then it would denote a period preceded or followed by a potentially different one. This makes it possible to take it as a landmark, which in turn would be responsible for the development or the loss of the I-L property (which is an R/D property). Thus, it is not that Matías was poor as a participant in the process of writing his first novel, but that he was poor in that period of his life in which he was writing his first novel (ex.(9)b); for obvious reasons, writing a song cannot be abstracted as a stage of existence, so then there is no possibility to take it as a landmark (ex.(9)a). Similarly, in (10)b, it is not that Jorge was rich as a participant in the process of growing up, but that he was rich in that period of his life at which he was growing up (ex.(10)b); as opposed to this, the process of walking does not allow abstraction as a stage of existence (ex.(10)a).

We have enough evidence by now to describe in what specific sense aspectual compatibility between the two predicates in these constructions has to be taken. The descriptive generalizations are made in (11):

(11) *Aspectual compatibility in depictive constructions*

a. An adjectival depictive predicate is aspectually compatible with the verbal predicate in a depictive construction if the event structure of the latter allows the depictive to make reference to either a process (sub)event or a transition.

b. An I-L depictive can only make reference to a transition, provided that the depictive denotes a raise/drop I-L property and the transition includes a causing process.
An S-L depictive can make reference to both a process (sub)event and a transition.

Finally, to complete the revision of all predicate types, let us consider examples where the verb denotes a state event:

(12)

a.	*Javi	admira	a	los	ciclistas	*emocionados*$_{\text{S-L}}$	/ *sincero*$_{\text{I-L}}$
	Javi	admires-3P-SG	(to)	the	bike-riders	moved-M-SG	/ sincere-M-SG
b.	*Javi	admira	a	los	ciclistas	*exhaustos*$_{\text{S-L}}$	/ *veloces*$_{\text{I-L}}$
	Javi	admires-3P-SG	(to)	the	bike-riders	exhausted-M-PL	/ speedy-M-PL

In principle we could think that two stative events should be aspectually compatible. However, the examples in (12) show that no depictive construction can be formed with a state event. The generalizations in (11) correctly exclude this case. For event unification to be possible, the depictive must find an appropriate event or subevent to refer to. In this respect, S-L predicates can refer to a process, or to a whole transition; I-L predicates can only refer to a transition that constitutes a stage of existence preceded or followed by a turning point. But the event structure of states consists of a single event, where, as described in Pustejovsky (1991):51, "[t]here is no change [...] and no reference to initial or final periods [...] [;] it is the homogeneity of states that distinguishes them from other aspectual types". Given this, we can say that a depictive does not find any of the properties it requires in the simple aspectual structure of a state: there is no process in which an individual is involved, and there is no transition undergone by an individual. Again, the nature of the event structure that the depictive has to unify with is responsible for the facts - here for the impossibility to form a depictive construction of any kind.

We can summarize our findings about the facts of aspectual compatibility seen in the preceding data as follows, in (13):

(13)

a. *Achievement predicates:*
   i. A causative achievement allows event unification with both an S-L depictive and an I-L depictive, so depictive constructions are formed with both, and the depictive has to be oriented to the argument associated with the reached state the verb denotes:
      – an S-L depictive can make reference to the process subevent or to the whole transition denoted by the verb;
      – an I-L depictive must necessarily make reference to the whole transition.
   ii. A punctual achievement does not allow unification with either an S-L or an I-L depictive. No depictive construction can be formed.

b. *Accomplishment predicates:*
   i. An accomplishment predicate allows event unification with an S-L depictive, which makes reference to its process subevent. The depictive can be oriented to any of the arguments involved in the process
   ii. Marginally, it allows event unification with an I-L depictive, provided that the content of the transition event the accomplishment denotes can be abstracted as a particular stage of existence for the relevant argument.

c. *Process predicates* allow event unification only with an S-L depictive.

d. *State predicates* do not allow event unification with either an S-L or an I-L predicate.

I believe that the generalizations in (11) account for the facts we have seen so far in a way that captures the spirit of Kratzer (1989) in her proposal to distinguish I-L from S-L predicates by means of recognizing an event position in the argument structure of the latter, but not in that of the former[2]. However, our approach is significantly different in that it is based on the (sub)event type a predicate can make reference to, and it goes a step further in as much as it provides an explanation for cases that were not accounted for or not considered. Any approach based on the presence/absence of an e-position predicts: (i) that I-L depictives should be always rejected in depictive constructions; and (ii) that S-L depictives should be able to form a depictive construction with any kind of S-L verbal predicate. As we have seen, both predictions are incorrect: (i) some I-L depictives (R/D I-L depictives) are allowed without difficulty in a variety of depictive constructions, and (ii) not all S-L verbal predicates can form a depictive construction: punctual achievements cannot.

Assuming the view of aspectual compatibility I have presented and taking event unification as a semantic operation which is possible as a result of the syntactic merge of the two predicates, I will move forward to another aspect of depictive constructions that will be relevant for their syntactic analysis.

3. Status of one of the predicates as the *primary lexical basis of predication*

No aspectual type shift is obtained as a result of event unification; the joined events maintain each their own type properties: on the part of the verb, a process continues to be a process, and a transition continues to be a transition. However, it is interesting to note how the depictive may acquire an import at least equivalent to that of the verbal predicate in what I will descriptively call the ***primary lexical basis of predication*** in the sentence. By this I simply mean that one lexical

[2] Hernanz (1988) and Kratzer (1989), both adopting the insight of Davidson (1967), coincide in proposing an e-argument position in the argument structure of S-L predicates only. Rapoport (1991) argues for an e-position in the event structure of S-L predicates, which allows for the assumed necessary linkage to the matrix verb.

predicate or the other has the ability to act as foregrounded, and its content becomes prominent from an informational point of view. This is in correspondance with the two modes of judgement a sentence can be ascribed to: thetic and categorical (in the sense of Kuroda (1992), followed by Ladusaw (2000), both on the basis of the insights of Brentano-Marty). Let's see some examples, taking (14) as a point of departure:

(14) El profesor de danza despidió a María *llorosoS-L*
The teacher-M-SG of dance saw-off-3P-SG (to) María tearful-M-SG
a. *The dance teacher is said to have been tearful insofar as a participant in the process subevent that the event of seeing Mary off includes.*
b. *There was an event of the dance teacher seeing Mary off; the dance teacher showed the property of being tearful insofar as a participant in the process subevent included in that event.*

(14)a and (14)b are two possible glosses for (14), which intend to reflect the two existing possibilities as to the interpretation of the sentence in relation to its judgement mode: in particular, according to the gloss in (a), the sentence can primarily inform about a property of the teacher, in which case we take it as expressing a binary, categorical judgement, where the depictive is foregrounded as the *primary lexical basis* for clausal predication; (b), on the contrary, shows how the verbal predicate can also be foregrounded in the sentence, which can primarily assert the occurrence of an eventuality of the teacher seeing Mary off, where it happened to be the case that the teacher was tearful; in this latter case, the sentence is taken as expressing a unary thetic judgement.

There are even instances in which the construction can *only* be taken as categorical, with the depictive acting as informationally foregrounded. It is typically the case of constructions with a transition verbal predicate and an I-L depictive, which cannot be understood as expressing a thetic judgement, as in the examples in (15) (=(4)b) and (16). This is due to the specific condition that a depictive construction with an I-L predicate must satisfy: namely the transition must be understood as a landmark in the existence of the individual that undergoes it, which has the consequence that the event denoted by the transition is presupposed. This is clear in (15), where the event of going out of primary school is one that everyone is assumed to go through; in (16), going to mass, or leaving for a mass, is not so clearly, by itself, an event easily taken as marking a landmark, but the time modifier, *last Sunday*, provides the element of meaning that allows us to take it as a habit in the case of Teresa.

(15) Pedro salió de la escuela primaria *bilingüeI-L* (=(4)b)
Pedro went-out of the school primary bilingual
a. *Pedro is said to be bilingual insofar as a participant in the transition denoted by the event of going out of primary school.*
b. **NOT**: *There was an event of Pedro going out of primary school; Pedro was bilingual in as much as a participant in the transition denoted by that event.*

(16) El domingo pasado, Teresa se fue a misa *creyenteI-L*, y volvió *agnósticaI-L*
The Sunday last, Teresa ASP-MARKER went to mass believer and came-back agnostic
a. *Teresa is said to be a believer insofar as a participant in the transition denoted by the event of leaving for mass last Sunday (up to the point she left for mass that day), and she is said to be agnostic as a participant in the transition denoted by the event of coming back (going out of mass).*
b. **NOT**: *There was an event of Teresa leaving for mass; Teresa was a believer in as much as a participant in the transition denoted by that event, and there was an event of her coming back, since the starting point of which (the point at which she is out of mass) she is agnostic.*

The fact that one of the predicates in the sentence acts as its primary lexical basis shows us that

the event unification operation maintains the independence of each predicate, not only aspectually, but also in their ability to be informationally foregrounded.

We would expect to find some visible effects of event unification in the sentence. Actually, there are at least two areas in which they show up. The first one has to do with aspectual modifiers: we find that those typically allowed with transition verbs (frame adverbials) are rejected in a depictive construction; and, conversely, those typically rejected by transition verbs (durative adverbials) are allowed in a depictive construction. The examples in (17) and (18) illustrate this:

(17)

a. Juan subió al estrado en un periquete
   Juan went-up to-the stand in a tick

b. Juan subió al estrado *temerosos-L* ok/*en un periquete
   Juan went-up to-the stand fearful in a tick
   i. ok *There was an event of Juan going up to the stand in a tick; he was fearful as he developed that event.*
   ii. **Juan is said to have shown the property of being fearful as a participant in the event of going up to the stand in a tick.*

c. Juan subió al estrado *culpablei-L* *en un periquete
   Juan went-up to-the stand guilty in a tick

(18)

a. Juan corrió la maratón de Nueva York *durante varios minutos
   Juan run the marathon of New York for several minutes

b. Juan corrió la maratón de Nueva York *mareados-L* durante varios minutos
   Juan run the marathon of New York dizzy for several minutes
   i. *There was an event of Juan running the New York marathon; for several minutes during the development of the race, he was dizzy.*
   ii. *Juan is said to have shown the property of being dizzy for several minutes as a participant in the event of running the New York marathon.*

c. ?Juan corrió la maratón de Nueva York *engreídoi-L* durante varios minutos
   Juan run the marathon of New York self-conceited for several minutes
   Juan is said to have shown the property of being self-conceited for several minutes as a participant in the event of running the New York marathon.

So-called frame adverbials, as is well known, are allowed in sentences with an accomplishment verb, where they refer to the time span during which the process culminating in a state has taken place ((17)a). In (17)b we observe that the frame adverbial is allowed, although, significantly, only when the construction is understood as a thetic judgement (as I reproduce in the glosses that appear below the example), i.e. when the verbal predicate is foregrounded. Notice that this is quite interesting if we take into consideration that the frame adverbial would *not* be allowed in a copulative sentence with *fearful* as the main predicate (see (19)). These facts indicate that this modifier can only appear in the depictive construction if the verbal predicate is foregrounded, so that the sentence is thetic; it cannot when the sentence must be categorical, with the depictive foregrounded (as in (17)c, where the depictive is I-L), as it cannot in a copular sentence with the same depictive (see (20)).

(19) Juan estuvo temeroso *en un periquete
     Juan was fearful in a tick

(20) Juan fue culpable *en un periquete
     Juan was guilty in a tick

In the grammatical version of (17)b, the frame adverbial takes scope over the unit that has been formed as a result of the merge of the two predicative constituents, and it refers to the one that prevails: the one formed on the basis of *going up*, which allows the interpretation of the sentence as a thetic judgement.

In (18), we find facts equivalent in relevance to those in (17), now with a durative adverbial: this modifier is rejected by a logical transition (example (a)), but allowed in a depictive construction with an S-L adjectival predicate (example (b)), or with an I-L adjectival predicate (example (c), marked with ? because I-L depictives are always harder to accept when the transition is not punctual, as in this case). The durative adverbial is easily allowed when these predicates occur in isolation in a sentence:

(21) Juan estuvo mareado durante varios minutos
Juan was dizzy for several minutes
(22) Juan fue engreído durante varios minutos
Juan was self-conceited for several minutes

In (18)b and (18)c, the durative adverbial takes scope over the unit formed by the merge of the two predicative constituents, so that it can make reference not to the event of running the marathon as a whole (which would reject that kind of modification), but to that part of the race at which Juan was dizzy/self-conceited. The presence of the depictive in that unit makes it possible to differenciate between segments of the race. Dizziness is an S-L property and, as such, it can be restricted to the limits of an event or a part of an event; self-conceitedness is an R/D I-L property that can be delimited to a stage of existence: in this case, the event of running the marathon marks a personal landmark - Juan was self-conceited at the time in his life at which he run the New York marathon, but after several minutes of that race, he dropped that property, as a consequence of unmentioned circumstances taking place during the race itself.

In sum, it has to be the occurrence of these depictives that excludes or licenses the adverbial modifier in the constructions in (17) and (18), respectively. This might lead us to think that the adverbial strictly modifies the depictive predicate; however, it does not: actually, if we force it to do so, there will be necessarily a shift in meaning (and a different intonational pattern will be required); the adjectival predicate will have to be understood, if possible, as a concealed time interval constituent of the kind we saw at the beginning of this paper. Obviously, (17)b and (17)c would be ungrammatical under that interpretation, since these adjectives reject a frame modifier; (18)b would be all right, as would (21); and (18)c would be ungrammatical as well, in this case because a time interval constituent cannot be formed on the basis of an I-L predicate.

These facts reinforce the hypothesis that any of the two predicates in a depictive construction can act as its *primary lexical predicational basis* (given the aspectual conditions previously pointed out), but they also illustrate how event unification has visible syntactic effects.

We are in front of a quite intriguing construction that may allow any of two independent predicative constituents to have semantic and syntactic prominence in the sentence, as if they were working in a parallel fashion in the lexical domain, in the sense that they both have to satisfy their own lexical conditions (argument valency), up to a point at which one or the other becomes prevalent.

The second area in which this pattern of prevalence shows up is the one concerning specificity requirements on the sentential subject. In (23) and (24), the plural indefinite in subject position

in the (a) examples can be understood as specific (partitive: a given subset from a known larger set) or as unspecific ("there were some boys/men who went out/sang ...": existential). In the (b) examples, however, we obtain ungrammaticality if we take the indefinite subject as unspecific and the depictive is understood as prevalent (as marked by the underlining in the examples). (This prevalence is necessary in (23)b, due to the I-L nature of the depictive, and optional in (24)b, since the depictive is S-L.) So the sentential subject must meet the specificity conditions on categorical subjects, as it does in a Spanish copular sentence with the same adjective as its lexical basis (the (c) examples are also ungrammatical if they are given an existential reading).

(23)

a. Unos chicos$_{\text{SPEC/*UNSPEC}}$ han salido del salón de sorteos
   Some boys have gone-out of-the room of lottery
b. Unos chicos$_{\text{SPEC/*UNSPEC}}$ han salido del salón de sorteos *millonarios*$_{\text{I-L}}$
   Some boys have gone-out of-the room of lottery millionaire-M-PL
c. Unos chicos$_{\text{SPEC/*UNSPEC}}$ son millonarios
   Some boys are millionaire-M-PL

(24)

a. Unos señores$_{\text{SPEC/UNSPEC}}$ cantaron en la boda
   Some men sang in the wedding
b. Unos señores$_{\text{SPEC/*UNSPEC}}$ cantaron *afónicos*$_{\text{S-L}}$ en la boda
   Some men sang hoarse in the wedding
c. Unos señores$_{\text{SPEC/*UNSPEC}}$ estaban *afónicos*
   Some men were hoarse

The conclusion we draw from this is again that there are actual manifestations of the import that the adjectival predicate can acquire in depictive constructions; the two predicates may alternatively be prevalent, and the sentence will have to conform with the syntactic and semantic conditions this prevalence imposes. Here the external argument, which will become the sentential subject, must be a specific nominal if the depictive is the primary lexical basis: adjectival predicates necessarily form sentences espressing a categorical judgement and the first term of a categorical judgement has to be specific (Kiss (1998), Ladusaw (2000)).

Notice that, interestingly, no specificity condition applies if the depictive is oriented to the sentential *object*, a fact that coincides with the impossibility to take the sentence as a categorical judgement, formed on the basis of this predicate. In (25), the object is freely understood as specific or unspecific in both the (a) and the (b) examples, even though the adjective in a copulative (categorical) sentence does not allow an unspecific subject (example (c)):

(25)

a. Félix metió unas galletas$_{\text{SPEC/UNSPEC}}$ en la lata
   Félix put some cookies-F-PL in the can
b. Félix metió unas galletas$_{\text{SPEC/UNSPEC}}$ en la lata *rotas*$_{\text{S-L}}$
   Félix put some cookies-F-PL in the can broken-F-PL
c. Unas galletas$_{\text{SPEC/*UNSPEC}}$ estaban rotas
   Some cookies-F-PL were broken-F-PL

The grammaticality of (25)b has an immediate consequence for the syntactic analysis of this construction. Observe the contrast between (23)b and (24)b, on the one hand, and (25)b, on the other. The ungrammaticality of (23)b and (24)b (with the intended existential interpretation of the subject) could be taken as evidence in favor of a small clause analysis for the depictive constituent, since the same specificity condition on the subject of a simple sentence with this

predicate ((23)c and (24)c) is at work in the depictive construction. This could be accounted for by proposing that the nominal that ends up as the sentential subject either is generated as the subject of a small clause or is controlling a PRO subject in the small clause. But the grammaticality of (25)b (significantly with the object understood as existential) is an indication that this argument is not acting as a subject, taking subject as *sentential subject*, so actually a small clause analysis would not give the expected results: if *some cookies* were the subject of a small clause, the grammaticality of the construction would be a mysterious fact. As a consequence, this contrast actually becomes further evidence against a small clause analysis, and can be interpreted as an argument in favor of the hypothesis that, once the two predicative constituents merge, one of them becomes the prevalent one, if possible. The options for the depictive to become prevalent seem to be restricted to the possibility that the argument it is oriented to becomes the sentential subject. The two merged predicates will share an argument, which we will call *the common argument.*

To my knowledge, the properties of the depictive construction presented so far in this paper have not been previously pointed out in the literature, and I would like to incorporate them in my analysis.

4. Predication: what is a subject?

The discussion at the end of the previous section raises the question that provides the title for this one, as a preamble for the syntactic analysis of depictive constructions. What is the nature of the constituent that we call *subject?* And further, is there a predication relation between the depictive and the argument it is oriented to?

The overt agreement between the depictive and the common argument in gender and number features, in Spanish and many other languages, has been taken by some authors as a morphological manifestation of the predication relation these two elements are assumed to maintain (e.g. Napoli (1989)), so that the argument the depictive is oriented to is considered as its subject. In fact, they are said to maintain a *syntactic* subject-predicate relation equivalent to the one the clausal subject maintains with the clausal predicate, a relation that, as is well-known, is said to satisfy syntactic locality (e.g. mutual c-command, adopted by many, following the insight of Williams (1980)). The latest approach in this line appears in Rothstein (2001), who extends the strict locality condition to all instances of predication.

I will not follow this line. Certainly, the agreement between the depictive and the argument it shares with the verb overtly marks some kind of relation, and it must be accounted for, particularly because gender and number features are uninterpretable for the adjective, in the sense of Chomsky (*MI, DbP*, and *BEA)*, and have to be eliminated. I would like to argue that, even though nominal and depictive maintain an Agree relation for feature valuing, there is no subject-predicate relation between them *in the lexical domain of the construction.* In fact, I consider that, more generally, the lexical domain is not the domain for the subject-predicate relation for any sentence, but the domain where constituents are in a given configuration with respect to some head, in order to be thematically interpreted, where the predicate saturates its logical open positions. As we will see below, this is actually implied in the logical analysis of Kratzer (1996).

We have seen that the object in (25)b does not have to meet any specificity conditions on subjects, so that it cannot be taken to be the subject of a small clause, it does not behave as a clausal subject. A subject has been traditionally said to represent an entity (*substance* in Kuroda's (1992) terms) that is attributed a given property or to represent a given function in a situation (event), represented by the predicate. This view is associated with the logical tradition, and, in

principle, it is kept aside from the syntactic notion of subject. The syntactic properties of a subject, associated with its own inflectional features (Case and agreement) and part of the features in the verb (agreement features), on the one hand, and with its position within the sentence (its structural prominence in comparison with other constituents), on the other, have made linguists characterize the notion as purely structural: its identification has been understood as a matter of syntactic configuration. However, as we know, the assumed locus of subjects, say (Spec,T), has been shown not to be the only designated subject position, since there are constructions in different languages where nominals with some morphological subject feature do not occupy that position, constructions in which some other constituent has merged and behaves as an actual subject in relation to different syntactic processes: locative inversion constructions and existential constructions with the expletive *there* in English are typically presented as relevant in this respect (Harley (1995) and references cited there); in Spanish, similar properties have been found to characterize impersonal constructions with locative subjects (Fernández-Soriano (1999)):

(26)

a. There were *trees* in her garden
b. Down the hill rode *the Indians*

(27)

a. En estos archivos consta *la identidad del testigo*
   Inthese files figures-3P-SG the identity-3P-SG of-the witness
b. En esta sopa sobran *fideos*
   Inthis soup are-too many-3P-PL noodles-3P-PL

(these two verbs, *constar* and *sobrar*, belong to a class of stative verbs analized in Fernández-Soriano (1999))

All these constructions have the common property that the postverbal nominal is the constituent agreeing with the verb, while the preverbal constituent behaves as a subject in respects such as its raising in raising constructions, its position in direct questions, binding, quantifier floating, *that*-trace effects, and relativized minimality effects. But in addition, we find another property, at least for the Spanish examples[3], on which we will focus in the following discussion. That property concerns again the Specificity Condition, in this case on the preverbal PP: it cannot be realized as an unspecific constituent:

(28)

a. *En unos archivos consta la identidad del testigo
b. *En una sopa sobran fideos

Fernández-Soriano (1999) points out this fact, illustrating it with bare plurals, necessarily existential in Spanish, but the same results obtain with unspecific indefinites, as in (28).

This immediately reminds us of what we have seen in depictive constructions; remember that the Specificity Condition is at work whenever the depictive is understood as the *primary lexical basis of predication*, which in turn can only be the case when the depictive is subject oriented.

Now notice that the Specifity Condition shows up also in sentences with a non-thematic subject, as the contrasts in the following examples in (29) and (30) show:

[3] The example corresponding to (26)b would be **Down hills rode the Indians*, whose ungrammaticality seems to be parallel to that of (28). However, Locative Inversion constructions involve properties that could make its case different.

(29)

a. *John* is easy to please
b. **A kid*$_{\text{UNSPEC}}$ is easy to please

(30)

a. *This book* is for you to read
b. **A book*$_{\text{UNSPEC}}$ is for you to read

Thus, on the one hand syntactic properties of subjects may be scattered about in some constructions, or, as Harley puts it, if a configurational notion of subject is to be maintained, we have to say that there are multiple subject positions in a sentence. As for the nominative nominal that remains in the lexical domain in (26) and (27), the configuration which it maintains in relation with the relevant lexical head will be responsible only for its thematic interpretation as an argument. This has nothing to do with subjecthood; it is the uninterpretable Case feature on this constituent and the uninterpretable features on T that make us put it in connection with the 'canonical' subject position: the nominal's Case feature will be the goal for probe T (in the system of Chomsky (*DbP* and *BEA*)), in an operation where the nominal will 'in correspondance' provide values for the uninterpretable agreement features of T. Notice that, according to this, the *vP Internal Subject Hypothesis* should be understood as a *vP Internal Argument Hypothesis*, in the sense that it simply states that all arguments are generated (or first-merged) within the lexical domain, i.e. within vP, the domain in which constituents are characterized by bearing a θ-role, but in which subjecthood properties are not found. It will be conditions on movement, or on Agree, that will designate the particular argument that turns out to be the subject.

On the other hand, when we have a constituent other than the agreeing nominative nominal in (Spec,T), this constituent is in charge of satisfying the EPP feature of T and it behaves as a 'canonical' subject does in all syntactic respects except for what concerns operations associated with its own Case feature and the inflectional features of T.

But notice that, in addition, the merging of a constituent in (Spec,T), be it the 'canonical' subject or some other one, brings about a surface semantic effect (in the sense of Chomsky (*BEA*): this constituent will have the possibility of being interpreted as having the informational import of an entity which is attributed a property, as being the lefthand term of a categorical judgement, if it is specific, whereas if it is unspecific or it is realized as an expletive, the sentence will necessarily express a thetic judgement (if unspecific, it will be interpreted simply as one of the participants in the event denoted by the predicate). I would like to claim that this surface semantic effect is directly related to predication: the specific/unspecific nature of the subject will determine the options as to the mode of judgement associated with the sentence, which will have an effect in establishing the conditions for the assignment of a truth value to the syntactic object, TP, that is obtained as a consequence of its merging in the structure. Those conditions are in part based on the particular mode of judgement associated with the sentence, which will in turn be in consonance with the requirements of the lexical predicate. Hence, if the predicate is such that it can only form sentences expressing a categorical judgement, an unspecific subject is rejected; that was the case with the examples of Spanish impersonal constructions in (28), *tough*-constructions like (29), copular purpose sentences like (30), sentences with a stative predicate like those in (31), and both the Spanish copular sentences in (23)c and (24)c and the English ones in (32) ((31)a and (32), with their respective judgements, are taken from Kiss (1998)):

(31)

a. Athletes$_{\text{SPEC (GENERIC)/*UNSPEC}}$ impress boys [Kiss (1998):(43b)]
b. Unas señoras$_{\text{SPEC/*UNSPEC}}$ admiraron la sinceridad de Pedro
Some women admired-3P-PL the honesty of Pedro

(32)

a. Shoes$_{\text{SPEC (GENERIC)/*UNSPEC}}$ are shiny [Kiss (1998):(42b)]

b. Children$_{\text{SPEC (GENERIC)/*UNSPEC}}$ are noisy in the street [Kiss (1998):(12a)]

If, on the contrary, the predicate does not impose a mode of judgement on the sentence, the occurrence of an unspecific or an expletive subject will give rise to a thetic judgement necessarily:

(33)

a. Una mosca revolotea sobre la tarta
   A fly flutters over the cake

b. Varios hombres han aparecido heridos en una zanja
   Several men have appeared wounded in a trench

(34)

a. It seems that we must keep quiet
b. It is unlikely that we win the prize
c. There entered two ghosts into the room

Sentences with a specific subject may express either a categorical or a thetic judgement (*pace* the lexical requirements of the predicate):

(35)

a. El gato ha estado durmiendo todo el día [(b) serves as a translation for this example)]
b. The cat has slept all day
c. Two ghosts entered into the room

The summary of the correspondance between the nature of the subject and the mode of judgement associated with the sentence is summarized in (36):

(36) *Mode of judgement and specificity of the subject*

a. Unspecific subject / Expletive ((33) and (34))
   – the sentence necessarily expresses a thetic judgement

b. Specific subject:
   – the sentence may express either:
      - a thetic judgement: (35); or
      - a categorical judgement: (23)c, (24)c, (27), (29)a, (30)a, (31), (32), (35)

I believe that we can try to formulate a definition of subject which, while being configurational in nature, gets rid of those aspects that would force us to posit multiple subject positions. We can simply state that the subject in a sentence is the constituent merged in (Spec,T), taking this merging to be responsible for the surface semantic effect described above, i.e. as partially responsible for the mode of judgement expressed by the sentence, and hence partially responsible for the truth conditions associated with it.

Let's come back to the case of depictive constructions. I've claimed that this construction is monoclausal, and also that the depictive and the argument it shares with the verb do not maintain an independent subject-predicate relation. Actually the latter claim is a consequence of the first one, since there is just one propositional function per clause. Moreover, we have seen that the depictive may be the *primary lexical basis of predication*, with the sentence expressing a

categorical judgement. When this is the case, remember, the depictive can only be subject oriented,
i.e. oriented to the constituent that ends up in (Spec,T) - in that case, we can safely say that the sentential subject is primarily predicated of the depictive, and the fact that this nominal makes the sentence categorical is not surprising, since it is *the constituent in (Spec,T)* that is in charge of establishing an actual subject-predicate relation in the sentences we have seen so far. The existence of two independent lexical predicates in the lexical domain allows, as we have seen, the prevalence of any of them as the lexical basis of predication (except for the cases of I-L depictive constructions, where the adjectival predicate must be prevalent). So the subject in subject oriented depictive constructions must satisfy the conditions the prevalent predicate imposes on it, if any.

Before leaving the topic of subjecthood, I would like to consider examples of Clitic Left-Dislocated Constructions (CLDC) like the ones in (37), where the left-dislocated nominal is coreferential with an object clitic, to which an I-L depictive is oriented:

(37)

a. A Enrique lo mandaron a la guerra *humilde*$_{\text{I-L}}$
(to) Enrique him sent-3P-PL to the war humble
Enrique is said to have shown the property of humbleness insofar as a participant in the transition denoted by the event of their having sent him to the war.

b. Este paraguas tu amiga me lo vendió *azul*$_{\text{I-L}}$
This umbrella your friend to-me it sold-3P-SG blue
This umbrella is said to have been blue as a participant in the transition denoted by the event of your friend selling it to me.

I have chosen I-L depictives in these examples in order to force the prevalence of this predicate and try to check if this prevalence may stay operative beyond the limits of TP. If this is the case, the I-L predicate should force a categorical judgement for these sentences, with the dislocated nominal as its lefthand term: as we can check in the glosses below the examples, that's actually the only interpretation they allow. We observe that the left-dislocated constituent is acting as the subject of predication exactly as 'canonical' subjects do in sentences with no dislocation, with the depictive as its *primary lexical basis*[4]. Remember that, significantly, I-L depictives cannot make the sentence categorical *if object oriented.*

For this kind of sentences, I will assume that the left-dislocated constituent merges as a Specifier of a Topic head with an EPP feature. Having an EPP feature, the head Top forces merging in its Spec. This brings about a kind of surface semantic effect equivalent to the merging of a constituent in (Spec,T) in sentences with no dislocation, with the qualification that clitic left-dislocation seems to give rise to sentences expressing a caterorical judgement only. The point I wanted to make is that, if left-dislocated constituents truly show subjecthood properties, the examples in (37) should make it necessary to extend the concept of subject to include them. The following characterization is wider enough in this respect[5]:

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[4] Notice also that the left-disloated constituent must be specific*: A un hombre*$_{SPEC/*UNSPEC}$ *lo mandaron a la guerra (humilde).* Nevertheless, I leave for further research the investigation of the extent to which a left-dislocated constituent in a CLDC behaves as a true subject.

[5] I believe that this characterization of subject is valid for a large range of data from a variety of languages, although I do not want to commit myself as to its universal pervasiveness until I examine different language types.

The possibility that different positions exist in the syntax of a sentence, one for subjects of 'thetic sentences', and a higher one for subjects of 'categorical sentences' has been proposed in Cardinaletti, (1997) (who argues for the

(38) *Characterization of subject*
The subject in a sentence is the constituent merged in the Specifier position of a head with an EPP feature, i.e. in a left-peripheral position which belongs to the functional domain of the sentence above vP. (cont.)

(a) The merging of the subject brings about a surface semantic effect having to do with the mode of judgement expressed by the sentence: it will mark the sentence as expressing a thetic or a categorical judgement:
  (i) If the subject is in (Spec,T) and it is specific, the sentence will have the option of expressing any of the two possible judgements.
  If the subject is in (Spec,T), and it is unspecific or an expletive, the sentence will necessarily express a thetic judgement.
  (ii) If the subject is in a Spec position above the domain of T, the sentence will be necessarily categorical.
(b) The subject constituent represents an individual (type <e>) which saturates a monadic function from individuals to truth values (<e,t>), the object obtained being of type <t>.

5. The syntax of depictive constructions

Having rejected a small clause analysis for these constructions, the simplest alternative is direct external merge of the two predicative constituents. This merge operation will reasonably take place in the lexical domain of the sentence, where it is assumed that the lexical aspectual information is encoded.

But what is it exactly that merges? What exactly constitutes the terms of this first merge of predicative constituents? And, finally, what is the base position for the argument that behaves as a common argument?

5.1. Building a depictive construction: (i) lexical domain

Let us begin with the last issue: where is the common argument generated? The following examples with the floating quantifier *todo* (Engl. *all*) in (39) and (40) indicate that the common argument is first merged as the Specifier of the depictive adjective:

(39)

a. *Los hijos* *de Pedro* salieron de la escuela *todos* bilingües
The children-M-PL of Pedro went-out of the school all-M-PL bilingual-PL

b. *Tus amigos* caminaban por esta calle *todos* preocupados por ti
Your friends-M-PL walked along this street all-M-PL worried-M-PL about you

(40)

a. Saqué *a tus alumnos* de la clínica *todos* vacunados contra la gripe
I-took-out (to) your students-M-PL from the clinic all-M-PL vaccinated-M-PL against the flu

b. Metí *las bicis* en el garaje *todas* listas para la carrera
I-put-in the bikes-F-PL in the garage all-M-PL ready-M-PL for the race

If we make the standard assumption that floating quantifiers belong to the structure of the nominals in a raised position, and may be left stranded in the position where the nominal is generated, then their occurrence right before the depictive, and following the prepositional

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splitting of Agr), and Kiss (1998) (who introduces RefP, a projection above IP for topics).

complement of the verb, would indicate that they are first merged as arguments of the adjective, is in (41) and (42)[6]:

(41)

a. *Los hijos de Pedro*$_i$ salieron de la escuela [$_{AP}$ [*todos* t_i] bilingües]
b. *Tus amigos*$_i$ caminaban por esta calle [$_{AP}$ [*todos* t_i] preocupados por ti]

(42)

a. Saqué *a tus alumnos*$_i$ de la clínica [$_{AP}$ [*todos* t_i] vacunados contra la gripe]]
b. Metí *las bicis*$_i$ en el garaje [$_{AP}$ [*todas* t_i] listas para la carrera]]

If we adopt Hale and Keyser's (1993) proposal that the base position of a nominal determines its thematic interpretation, the proposed generation position simply places the nominal in a configuration with respect to the adjective that allows it to be understood as a 'property holder', i.e. the kind of THEME argument typically associated with adjectival predicates (I borrow the term from Kratzer (1996)).

The AP is formed independently of the structure associated with the verb in the sentence, as an independent subtree. Now, the point in the derivation at which they merge together must be that immediately preceding the position where either the agent or the theme associated with the verb should merge in order to be in the appropriate configuration with respect to the verb itself. For the examples in (10)a and (25)b ((43)a and (43)b below), the derivations corresponding to their lexical domains are given in (44) and (45):

(43)

a. Jorge caminaba *pensativo*$_{S\text{-}L}$ (=(10)a)
   Jorge walked-3P-SG meditative-M-SG
b. Félix metió unas galletas en la lata *rotas*$_{S\text{-}L}$ (=(25)b)
   Félix put-3P-SG some cookies-F-PL in the can broken-F-PL

(44)

a. [$_{vP}$ v caminaba], [$_{AP}$ *Jorge* pensativo]
b. [$_{vP}$ [$_{v'}$ v caminaba] [$_{AP}$ *Jorge* pensativo]]
c. [$_{vP}$ **Jorge** [$_{v'}$ [$_{v'}$ v caminaba] [$_{AP}$ t_{Jorge} pensativo]]]

(45)

a. [$_{VP}$ metió en la lata] , [$_{AP}$ *unas galletas* rotas]
b. [$_{VP'}$ [$_{V'}$ metió en la lata] [$_{AP}$ *unas galletas* rotas]]
c. [$_{VP}$ [$_{NP}$ unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]
d. v , [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]
e. [$_{vP}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]
f. **Félix** , [$_{vP}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]
g. [$_{vP}$ **Félix** [$_{v'}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]]

[6] The generation of the common argument as (Spec,A) doesn't imply a predication relation between them, as it does not in the case of external arguments of verbs. The facts in (39)-(40) seem to suggest a base configuration akin to that of a small clause, with the adjective and its external argument forming a constituent. This impression is misleading, however: on the one hand, the nominal does not show subject properties; on the other, the AP cannot be taken to be clausal.

(Note: v' and V' simply stand for complex verbal constituents that have not merged with a head.)

As we see in (44), the predicative constituents *caminaba* and *Jorge pensativo* form a vP constituent out of two independent subtrees ((44)a,b). The central condition for this merging is aspectual compatibility, in the terms we have descriptively summarized in (13). The latter constituent (vP) will form the complete vP together with the external argument, the only remaining one in the argument valency of the verb; the mechanism for this will not be pure external merge, but some form of sidewards movement (in the sense of Hornstein (2001)), which I take here to be a movement from a θ-position into a θ-position: *Jorge*, the argument of *pensativo,* is extracted from the AP to merge with the vP, becoming the external argument of the verb, and giving rise to the complete vP ((44)c)[7]. As a result, it acquires the status of AGENT with respect to the event of walking. This form of sidewards movement of *Jorge* from the lexical domain of the adjective to the lexical domain of the verb is what makes it a syntactic *common argument.*

Since *Jorge* is the only argument realized in the sentence, this nominal will become the sentential subject. One predicate or the other can be taken as prevalent from a semantic-informational point of view, so the sentence can be understood as expressing a thetic judgement about an event in which Jorge was involved, or as expressing a categorical judgement attributing the property of having been meditative to John, as a participant in an event of walking.

In (45) what merges is the complex predicative constituent *metió en la lata* and the AP *unas galletas rotas* ((45)a,b). The VP so formed will merge with a nominal that saturates one of the remaining θ-roles of the verbal predicate *meter* (its internal argument, understood as an affected THEME ('locatum')); it will be the nominal *unas galletas* that merges with VP, moving from the θ-position corresponding to the THEME ('property holder') in the lexical domain of A, (Spec,A), to become the (Spec, V), another θ-position ((45)c). This is the common argument for the two predicates. The unit obtained from the latter operation, the complete VP, merges with v ((45)d,e), forming the unit (vP) which finally merges with *Félix,* the nominal saturating the remaining open position in the argument structure of the verb; it is merged in the higher AGENT position, and will become the sentential subject later in the derivation ((45)f,g). Being specific, the sentence can be understood as a categorical judgement: we abstract the whole content of the sentence except for the subject as a property, and attribute it to *Félix*. Also, the sentence can be understood as a thetic judgement about the event in which *Félix* was involved. But the depictive cannot be taken in this case as the lexical basis for a categorical judgement with the nominal *unas galletas* as its lefthand term. This nominal simply behaves as an argument of the depictive, not as its subject. That would be the reason why it doesn't have to satisfy the specificity conditions on subjects, as we have seen in section 3.

According to the previous analysis, subject oriented depictives and object oriented depictives merge at different points in the lexical domain: the latter merge with V, the former with v. The immediate prediction is that no subject oriented depictive should be allowed in a construction where no external argument is licensed. This prediction turns out to be correct, since neither

[7] Movement into a θ-position has also be proposed by Bošković (1994). I'm discarding in advance the possibility that the argument of the adjective is represented by a PRO. What I have in mind for this decision is the difficulties that a PRO analysis would raise, given the latest assumptions about the licensing of this kind of null element (the Null Case theory of Chomsky and Lasnik (1993)): there is no functional category that could check the Null Case of PRO in the structure.

passive depictive constructions ((46)b), nor constructions with an unaccusative verb ((47)b), can host a depictive that is oriented to the external argument of the verb:

(46)

a. Carlos sacó a Gema de la reunión irritado / irritada
Carlos took-out (to) Gema fromthe meeting annoyed-M-SG / annoyed-F-SG

b. Gema fue sacada de la reunión *irritado / irritada
Gema was taken-out from the meeting annoyed-M-SG / annoyed-F-SG

(47)

a. El enemigo hundió el barco desquiciado/ vacío
The enemy sank the ship unhinged / empty

b. *El barco se hundió desquiciado
The ship ASP-MARKER sank unhinged

c. Afortunadamente, el barco se hundió vacío
Fortunately, the ship ASP-MARKER sank empty

In the lexical domain, predicates are, from a purely semantic point of view, n-ary functions that saturate, step by step, as the structure is being built up by the succesive merging of the different constituents representing its arguments in the appropriate thematic positions. In the lexical domain we have a process of logical Functional Application for the *lexical* predicate (or predicates), along the lines of Kratzer (1996), whose analysis I will partially adopt here. I agree with her that no propositional object is obtained in the lexical domain, but only the basis for it: vP (VoiceP for Kratzer) denotes a function from events to truth values (<s,t>), a property of events, which will merge with T. Thus, her analysis implies that the external argument is not a subject until it is raised into the (Spec,T) position. Let's take the preceding examples in (43) again to illustrate the logical semantics of the sentence, in correspondance with its syntactic structure. In (48)a and (48)b we have the derivations of (43)a and (43)b, respectively, up to the lexical domain, with annotations corresponding to the semantic expressions each node is associated with:

(48)

a. [$_{vP<s,t>}$ [$_{Ne}$ Jorge] [$_{v'<e,<s,t>>}$ [$_{v'\underline{<e,<s,t>>}}$ V$_{<e,<s,t>>}$ [$_{V<s,t>}$ caminaba]]
[$_{AP\underline{<s,t>}}$ [$_{Ne}$ t_{Jorge}] [$_{A<e,<s,t>>}$ pensativo]]]]

b. [$_{vP<s,t>}$ [$_{Ne}$ Félix] [$_{v'<e,<s,t>>}$ V$_{<e,<s,t>>}$ [$_{VP<s,t>}$ [$_{NPe}$ unas galletas] [$_{V'<e,<s,t>>}$
[$_{V'\underline{<e,<s,t>>}}$ metió en la lata] [$_{AP\underline{<s,t>}}$ [$_{Ne}$ $t_{unas\ galletas}$] [$_{A<e,<s,t>>}$ rotas]]]]]
]

As can be seen, what I have called 'event unification' is a composition operation that corresponds to the conjunction of two functions: one from individuals to functions from events to truth values: <e,<s,t>>, and the other from events to truth values: <s,t> (underlined in (48)). The two properties of events that represent the second term of the first function, and the second function itself, include events that, as repeatedly stated above, must be aspectually compatible, where aspectual compatibility is not estimated in terms of strict identity of event class (as in Kratzer (1996)), but in terms of the possibility for the property denoted by the depictive to make reference to a (sub)event in the event structure of the verbal predicate.

5.2. Building a depictive construction: (ii) functional domain

Once T is merged into the structure, its EPP feature will require the merging of a constituent as its Spec, the constituent that will act as the subject in the sentence; it will also require values for the elimination of its uninterpretable φ features, which, in Spanish, are (partially) overt on the

verbal head raised to T itself (in principle, person and number features). In (49) and (50), we have the derivation corresponding to the functional domain in the examples in (43):

(49)

a. **T**, [$_{vP}$ Jorge [$_{v'}$ [$_{v'}$ v caminaba] [$_{AP}$ t_{Jorge} pensativo]]]

b. [$_{TP}$ [$_{T}$ caminaba] [$_{vP}$ Jorge [$_{v'}$ [$_{v'}$ v $t_{caminaba}$] [$_{AP}$ t_{Jorge} pensativo]]]]

c. [$_{TP}$ **Jorge** [$_{T'}$ [$_{T}$ caminaba] [$_{vP}$ t_{Jorge} [$_{v'}$ [$_{v'}$ v $t_{caminaba}$] [$_{AP}$ t_{Jorge} pensativo]]]]]

(50)

a. **T**, [$_{vP}$ Félix [$_{v'}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ metió en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]]

b. [$_{TP}$ [$_{T}$ metió] [$_{vP}$ Félix [$_{v'}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ $t_{metió}$ en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]]

c. [$_{TP}$ **Félix** [$_{T'}$ [$_{T}$ metió] [$_{vP}$ $t_{Félix}$ [$_{v'}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ $t_{metió}$ en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]]

The nominals *Jorge* and *Félix*, respectively, are the goals of probe T, which establish an Agree relation with them, getting values for its φ-features, so that they can be deleted in the derivation. These nominals, in exchange, get a value for their Case feature, so this uninterpretable feature can be deleted too. They take up the (Spec,T) position, as required by the EPP feature on T, becoming subjects.

Concerning the semantics of this part of the construction, we can again take Kratzer (1996) as a reference. Following Higginbotham (1985), Kratzer attributes the task of building existential quantification to the head T, as a way of getting to a truth value. At this point, I would like to incorporate Bowers's (1993) proposal that there is a head responsible for turning a property of events into a propositional function, an expression of type <e,t>. Bowers attributes this responsibility to his Predication head; I believe instead that T can be in charge of this. In the representations in (51)a and (51)b, we have annotations corresponding to the semantic expressions associated with each of the remaining nodes in the structure:

(51)

a. [$_{TPt}$ Jorge [$_{T'<e,t>}$ [$_{T<e,t>}$ caminaba] [$_{vP<s,t>}$ t_{Jorge} [$_{v'}$ [$_{v'}$ v $t_{caminaba}$] [$_{AP}$ t_{Jorge} pensativo]]]]]

b. [$_{TPt}$ Félix [$_{T'<e,t>}$ [$_{T<e,t>}$ metió] [$_{vP<s,t>}$ $t_{Félix}$ [$_{v'}$ v [$_{VP}$ [$_{NP}$unas galletas] [$_{V'}$ [$_{V'}$ $t_{metió}$ en la lata] [$_{AP}$ $t_{unas\ galletas}$ rotas]]]]]]

According to the previous assumption, T provides a propositional function, <e,t>. The unit formed as a result of its merging with vP (T') will be an expression of the same semantic type as T, and can therefore be considered as a sentential predicate. Finally, the sentential subject in these constructions is the individual represented by the nominal that ends up in (Spec,T), i.e. the individual that saturates the propositional function. TP, as stated by Kratzer, denotes a truth value, as is canonical for sentences.

5.3. Multiple Agree and constraints on the orientation of the depictive

The derivation for depictive constructions presented so far (in (44),(49) and (45),(50)) still misses two fundamental aspects of their syntax:

(i) The syntactic agreement between the depictive and the argument it is oriented to: they show overt agreement in φ features, gender and number, features that are uninterpretable for the depictive; as I have mentioned, this agreement has been taken as a manifestation of the

predication relation that the two constituents are assumed to maintain - but, since we have seen facts indicating that there is no such a direct predication relation between them, strictly speaking, it is necessary to account for the agreement pattern in different terms.

(ii) The limitation as to the orientation of the depictive. Why is it the case that only sentential subjects and objects may be the common argument?

The point I would like to start with is a general comment about agreement: agreement in φ-features is a syntactic phenomenon that is, of course, not always related to predication. It is no so, for instance, in the case of the agreement between a determiner and the noun it combines with (52), or between certain adjectives and the noun they modify (53), and it is not so either in the case of the agreement found between the past participle and its object in passive sentences (54):

(52) las$_{F\text{-}PL}$ chicas$_{F\text{-}PL}$
the girls

(53) las$_{F\text{-}PL}$ *presuntas*$_{F\text{-}PL}$ *asesinas*$_{F\text{-}PL}$
the alleged murderers

(54) Las$_{F\text{-}PL}$ chicas$_{F\text{-}PL}$ fueron *enviadas*$_{F\text{-}PL}$ $t_{las\ chicas}$ a París
The girls were sent to Paris

We would not say that *girls* is predicated of *the* in example (52), or that *alleged* is predicated of *murderers* in (53). In the case of (54), the past participle *sent* establises an Agree relation with its internal argument *the girls*, at the point they merge together: along the lines of Chomsky (*DbP),* within VP, the φ-features of *sent*, acting as probes, match the goal φ-features of *the girls*, so that the uninterpretable gender and number features of this verb can delete. That agreement between the participle and its internal argument cannot be said to be a manifestation of a predication relation in any reasonable sense.

I will then adopt the stance that the nominal-depictive agreement is a fact equivalent to that of e.g. T-subject agreement, i.e. there are uninterpretable features on an element (the depictive) that, according to Chomsky (*BEA*:13), have to be valued under Agree (for the narrow syntactic derivation to converge), must be transferred to the phonological component Φ (since some of them have a phonological reflex), and must be eliminated from the derivation. Those uninterpretable features will thus have to act as probes in an Agree relation: in the case of gender and number, the clear candidates to act as goals are the valued gender and number features on the depictive's external argument.

Actually, we find a number of uninterpretable features in a depictive construction: those listed in (55):

(55)

a. uninterpretable features on T:
   i. φ features: *person, gender* and *number* ii. *EPP* feature
b. uninterpretable features on v: φ features: *person, gender* and *number*
c. uninterpretable features on the common argument nominal: *Structural Case* feature
d. uninterpretable features on the depictive adjective:
   i. φ features: *gender* and *number* ii. *Structural Case* feature

Of these features, there are two that, to my knowledge, have not been proposed for the syntax of Spanish and related languages, namely the gender feature on T, and the Case feature on the adjectival depictive. If present, as I'm going to assume, they have no phonological realization in Spanish. Nonetheless, there exist languages, as is well-known, where they are phonologically

overt. I will only present Russian data, simply because the two types overtly missing in Spanish can be found in the grammar of this language (Case inflection on adjectival predicates is typologically more widespread (Déchaine (1993)).

The Russian verb (when in the past) inflects for femenine and neuter, so it agrees with the subject in gender: masculine (no suffix), femenine (*-a* suffix) and neuter (*-o* suffix) (see (56)):

(56)

a. ja pisal	'I was writing' (male subject)	c. ty pisal	'you were writing' (male subject)
b. ja pisala	'I was writing' (female subject)	d. ty pisala	'you were writing' (male subject)

e. on pisal 'he was writing'
f. ona pisala 'she was writing'
g. ono pisalo 'it was writing'

[examples transliterated from Wade (1992)]

If, as we see, T, responsible for Nominative checking, has a complete set of φ-features, we can hypothesize that its counterpart v, responsible for Accusative checking, also has its own complete set of φ-features.

As for the Case feature of adjectives, the examples of Russian depictive constructions are illustrative in this respect: the depictives may inflect for the same structural Case as the argument they are oriented to: for Accusative in (57)a, and for Nominative in (57)b.

(57)

a. Milicija privela egoACC domoj *pjianogo*ACC [Filip & Kennedy (2000)]
police brought him home drunk

b. OnNOM zhenilsja na nej *pjanyi*NOM [Hinterhölzl (2000)]
'He married her drunk'

We will assume, then, that Spanish depictives agree with the common argument not only in φ-features but also in structural Case features in the same way as Russian depictives do. Thus, assuming the system of feature checking proposed by Chomsky (*DbP,BEA)*, for the derivation of depictive constructions to converge, the uninterpretable features of the adjective will have to be deleted too.

In the case of its φ-features, the Agree relation that will provide values for deletion to be possible will be a probe-goal relation within the domain of the depictive, as in (59), which corresponds to the two sentences we were using above as examples (repeated as (58)):

(58) (=(49))

a. [TP Jorge [T caminaba [vP t_{Jorge} [v' [v' v $t_{caminaba}$] [AP t_{Jorge} pensativo]]]]]

b. [TP Félix [T metió [vP $t_{Félix}$ [v' v [VP [NPunas galletas] [v' [v' $t_{metió}$ en la lata] [AP $t_{unas\ galletas}$ rotas]]]]]]

(59)

a. [AP Jorge pensativo]
φ-INT [person-3P] | φ-UNINT ——

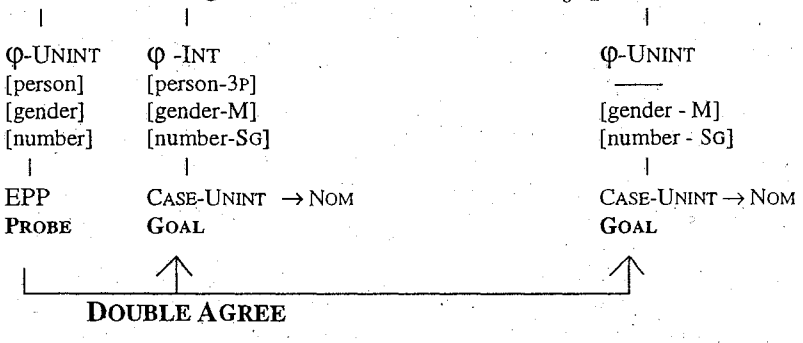
b. [AP unas galletas rotas]
φ-INT [person-3P] | φ-UNINT ——

The Agree relation is established, under matching, between the adjectival head, with its φ-features acting as a probe, and the nominal in its Specifier, with its φ-features acting as a goal. The Spec-head relation, then, must be kept operative: the Spec position must be included in the search domain of the head. As a result of this Agree relation, where the goal is φ-complete, the adjective obtains values for its gender and number features from those of the goal, which can then be deleted (indicated by the italics in (59)). However, the Case feature of the two terms of the relation remains intact, since neither of them can value the other.

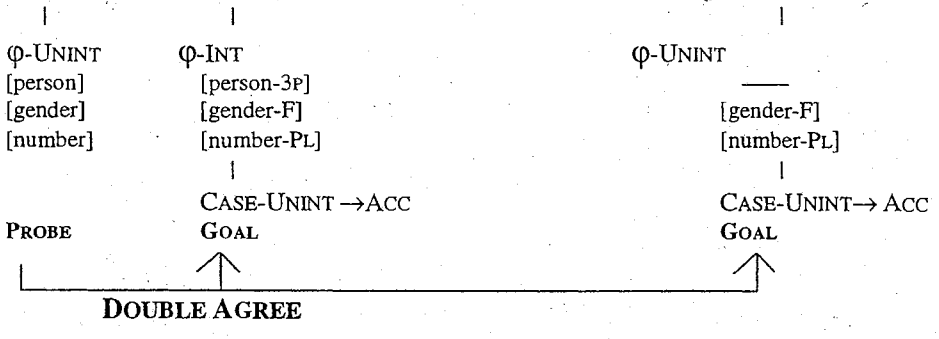
Now, the merging of the subtrees AP and vP (when subject oriented) or AP and VP (when object oriented), places the AP in an edge position with respect to the heads v and V, forming a vP or VP (=v'/V' in (60)). The latter will merge with a nominal (which becomes the external or internal argument, respectively), as shown in (60)a and (60)b:

(60)

a. [TP T [vP Jorge [v' [v' v caminaba] [AP t_{Jorge} pensativo]]]



b. [v' v [VP [NPunas galletas] [V' [V' metió en la lata] [AP $t_{unas\ galletas}$ rotas]]]]]



As I have described above, the argument in the AP undergoes movement into a θ-position in the lexical domain of the verb, becoming (Spec, v) in (60)a, and (Spec,V) in (60)b (so both get into an edge position, too). This operation gives the unit to be merged with T and v, respectively. The heads T and v are φ-complete, with all φ-features being uninterpretable, so they will have to establish a probe-goal relation to get values and delete.

In their search domain, they find a φ-complete nominal, *Jorge* and *unas galletas*, which

provide values and allow the deletion of the uninterpretable φ-features on T and v (person, gender and number), while getting a value for their own uninterpretable Case feature (NOM if accessed by T; ACC if accessed by v). But they also find a matching set of φ-features on the adjective in AP, which have been previously valued through their relation with the common argument. So T in (60)a and v in (60)b establish an Agree relation with this set of φ-features on the adjective, providing it with a value for its Case feature.

The proposed Case feature on the adjective is the key, in this approach, to explain the constraints on the orientation of the depictive: this predicate is a goal for the same probes as the nominal arguments in charge of valuing the uninterpretable features of T and v by means of the Agree relation they maintain - the argument that becomes the subject and gets Nominative Case from T, and the nominal that becomes the object and gets Accusative Case from v. Since these two heads are the only two in the sentence structure that value Case features, the depictive will have to establish an Agree relation with one of them, which will be the same as the one that has accessed the nominal that the depictive is oriented to. This is the explanation for the constraints on the orientation of the depictive: it is the grammar of sentences associated with the need to eliminate uninterpretable features that reduces the options exclusively to the sentential subject and object.

If I am correct, two are the elements specifically regulating the syntax of depictive constructions: the conditions for aspectual compatibility between lexical predicates in (11), and the requirement that the uninterpretable features on the adjective be eliminated from the derivation (where the latter relies on the general mechanism of Agree, triggered by T and v in the structure)[8].

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[8] A remaining issue is that of why the accusative nominal acting as goal in a double object construction, in languages like English, cannot be the common argument. In forthcoming work, I argue that this follows from the structure associated with the kind of ditransitive verb occurring in the double object construction; the idea is that, if we adopt the decomposition analysis in Harley (1995) and elsewhere, the ungrammaticality of (i-a) must be linked to the ungrammaticality of (i-b); correspondingly, the grammaticality of (ii-a) must be linked to that of (ii-b):

(i) a. *I gave John the beer thirsty
b. *John had the beer thirsty

(ii) a. I gave John the beer very cold
b. The beer was in the refrigerator very cold

Further, the ungrammaticality of (iii-a) must be based on the same factor as the ungrammaticality of (iii-b):

(iii) a. *I gave the beer to John thirsty
b. *The beer was in the refrigerator dirty

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On Predication, Derivation and Anti-Locality*

This paper pursues the question what the implications of the Anti-Locality Hypothesis could be for the syntax of secondary predication. Focus of the discussion will be an investigation of what their internal structure of small clause complements must look like, how these small clause complements connect to their matrix environments, and what the relevance could be for the formulation of anti-locality presented here. Anti-locality is defined over a tripartite clause structure (split into three Prolific Domains) and a PF-condition on the computation (the Condition on Domain-Exclusivity). The investigation revolves around two leading questions: (i) does the syntax of small clauses involve more structure than simply [$_{SC}$ DP XP] and (ii) do small clauses constitute their own Prolific Domain (or maybe even more)? The results, affirmative answers to both questions, are also relevant for other types of secondary predication.

1. Introduction

This paper explores the relevance to selected issues of secondary predication of the framework presented in my dissertation work (Grohmann 2000a), which concerns a lower bound on locality — the distance between two positions in a given (movement) dependency — formulated in terms of *anti*-locality. It concentrates on a treatment of small clause-complements in this framework.

In the first part of the paper, I present the *Anti-Locality Hypothesis*, discussing a clausal tripartition into *Prolific Domains*, how these connect to clause structure, and what kind of assumptions about the computational system this anti-locality framework assumes (section 2). The major theoretical proposal is the *Condition on Domain Exclusivity*, which bans movement of a maximal phrase within a Prolific Domain and the introduction of *Copy Spell Out*, a principled mechanism to ensure Exclusivity, even in apparently illegitimate structures (section 3). This part introduces the basic sets of data supporting the Anti-Locality Hypothesis and the framework laid out. It also sets the stage for the second part of the paper by turning to ECM-constructions.

* This paper grew out of preparations for „Derivation and Predication in an Anti-Locality Framework," a talk which I was supposed to present at the *Workshop on Syntax of Predication* at ZAS in Berlin (November 2-3, 2001). Unfortunately, I became ill right before the workshop, and all of the talk that survived is a hand-out. I am grateful to Niina Zhang, the organizer of the workshop, for all her help before and during the workshop, and for distributing the hand-out. As I wasn't present at the actual workshop, I cannot thank anyone for feedback and thus take full responsibility for everything let out in these pages. I am grateful, however, to Juan Carlos Castillo, John Drury and Joachim Sabel for discussing some of the material.

The second part investigates the relevance of this framework for secondary predication, focusing on the syntax of a class of constructions subsumed under the term „small clause" (SC). Based on the discussion of how reflexive subjects of ECM-complements be best treated in an anti-locality framework, we will face the puzzle extended to SC-complements (section 4). An intermezzo introduces the complex issues of the format of SCs (or better, SC-complements) in the current framework (section 5). Our discussion of these as well as other cases of secondary predication will lead us to the conclusion that the syntax of ECM- and SC-complements isn't too different after all (section 6). Then a discussion follows of the structure of SCs, as relevant to the anti-locality framework (section 7). A conclusion wraps up this paper (section 8).

2. Anti-Locality and Prolific Domains

One robust result of generative research on movement dependencies (or construal) is that they are bounded; a dependency is subject to (often, strict) locality conditions. Locality is typically understood as an upper bound on distance.[1] (1) illustrates how locality restricts the formation of selected dependencies, relevant for the ensuing discussion. Assuming the Copy Theory of movement (Chomsky 1995, Nunes 1995), lower occurrences of moved elements are crossed out.

(1) a. * John thinks [that Mary likes himself].

b. * John is believed [~~John~~ to be likely [it seems [~~John~~ to [~~John~~ like Mary]]]].

c. * What did who [~~who~~ buy ~~what~~]?

In (1a) the dependency between the reflexive *himself* and the attempted antecedent *John* cannot be established:[2] for whatever reason (commonly formulated in terms of Binding Theory), the intervening DP *Mary* blocks this dependency formation (indicated by the star) — or, in other terms, the distance between the two elements is too far, subject to locality. The movement dependency between the highest and lowest occurrence of *John* in (1b) is also illicit: the second most deeply embedded copy of *John* (traditionally, the result of movement from the thematic agent to the canonical subject position) cannot move across *it* and thus skip a potential landing site. Again, the violating step is marked by '*' and ruled out by standard locality conditions (see

[1] I concentrate on „anti-locality" effects and a formal way to capture these, rather than on standard locality effects or definitions. This connection is discussed explicitly in Grohmann (2001b). It thus suffices to say that by and large locality can be characterized by Relativized Minimality (Rizzi 1990), integrated into the minimalist framework in a variety of ways, all involving some notion of „distance" — „Shortest Move," „Minimal Link," „Fewest Steps" etc. (see Chomsky 1995, Zwart 1996, Nunes 1999, Hornstein 2001a, and many others for discussion). Concerning the usage of „dependency," I take a strictly derivational approach to the computational system, as will become clear presently, and leave aside how a more (or even strict) representational view could be integrated (viz. chain formation, for example), at least for purposes of exposition.

[2] In standard approaches, reflexives are subject to Condition A, i.e. a result of binding a fully lexical pronominal element. Most approaches don't assume a movement analysis of binding relations. I indicate this by the broken line, as opposed to full lines (arrows) indicating movement. We will soon modify this view of local reflexives and introduce a movement analysis, much in spirit of recent approaches, but for slightly different reasons.

fn.1). (1c), finally, illustrates an ill-formed dependency concerning movement to Comp. One way of capturing the illicit movement in this case is to say that another relevant element, i.e. one of the same „type" (in this case, one also bearing a Wh-feature), is closer to the landing site than *what*, which cannot skip over this intervening element (here, *who*).

This very rough sketch of how locality conditions may restrict dependency formation is nothing new, hence can be left sketchy as is. One question that has not yet been asked is whether there is the opposite restriction to (the locality of) dependency formation too. We could thus ask whether there is also a lower bound on distance, banning movement that is too close. I argue that such a restriction does indeed exist. As it seems to be the opposite restriction of what standard locality conditions cover, I call it „anti-locality."

The examples in (2)-(4) illustrate what anti-locality could capture, if formulated properly (where, as throughout, '*' marks linguistic ungrammaticality and '#' an ill-formed derivation).

(2) a. * John likes.
b. # [$_{vP}$ John *v* [$_{VP}$ likes ~~John~~]]

(3) a. * Him likes she/her.
b. # [$_{TP}$ him T [$_{AgrOP}$ ~~him~~ AgrO [$_{vP}$ ~~him~~ *v* [$_{VP}$ likes she/her]]]]

(4) a. * Who, John saw? / Who, did John see? / Who did, John see?
b. # [$_{TopP}$ who Top [$_{FocP}$ ~~who~~ (did-)Foc [$_{TP}$ John saw/see ... (~~who~~) ...]]]

We could thus ask why one thematically marked element may not move to another theta-position, as in (2). One could envision an interpretation of identity, as in *John likes himself*, for example. Likewise, DPs don't seem to receive two structural cases, but Case-checking is restricted to on(c)e per DP. In other words, movement from one Case-position (say, AgrOP), checking accusative, to another, picking up nominative, as suggested in (3b), is illicit. (Note that one could assign Case to the argument left behind through some default strategy, or other means, but neither *she* nor *her* would be grammatical in this scenario.) Lastly, movement of a wh-phrase to some other position within the Comp-layer seems to be ruled out as well. The ungrammaticality of either version depicted in (4a) could follow from too close a movement, as shown in (4b): movement to a Wh-checking position (such as FocP, as Rizzi 1997, among others, argues for) cannot be followed by topicalization. (Leaving aside details regarding the role of *do*-insertion, as indicated by the three options in (4a).)

Let's sum up what these data and hypothetical derivations show us. The structures in the b-examples share one property: all indicated movement steps involve two closely related positions. In (2b) there is movement from one theta- to another theta-position. (3b) suggests movement from one agreement-related or phi-position to another phi-position. And the hypothetical derivation (4b) involves movement from one Comp- to another Comp-position. (Contrast these „closely related" positions with the type of positions related in (1a), (1b) and (1c), respectively.)

Under traditional approaches, both within GB theory as well as most minimalist versions, these derivational steps are easily ruled out. The movement in (2b) violates the Theta Criterion. The Case Filter accounts for the illicitness of moving from one phi- to another phi-position and check two different Case features, as in (3). Various „Affect Criteria" (such as the Wh-Criterion) could account for the ungrammaticality of (4a), or the ill-formed derivation (4b).

Scrutinizing core minimalist premises, however, this line isn't tenable anymore, or should at least be seriously rethought. One clear desideratum of any minimalist approach to linguistic

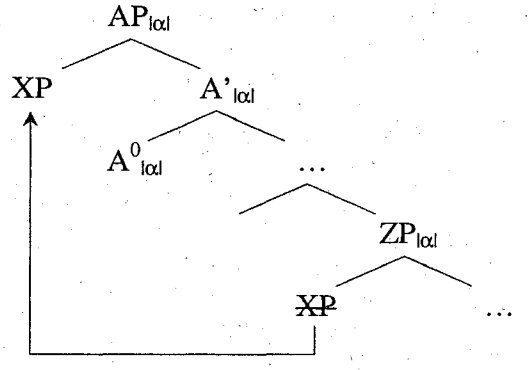
theory is that all conditions on the computation must follow from Bare Output Conditions, namely those that relate directly to the conceptual-intentional and articulatory-perceptual interfaces (Chomsky 1995: 221ff.). With the elimination of D- and S-structure as „levels of representation," PF and LF are the sole interface levels (or, less representationally, components). As such, all D-structure remnants in the theory should be dispensed with. The only way to make sense of this desideratum is to derive all filters, principles and conditions on the computation from Bare Output Conditions. One plausible candidate is certainly the principle of Full Interpretation, a condition of the conceptual-intentional interface imposed on LF (Hornstein 2001a: 15). Less plausible candidates are arguably the Theta Criterion, Case Filter or Affect Criteria, as these do not directly relate to the two interface systems. Rather than appealing to additional filters, principles or conditions, we would like to know now whether structures as depicted in (2)-(4) can be ruled out on independent grounds, or by one general condition.

I suggest that an explanation in terms of anti-locality offers a positive answer:

(5) *Anti-Locality Hypothesis*
Movement must not be too local.

Given (2)-(4) above, the most straightforward way to capture „too local" movement could be movement within a specific part of the clause, or a „domain" of sorts, sketched in (6):

(6) #



If a ban such as indicated in (6) is on the right track, we would need a means to compute the relevant domain within which movement of an XP, as illustrated in (2)-(4), is ruled out. Call this domain a *Prolific Domain*, characterized along the following lines. The part or domain relevant to compute „too local" or anti-local movement corresponds to a domain of shared contextual information — a Prolific Domain. As generalized in (6), a Prolific Domain may contain thematic context (a „θ-domain"), agreement context (a „ϕ-domain"), or discourse context (an „ω-domain") — where |α| in (6) would thus correspond to one of {|θ|, |ϕ|, |ω|}.

Let's define a Prolific Domain (abbreviated to ΠΔ in structural representations) as follows:

(7) *Prolific Domain (ΠΔ)*
A Prolific Domain ΠΔ is a contextually defined part of the computational system,
i. which provides the interfaces with the information relevant to the context and
ii. which consist of internal structure, interacting with derivational operations.
Such a view offers a natural tripartition of the clause, where each part is locally licensed:

(8) *Clausal Tripartition*
   i. θ-domain: The part of the derivation where theta relations are created.
   ii. ϕ-domain: The part of the derivation where agreement properties are licensed.
   iii. ω-domain: The part of the derivation where discourse information is established.

The „contextual domains" are thus Prolific Domains. They are prolific because each domain may is arguably made up of finer articulated structure; such as *v*P > VP (θ-domain), or TP > AgrOP (and whatever else is needed in the ϕ-domain), or TopP > FocP (and more, such as CP/ForceP, for example, for the ω-domain). They are domains in the usual sense, denoting a particular (and unique) part of the structure characterized by contextual information.[3] Beyond mere terminology, the anti-locality framework sketched here offers a novel way of formalizing the intuitive tripartition of the clause (see fn. 3). This will be outlined in the next section.

3. Exclusivity and Copy Spell Out

If movement within a Prolific Domain is to be ruled out, as the data in (2)-(4) suggest, this ban should follow from Bare Output Conditions, or the argument to simplify our inventory of rules goes down the drain. Let's now focus on such a view of the anti-locality framework.

The one and only condition that I would like to propose, needed to account for all anti-locality effects, is the Condition on Domain Exclusivity.

(9) *Condition on Domain Exclusivity (CDE)*
   An object O in a phrase marker must have an exclusive Address Identification AI per Prolific Domain ΠΔ, unless duplicity yields a drastic effect on the output.
   i. An AI of O in a given ΠΔ is an occurrence of O in that ΠΔ at LF.
   ii. A drastic effect on the output is a different realization of O at PF.

The main assumption is that LF and PF are accessed cyclically, in the sense of multiple applications of the operation Spell Out, proposed by Uriagereka (1999). (See also Chomsky 2000 and subsequent work, although in a different framework.) This would lead us to say that LF and PF are interface components, rather than levels of representation. AI is then taken to be „interpretive visibility": the LF-presence of an object in the phrase marker (from (9i)), coupled with a unique PF-matrix (per (9ii)). As a result, anti-locality is a PF-condition. As such it follows, as desired, straight away from Bare Output Conditions, viz. the CDE. The long and short of (9) is that an expression must have one and only one phonological occurrence in a given Prolific Domain, whether it is pronounced or not.

Within Copy Theory we understand multiple occurrences of an object in the phrase marker to be non-distinct copies of that object. In other words, the CDE concerns XPs only: by definition head movement creates a new object (via adjunction), as morphemes (pronounced or

[3] Note that this tripartition is nothing new or revolutionary, but rather reminiscent of earlier conceptions of the clause — cf. [COMP [INFL [VP]]] from Chomsky (1986a), for example. The proliferation of functional projections, from the works of, among many others, Pollock (1989), Chomsky (1991), Hale & Keyser (1993), Baker (1997), Rizzi (1997), Poletto (2000), and the tripartition assumed in Platzack (2001) are also relevant in this context. What is new, however, is the formalized tripartition envisioned here (opposed to, say, Platzack's).

not) — the „real" input of functional heads — obligatorily change the PF-matrix of the moved head. (See Grohmann 2000a: 58ff. for detailed discussion.)

This understanding of the computation makes one simple prediction. If a dependency between two positions within the same Prolific Domain were to involve different PF-matrices, the CDE should be satisfied. Following recent discussion in the literature, this prediction seems indeed to be borne out.

Let's discuss some ideas on implementing a strictly derivational view of the computational system. Taking certain pronouns as grammatical formatives, rather than fully lexical expressions (see among others Aoun & Benmamoun 1998, Aoun, Choueiri & Hornstein 2001, Hornstein 2001a for discussion), domain-internal dependencies with a different PF-matrix assigned to each copy can indeed be found: as grammatical formatives, these pronouns are thus derived.

One example concerns the relation between the peripheral XP and a coreferent resumptive pronoun (RP) in certain left dislocation constructions — but not others. There is a type of left dislocation that exhibits clear diagnostics for movement. (10) is one such instance, illustrating the availability of a bound variable reading between a quantified subject and a pronoun contained in the left-dislocated constituent (where the left-dislocated constituent and the RP are in an „anti-local relationship," as shown in (10b): CP and TopP are part of the ω-domain). (The coreference is indicated by italics and the bound variable reading in this case by subscription.)

(10) a. [*Seinen*$_i$ *Vater*], *den* mag jeder$_i$.
his-ACC father RP-ACC likes everyone
'His father, everyone likes.'
b. [$_{CP}$ seinen Vater C [$_{TopP}$ den mag-Top [$_{TP}$ jeder T...]]]

This example is from German and is typically known as „contrastive" left dislocation. Contrastive left dislocation stands in clear contrast to another type of left dislocation found in German (and English), known as „hanging topic" left dislocation (or *nominativus pendens*):

(11) a. [*Sein*$_i$ *Vater*], jeder$_{*i/k}$ mag *den/ihn.*
his-NOM father everyone likes RP/him-ACC
'His father, everyone likes him.'
b. [$_{CP}$ sein Vater [$_{CP}$ C [$_{TP}$ jeder mag-T den/ihn...]]]

Hanging topics appear in nominative, while the RP receives the „proper" Case. Moreover, the RP may appear low in the structure, as opposed to the topic position. What we see in (11) is that the bound variable reading from (10) disappears. If the left-dislocated constituent with the pronominal element inside has moved in one case, but not the other, this difference is predicted: at some point in the derivation (e.g. after reconstruction at LF), the quantifier and the pronoun are in a command relationship, allowing for variable-binding to take place.

It is easy to show that there exist clear contrasts between contrastive and hanging topic left dislocation beyond the one illustrated here. These have been known, debated and analyzed for a long time (see van Riemsdijk 1997 for an overview, and many papers in Anagnostopoulou et al. 1997, but also my own work in Grohmann 1997, 2000b, 2000c for discussion).

In particular, the former construction does not display Weak Crossover or Condition A effects, but is sensitive to Condition C. Moreover, the two differ with respect to other consequences of reconstruction, such as the possibility of left-dislocating idiom chunks, whether they may appear in embedded contexts, and whether they allow multiple left-dislocated XPs.

Analytically, we could capture these differences as follows: contrastive left dislocation involves movement of the left-dislocated element (XP) through two Comp-positions — i.e. movement within the ω-domain — and the RP is the spelled out copy that allows the (otherwise illegitimate) structure to conform to the CDE. Hanging topics, on the other hand, are base-generated in a CP-adjoined position and the RP is inserted directly into derivation, not involving Copy Spell Out. The different structures are represented in the b-examples of (10) and (11); the relevant derivational steps for the former are shown in (12), where '➲' indicates Copy Spell Out, a notation I will employ from now on throughout the paper.

(12) [$_{CP}$ seinen Vater C [$_{TopP}$ ~~seinen Vater~~ ➲ den mag-Top [$_{TP}$ jeder T … ~~seinen Vater~~ …]]]

This leads us to the question what Copy Spell Out actually is. Intuitively, it „rescues" an otherwise illicit step in the derivation. Standard deletion of the lower copy within an anti-local environment (the same Prolific Domain) is ruled out by the CDE, but if the lower copy receives a different PF-matrix, the CDE is satisfied. Copy Spell Out doesn't delete, but spell out the lower copy, and by doing so assigns it a different PF-matrix (see Grohmann 2000a, 2001b for more).

Under the same assumption (i.e. that certain pronominal elements are grammatical formatives and that dependencies should be derived by movement wherever possible), another application of Copy Spell Out can be argued for local anaphors, where reflexives, for example, are the result of spelling out a copy that would otherwise violate the CDE. In other words, under such a view, local anaphors would also be introduced in the course of the derivation (see, for example, Lees & Klima 1963, Lidz & Idsardi 1997, Hornstein 2001a for precursors).

Parallel to (10) then, we could derive local anaphors just as RPs, via Copy Spell Out:

(13) a. John likes himself.
b. [$_{TP}$ John T [$_{vP}$ ~~John~~ *v* [$_{VP}$ likes-V ~~John~~ ➲ himself]]]

Pronominal elements that surface as spelled out copies can thus be taken to be RPs of sorts, rescuing an otherwise illegitimate dependency. Or, in more general terms:

(14) *[$_{\alpha\Delta}$ XP … ~~XP~~], unless XP ➲ Y, where [PF] of XP ≠ [PF] of Y

RPs thus seem to appear in two diametrically opposite environments, namely when a dependency would otherwise be too far (standard) or too close (Copy Spell Out); see also Grohmann & Haegeman (in progress) for an elaboration of this point.

At this point, a puzzle materializes. Such a derivational account of reflexives raises the question how reflexive ECM-subjects might be derived. If (local) reflexives were always the result of Copy Spell Out within the same θ-domain, it would not immediately be clear how *himself* could be introduced into the derivation in (15b):

(15) a. John expects Mary to win the race.
b. John expects himself to win the race.

Under most standard assumptions, ECM-structures like (15a) would receive the following derivation:

(16) [$_{TP}$ John T [$_{vP}$ ~~John~~ *v* [$_{VP}$ expects-V [$_{TP}$ Mary to-T [$_{vP}$ ~~Mary~~ *v* [$_{VP}$ win the race]]]]]]

However, given the abolishment of government as a configuration that licenses, among other things, Case-assignment, a minimalist approach to ECM-constructions needs to account for the „exceptional" accusative case-marking on ECM-subjects. There are basically three types of explanation available. First, the ECM-subject could covertly move to the matrix accusative position, such as SpecAgrOP (entertained by Chomsky 1991, Lasnik & Saito 1993, among others); in this variant, the Case-features of the ECM-subject would be licensed at LF. Secondly, it could optionally move overtly to this position (advocated by a large body of „early" minimalist literature, up to Lasnik 1999, for example). Thirdly, the overt movement into matrix SpecAgrOP could be obligatory (as argued for by Koizumi 1993, 1995, Lasnik 1995a, 1995b, Bošković 1997, 2001, and others).

Either way we go, an approach that checks accusative case of the ECM-subject in the matrix clause would yield (17) as the underlying derivation for (15a), rather than (16) — where the relevant movement step takes place in the overt or covert component. ('?' is some position higher than AgrOP, given that the verb precedes the ECM-subject; further identification of '?' shall be of no concern — among other things, it also depends on how head movement is treated.)

(17) [$_{TP}$ John T [$_{?P}$ expects-? [$_{AgrOP}$ Mary AgrO [$_{vP}$ ~~John~~ *v* [$_{VP}$ V [$_{TP}$ ~~Mary~~ to win the race]]]]]]

If local anaphors are the result of a domain-internal movement step (through Copy Spell Out applying to an otherwise illegitimate copy) and if matrix and ECM-subject are not part of the same thematic domain, in which this movement step could take place (viz. *John likes himself*), this domain-internal movement step could in theory occur at a later point.

To derive reflexive ECM-subjects, we could thus imagine one of the following derivations (only relevant parts shown), where the locus of Copy Spell Out is actually the matrix ϕ-domain:

(18) a. [$_{TP}$ John expects [$_{AgrOP}$ ~~John~~ ⊃ himself [$_{vP}$ ~~John~~ [$_{VP}$ [$_{TP}$ ~~John~~ to [$_{vP}$ ~~John~~ …]]]]]]
b. [$_{TP}$ John expects [$_{AgrOP}$ ~~John~~ ⊃ himself [$_{vP}$ ~~John~~ [$_{VP}$ [$_{TP}$ to [$_{vP}$ ~~John~~ …]]]]]]

This route would allow us to hold fast onto the assumption that local anaphors are the result of Copy Spell Out, applying to the lower of two copies within one and the same Prolific Domain. The way local anaphors in simple clauses differ from anaphoric subjects of ECM-complements is the type of Prolific Domain that hosts the relevant movement step: thematic vs. agreement domain. (We will discuss the difference between (18a) and (18b) in section 6.)

If this line of explanation is on the right track, we would have another argument that movement of the embedded subject of „deficient" complements (such as ECM-constructions, a notion we will pick up again later) into (the object position of) the matrix clause *may* take place overtly — after all, the reflexive ECM-subject in (15b) shows up as a reflexive at the point of pronunciation, thus the derivational step that results in Copy Spell Out must take place in the overt component. We can thus eliminate the hypothesis that such elements move exclusively in the covert component.

One major goal of the remainder of the paper, the second part, will be to test how far we can take the nonchalant generalization in Grohmann (2000a) about the difference between intra- vs. inter-clausal movement, namely that across clause boundaries, movement always target the same type of Prolific Domain; this will be instrumental in helping us to decide on the derivation (18a) vs. (18b). But first let's turn our attention to small clause-/SC-syntax more diligently.[4]

[4] I use „SC" to denote the small clause in general (not its category), regardless of its finer architecture (cf. (24)).

4. Small Puzzles

When we turn to SC-complementation, a puzzle very similar to that seen in ECM-constructions arises: the SC-subject appears in nominative, it may be reflexive (bound by the matrix subject), and the matrix and the SC-subject never seem to appear in the same θ-domain.

(19) a. Mary considers [John intelligent].
b. John considers [himself intelligent].

(20) a. Mary considers [John a good friend].
b. John considers [himself a good friend].

Just as above, we have to ask ourselves what the origin is of the reflexive subject of a small clause and how it gets Case. In the remainder of this paper, we will pursue this question and turn to the following topics:

(i) Can we account for reflexive SC-subjects derivationally (viz. Copy Spell Out)?
(ii) If so, or if not, what is the structure of SCs (relevant to the anti-locality framework)?
(iii) What types of movement does the anti-locality framework allow naturally (and why so)?

Again, we are faced with a number of possible approaches to capture SCs. The least interesting one, for current purposes, is that the anti-locality framework is simply barking up the wrong tree and the whole line of reasoning should be abandoned. Weaker versions of this argument could be that only the derivational analysis of local anaphors suggested here is untenable or that the particular analysis of reflexive ECM-subjects touched upon above is inappropriate. Under this view, SCs would receive the same structure that ECM-constructions used to receive (in GB), relevant to the current issue, namely something like the following:

(21) $[_{TP}$ John T $[_{vP}$ ~~John~~ *v* $[_{VP}$ considers-V $[_{XP}$ himself (... ~~himself~~ ...) intelligent]]]]

„XP" denotes the SC, whatever structure it is made up of (see fn. 4 above and also section 5 below), and Case is checked in whatever way Case is checked (e.g. under „government," as in GB). The reflexive is licensed in whatever way local anaphors are licensed (subsumed under Condition A, for example). For obvious reasons, I will not entertain this option any further, but push a line very much compatible with the anti-locality framework, and naturally so, as I argue.

An alternative would hold that SCs essentially behave like standard ECM-complements: the SC-subject undergoes movement into the matrix clause object position, as sketched above for ECM-constructions — overtly or covertly (with emphasis on the former):

(22) $[_{TP}$ John T $[_{AgrOP}$ himself AgrO $[_{vP}$ ~~John~~ *v* $[_{VP}$ considers-V $[_{XP}$ ~~himself~~ intelligent]]]]]

However, this still doesn't account for the „introduction" of the reflexive, if it is really „introduced" into the derivation, rather than base-generated and licensed by more traditional

means. This can be achieved if reflexive SC-subjects actually behave like reflexive ECM-subjects in an anti-locality framework: they undergo Copy Spell Out in the matrix ϕ-domain.

If this line of reasoning is correct, reflexive SC-subjects would be introduced the same way that reflexive ECM-subjects are introduced in the anti-locality framework, namely by moving first into the matrix θ-domain, then into some position of the matrix ϕ-domain („AgrOP"), and finally to another position within the matrix ϕ-domain („TP"), undergoing Copy Spell Out. We could illustrate the necessary steps roughly as follows:

(23) $[_{TP}$ John T $[_{AgrP}$ ~~John~~ ➲ himself Agr $[_{vP}$ ~~John~~ *v* $[_{VP}$ considers-V $[_{XP}$ ~~John~~ intelligent]]]]]

This is very similar to what we have seen in (18a) vs. (18b) above. One apparent difference is, of course, that the internal structure of a SC is not the same as that of an ECM-complement. While the latter is presumably a full-fledged (if deficient) TP, the former has been argued to be something different. For ECM-clauses it is easy to see that they contain a θ-domain as understood from (8): they include a full verbal predicate, without restrictions; they can also be argued to contain a ϕ-domain, indicated by *to*. Arguably, this non-finite TP/ϕ-domain is deficient (in the standard sense, i.e. at least in as far as it fails to license nominative). One goal of the following discussion is to decide on the status of „XP" in (23). If the SC-subject overtly moves into the matrix clause, (i) which position (Prolific Domain) does it target and (ii) where does it come from? Aside from a comparison of the syntax of ECM- and SC-subjects, we will thus investigate the finer structure of SCs, as relevant to the anti-locality framework. We will then adopt some version or refinement of the derivation in (23), which we will then generalize (in terms of the above-mentioned distinction between „intra- vs. inter-clausal movement").

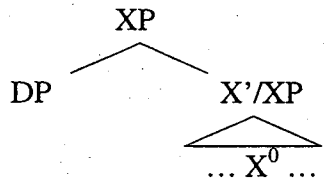
5. Small Clauses

A standard characterization of a small clause is that it forms the minimal structure expressing predication, without containing tense. What is relevant for our purposes is the question of what this „minimal structure" could or should look like in an anti-locality framework (such as the one presented here), one that splits the clause into Prolific Domains. What we will investigate next is thus what the internal structure of SCs looks like and how it connects beyond the SC-complement, i.e. how it interacts with the matrix clause.

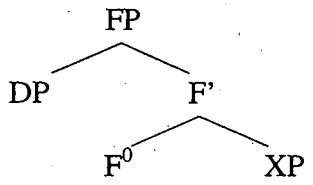
The literature is split about the „constituency question" of SCs. A large body, since Jespersen (1924), has assumed that the SC-complement (subject and predicate) are generated as a constituent, the view endorsed here. Other approaches, however, deny such a constituent relation (e.g., Bresnan 1978, Williams 1983, Schein 1995) or derive it as a result of complex predication (Chomsky 1955). I will concentrate on various approaches within the first-mentioned camp for two reasons: first, for reasons of space and second, it seems to work (applied to anti-locality).

Three typical instantiations of the SC-as-constituent approach are given in (24):

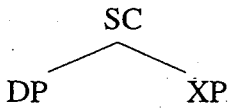
(24) a.



b.



c.



Under the variant in (24a), the subject of the small clause (DP) is taken to be the specifier of a predicative head X^0 (Stowell 1981, 1983); alternatively, it is adjoined to the predicate XP (Manzini 1983, Heycock 1994, Rothstein 1995). The entire small clause is an XP. In (24b), a small clause is understood to be the projection of a special functional head, such as „Pred" (Bowers 1993) or "Agr" (Guéron & Hoekstra 1995); see also Moro (1988), Svenonius (1994), Pereltsvaig (2001) for more discussion. (24c), finally, takes a small clause to be of the type „SC" with the bare structure [$_{SC}$ DP XP], as argued for by Moro (1997, 2000). This approach thus assigns the construction SC the categorial status SC (cf. fn. 4).

Regardless which one of the approaches in (24) we choose (or any other, for that matter), something has to be said in addition to the structure of SCs concerning how they tie in with higher (possibly predicative) material. Two relevant questions in this respect are the following:

(i) Is there movement within the SC before moving to a higher clause?
(ii) Is there movement from the SC to some higher position before moving to a higher clause?

I want to treat the exact internal structure of a SC the same way I treat the exact internal structure of INFL or COMP: rather vaguely with respect to the projections involved and finer architecture, focusing on the input of Prolific Domains and the relevance of the anti-locality framework. There are three relevant hypotheses we could consider:

(H1) SCs constitute *their own individual* Prolific Domain (i.e. an additional one).
(H2) SCs constitute *one separate* Prolific Domain of the three available (e.g. θ-domain).
(H3) SCs constitute *more than one separate* Prolific Domain (maybe a θ- and a ϕ-domain).

As before, I'll pick the last hypothesis, walk with it and mold it. This will allow us then to be more specific with respect to the internal structure of SCs. Maybe we will be able to decide on (24a-c) a little bit more precisely.

6. Small Analysis

One primary goal will be to explain the accusative case of the SC-subject and the derivation of reflexive SC-subjects, relate it to other structures (such as ECM), and generalize the typology of movement steps in an anti-locality framework. Before we settle for one of the three hypotheses (H1-3), let's then consider two generalizations concerning movement and the computation within an anti-locality framework, namely movement within a clause ("intra-clausal") and across clause boundaries („inter-clausal").[5]

Considering the relevant copies of a moving Wh-phrase indicated in (25b), needed for Wh-movement (i.e. checking thematic, agreement and discourse features), we can generalize all (argument) movement within a given clause: it must take place from a θ- to a ϕ- and, if needed, to an ω-position. In other words, intra-clausal movement always targets the next higher Prolific Domain in the clause, as expressed in the abstract derivation (25a).

(25) *Intra-clausal movement hypothesis*
a. $[_{\omega\Delta} \ldots XP \ldots [_{\phi\Delta} \ldots \sout{XP} \ldots [_{\theta\Delta} \ldots \sout{XP} \ldots]]]$
b. Who did Mary ~~who~~ see ~~who~~?

Movement across clauses is characterized by the successive-cyclic property, which has long been argued for. Standardly employed in long Wh-movement or A-raising, this is nothing new. Given what we have just said, that a wh-phrase needs to check the three relevant types of features, (26a) is an appropriate, if abstract, derivation for (26b), indicating all relevant copies of the Wh-phrase that undergoes A-raising prior to Wh-checking.

(26) *Inter-clausal hypothesis*
a. $[_{\omega\Delta} XP \ldots [_{\phi\Delta} \sout{XP} \ldots [_{\theta\Delta} \ldots [_{\omega\Delta} \ldots [_{\phi\Delta} \sout{XP} \ldots [_{\theta\Delta} \ldots [_{\omega\Delta} [_{\phi\Delta} \sout{XP} \ldots [_{\theta\Delta} \sout{XP} \ldots]]]]]]]]]$
b. Who ~~who~~ seems ~~who~~ to be likely ~~who~~ to ~~who~~ sleep?

Let's assume that the two hypotheses regarding intra- and inter-clausal movement have some bearing on the computation of standard accounts of locality effects and anti-locality. (Again, see Grohmann 2001b for more.) We can now turn to an evaluation of (H1-3).

The first hypothesis takes an SC to be its own Prolific Domain, a type of Prolific Domain different from the three established so far. Call it βΔ, just to distinguish it from the others. Recall our agenda from section 4 that derives accusative-marking on the SC-subject by (overt or covert) movement into the matrix ϕ-domain (AgrOP). If (27a), repeated from (23), is our specific

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[5] In the interest of space, this discussion must be cut short. A more extensive treatment can be found in Grohmann (2001b), where these hypotheses, treated as the „Intra-Clausal Movement Generalization" and the „Inter-Clausal Movement Generalization," respectively, are formulated abstractly as follows:

(i) a. *Intra-Clausal Movement Generalization*
$[_{\beta\Delta} XP \ldots [_{\alpha\Delta} \ldots \sout{XP} \ldots]]$, where $\beta > \alpha$
b. *Intra-Clausal Movement Generalization*
$[_{\alpha\Delta} XP \ldots \ddagger \ldots [_{\alpha\Delta} \ldots \sout{XP} \ldots]]$, where ‡ = clause boundary

Space doesn't permit a more thorough discussion. What I will do here is assume that these generalizations have theoretical and empirical merit. As such I am going to employ them to tease apart potential analyses, but refer to them as hypotheses, for the time being axiomatically helpful but no proven warranty.

derivation, (27b) should be the one relevant for an evaluation from the perspective of the anti-locality framework, where XP is our small clause-complement SC (whose structure has yet to be determined):

(27) a. $[_{TP}$ John T $[_{AgrP}$ ~~John~~ ⊃ himself Agr $[_{vP}$ ~~John~~ *v* $[_{VP}$ considers-V $[_{XP}$ ~~John~~ intelligent]]]]]
b. $[_{\phi\Delta}$ John ... ~~John~~ ... $[_{\theta\Delta}$ ~~John~~ considers ... $[_{\beta\Delta}$ ~~John~~ ...]]

(H1) now make two particular predictions in the current context: movement within a SC should be illicit (as a CDE-violation), and our hypothesis concerning inter-clausal movement would have to be extended. I take it that compared with (27), (28) would be the desired structure for a clause with a SC-complement whose subject is not reflexive, where the SC-subject still needs to move to SpecAgrOP/ϕ-domain of the matrix clause to check accusative:

(28) a. $[_{TP}$ Mary T $[_{AgrP}$ John Agr $[_{vP}$ ~~Mary~~ *v* $[_{VP}$ considers-V $[_{XP}$ ~~John~~ intelligent]]]]]
b. $[_{\phi\Delta}$ Mary ... John ... $[_{\theta\Delta}$ ~~Mary~~ considers ... $[_{\beta\Delta}$ ~~John~~ ...]]

The movement from the SC β-domain to the matrix ϕ-domain does not conform in any obvious way to the inter-clausal movement hypothesis. It would have to be modified so as to capture that from an additional Prolific Domain β-domain, movement may target (at least) either a position within the θ-domain or the ϕ-domain of the next higher clause. This is only one argument against the existence of "βΔ," on top of conceptual reasons, evoking an additional tool in our inventory for (so far) no compelling or reasons of (virtual) conceptual necessity.

Let's turn to (H2). On analogy with (27) for (H1), (29) is presumably the counterpart for this hypothesis, where "αΔ" is the Prolific Domain that specifies XP (our SC-complement), which is of one of the three types in our inventory (θΔ, ϕΔ or ωΔ).

(29) a. $[_{TP}$ John T $[_{AgrP}$ ~~John~~ ⊃ himself Agr $[_{vP}$ ~~John~~ *v* $[_{VP}$ considers-V $[_{XP}$ ~~John~~ intelligent]]]]]
b. $[_{\phi\Delta}$ John ... ~~John~~ ... $[_{\theta\Delta}$ ~~John~~ considers ... $[_{\alpha\Delta}$ ~~John~~ ...]]

The predictions from this hypothesis are for one also that no movement should be possible within the SC-complement, but in addition that movement outside the SC should target a θ-domain, should we identify "αΔ" with the θ-domain. The latter prediction looks good for (29), but fares less well with a non-reflexive SC-subject, as in (28a). If „αΔ" is indeed the θ-domain, this movement runs again counter the inter-clausal movement hypothesis.

Alternatively, we could assign a varying identification of "αΔ": it could be a θ-domain if the SC-subject is (to become) a reflexive and a ϕ-domain elsewhere. The obvious fault of this step is that Prolific Domains are not some purely formal marker without any meaning. As the nature of a given Prolific Domain is regulated by the contextual information it encodes, it is highly unlikely that one and the same structure — a predicative SC — should be one of two different Prolific Domains, more or less at choice. On the other hand, given that SCs are predicative, it lies near to assign it the Prolific Domain that specifies thematic information, i.e. the θ-domain. Let's do that next.

(H3), namely, says that SCs are more complex than a single Prolific Domain. It suggests that a SC — again, with a finer articulated structure yet to be decided upon — comprises two Prolific Domains. If one is the θ-domain for the reasons just given, it is likely that the second one would be the ϕ-domain, the next higher one (viz. the intra-clausal movement hypothesis from

above). Applying this reasoning to the two exemplary cases (27a) and (28a), we yield the following structures, the (H3)-counterparts of (27b) and (28b), respectively:

(30) a. $[_{\phi\Delta}$ John ... ~~John~~ ... $[_{\theta\Delta}$ ~~John~~ considers ...: $[_{\phi\Delta}$ Ø $[_{\theta\Delta}$ ~~John~~ ...]]
b. $[_{\phi\Delta}$ Mary ... ~~John~~ ... $[_{\theta\Delta}$ ~~Mary~~ considers ... $[_{\phi\Delta}$ ~~John~~ $[_{\theta\Delta}$ ~~John~~ ...]]

What we see here is the following. A reflexive SC-subject undergoes (inter-clausal) movement from its base-generated SC-position, a predicative θ-position, straight into the matrix θ-position (before moving on into the matrix ϕ-domain). A non-reflexive SC-subject, however, undergoes SC-internal movement — ruled out by both (H1) and (H2) — from its base-generated θ-position to an additional SC-internal position, within the ϕ-domain of the SC. Once there it can (only) target a matrix ϕ-position, and everything is hunky-dory.

This option forces us to adopt an alternative similar in spirit to the one mentioned for (H2) above. The difference is, however, that in the previous alternative suggestion we would have to assume two different structures for the SC-complement, while under this strategy the SC is invariantly bi-domainic; the option that arises under (H3) is whether or not to move through the ϕ-position of the SC. In other words, the prediction that (H3) makes is also two-fold, but very different from the other hypotheses: SC-internal movement should be fine (as we now have two Prolific Domains) and additional movement should target either the matrix θ- or the matrix ϕ-domain (depending on the launching position). I opt for (H3) in general, and the domain-relevant derivations in (30a-b) for (27a) and (28a), respectively (i.e. (19a-b) from section 4 above).

This optionality might raise an eyebrow or two, so let's go through the background assumptions particularly implied in the inter-clausal movement hypothesis. We will see that the proposal that the SC-subject may, but need not, move through an intermediate position is not unreasonable. Moreover, there are other constructions that exhibit exactly this kind of optionality (which, I argue, is not "optionality" at all).

Consider a derivational approach to control constructions, such as the one advocated recently by Hornstein (1998, 1999, 2001a, 2001b).[6] Taking minimalist desiderata seriously to try and simplify the inventory of tools, conditions, assumptions and so on, Hornstein scrutinizes a number of modules internal to the language faculty that were part of GB theory. One of these, the Control Module (including the PRO theorem) is particularly suspect. Not only because as a „module" it better be something needed for virtual conceptual necessity; following the usual Ockham's razor arguments, a module constitutes additional machinery that should only exist if it really gives us much — and if it doesn't, and if its effects can be explained otherwise (with the help of existing assumptions), it should be abolished. (Besides that, PRO is also identified by concepts that don't play a role anymore, in particular the requirement that PRO be ungoverned.)

Thus, we could either develop a minimalist version of government and restate this condition — not a satisfactory option for obvious reasons. Or we could find another (type of) requirement that explains the identification, distribution and licensing of PRO — such as the Null Case approach (cf. Martin 1996, extending a proposal from Chomsky & Lasnik 1993). Alternatively, we can look at the properties of PRO and examine whether, in the absence of a government relation and so on, we can reduce it to already existing entities — such as those objects left behind by movement, i.e. a copy of (NP-) movement. This is the line that Hornstein

[6] I concentrate on Hornstein's specific proposals, as it's (a) couched in a minimalist framework, (b) assumes a very similar view of the grammar as endorsed here, and (c) is very compatible with the anti-locality framework. In fact, the anti-locality framework supports his particular analysis without postulating additional machinery. (A movement approach to control, relating similarities between it and raising, goes back to Bowers 1973, 1981.)

embarks on and develops (see also O'Neil 1995, Manzini & Roussou 2000). Relevant for us is an analysis in terms of movement — for both raising and control. Let's review this very briefly.

Raising and control constructions exhibit a number of obvious similarities: they both involve a non-finite complement clause whose subject position is phonetically empty; that subject receives its interpretation from the filled subject position in the finite matrix clause. The main difference, to be derived in a movement analysis, is that the control dependency between the overtly filled matrix and the empty embedded subject involves with two theta-roles, but the raising dependency only one.

The movement analysis of control put forward by Hornstein is movement of the embedded subject from its (thematic) agent-position to the matrix agent-position — movement into a θ-position. He considers both (31a) and (31b). The former assumes the intermediate step for reasons of the EPP (originally entertained in the beginning of chapter 2; cf. Hornstein 2001a: 27, 38). The latter follows Castillo, Drury & Grohmann's (1999) doubts about the EPP, dispenses with that step and moves the subject in one fell swoop as, what we would call, θ-to-θ-movement (adopted in the remainder of the book; cf. Hornstein 2001a: ch. 2, esp. pp.56f., and p.223, fn.12).

(31) a. [$_{TP}$ John T [$_{vP}$ ~~John~~ wants [$_{TP}$ ~~John~~ to [$_{vP}$ ~~John~~ win the race]]]]
b. [$_{TP}$ John T [$_{vP}$ ~~John~~ wants [$_{TP}$ Ø to [$_{vP}$ ~~John~~ win the race]]]]

From the point of view of the inter-clausal movement hypothesis, (31b) would fit the pattern. Moreover, if the EPP does not exist (see also Epstein & Seely 1999, Boeckx 2000, Grohmann, Drury & Castillo 2000 for discussion), the intermediate touch-down would not be required a priori. On the other hand, we would like this intermediate touch-down to happen in raising for the same reason (i.e. following the inter-clausal movement hypothesis). We have basically three choices, in both control and raising (not necessarily mutually exclusive):

❶ passing through non-finite SpecTP is enforced by the EPP
(Chomsky 1981, 1982 and all „standard" approaches since)
❷ the EPP doesn't exist, hence the intermediate SpecTP is empty
(Epstein & Seely 1999, Boeckx 2000, Grohmann, Drury & Castillo 2000)
❸ the intermediate EPP doesn't exist, but the position is filled for locality reasons
(see Grohmann 2000a, 2001b for current and Bošković 2001 for independent reasons)

Only ❸ fits with the working hypothesis of intra- vs. inter-clausal movement. As just mentioned, control verbs have a full thematic structure or θ-domain (containing *v*P, VP). Hence θ-to-θ-movement as in (31b), repeated here, would indeed be an appropriate option:

(32) a. John wants to win the race.
b. [$_{TP}$ John T [$_{vP}$ ~~John~~ *v* [$_{VP}$ wants-V [$_{TP}$ to [$_{vP}$ ~~John~~ *v* [$_{VP}$ win the race]]]]]]

Raising verbs, on the other hand, lack a full thematic structure; presumably the θ-domain of this class of verbs contains only a bare VP. From the point of view of the inter-clausal movement hypothesis, ϕ-to-ϕ-movement should apply here, as sketched below:

(33) a. John seems to win the race.
b. [$_{TP}$ John T [$_{VP}$ seems-V [$_{TP}$ ~~John~~ to [$_{vP}$ ~~John~~ *v* [$_{VP}$ win the race]]]]]

The embedded SpecTP of „deficient" (i.e. non-finite) T isn't filled for EPP-reasons, but for locality (or so argues Bošković 2001). Consider (34):

(34) a. John was considered a fool.
b. * John was considered himself a fool.

Passive verbs can be argued to lack *v*P, thus force movement from embedded structures into their (matrix) ϕ-position. If they lack thematic positions, movement into the θ-domain of a passive verb is not expected. Following all we have said so far, (34b) is thus correctly ruled out:

(35) [$_{TP}$ John was-T [$_{VP}$ considered [$_{\phi\Delta}$~~John~~ ϕ [$_{SC}$ ~~John~~ a fool]]]]

Returning to the above-mentioned "optionality," we can now record that no intrinsic property of (deficient) T forces movement to or through its specifier position. If this position can be filled or not — depending on a certain understanding of (standard) locality considerations (Bošković 2001) — we would like to see how it can be skipped in some cases. The inter-clausal movement hypothesis would offer a possible principled account.[7] It takes the status of the moving element seriously: if it needs to move into a higher θ-position, it can only do so from a θ-position; this yields control structures and dispenses with the intermediate touch-down. If the intended movement targets a higher ϕ-position, it can only take place from a ϕ-position; this gives us raising, where the matrix (raising) verb doesn't even make a θ-position available, and movement to deficient SpecTP is necessary. This is an instance of potential points of symmetry between standard accounts of locality and this framework (see Grohmann 2001b).

To recap, within a framework that takes a tripartition of the clause seriously (formalized in terms of Prolific Domains) we saw that it makes sense to treat small clause- (SC-) constructions to comprise not one, but two Prolific Domains, which we identified as the θ- and the ϕ-domain. Reasons for this are two-fold. First, following the Condition on Domain-Exclusivity (CDE), elements in the phrase-marker cannot move within a given Prolific Domain, or rather, no dependency can be formed between two positions in one and the same Prolific Domain which are assigned identical PF-matrixes. This constitutes the gist of what we have called the anti-locality framework throughout. If correct, it means that the subject of SC-complements, which must raise to the matrix object position, should not be able to move within the SC, unless the SC is bigger than a single Prolific Domain.

Second, on analogy with a derivational approach to reflexivization applied to ECM-subjects, we found it useful to have the option of moving the SC-subject into the matrix θ-position, from which it can then proceed to the object and the subject positions, spelling out its copy in AgrOP as the reflexive (otherwise, the CDE would be violated). This derivation would conform to our proposal of deriving reflexives as the result of copy Spell Out within a given Prolific Domain. On the basis of the inter-clausal movement hypothesis we saw that in this case, the SC-subject must move from its base-generated position into the matrix θ-domain, while in non-reflexive cases, it must move through an intermediate position within the SC. (I underline

[7] If there is something to the intra- and inter-clausal movement hypotheses (see fn. 5), we would, of course, like to derive these somehow, rather than state them axiomatically. A potential route of explanation might involve a closer examination of the Uniformity Condition, usually expressed over chains (see Browning 1987 and Chomsky & Lasnik 1993, Chomsky 1993, among others, for further discussion). I leave the discussion at that, with a final note that such an explanation of the intra- and inter-clausal movement hypotheses/generalizations is not worked out in Grohmann (2001b) either.

the warning for caution that this hypothesis is only that, a hypothesis, as mentioned in fn. 5; however, it seems to fit in with the present framework, the cases at hand, and many other cases.) We discussed several possibilities for the types of Prolific Domain(s) involved in SCs and reached the conclusion that it must be one θ- and one ϕ-domain.

7 Small Structures

In the final section, I want to consider a number of other aspects that concern the structure of SCs. As before, I'll concentrate on the input of the anti-locality framework, i.e. on the domain-relevant structure. A bit of musing towards the end will allow us, though, to say a little bit more about the options for more specific structure as the discussion around (24) implied.

An interesting phenomenon relevant for this discussion is a construction that Rafel (2000) calls „complex small clause" (CSC), illustrated for English in (36).

(36) a. I regard [John as my best friend].
b. They took [John for a fool].

Rafel takes a CSC to be an instance of double predication, where one SC (XP in (38)) is predicated of another one (YP). The resulting structure is a mirror image of the structure of „simple" SCs (cf. (24a-c)).

(37) $[_{XP=CSC}\ DP_i\ [_{X'}\ X\ [_{YP=SC}\ PRO_i\ Y]]]$

We will discuss the plausibility of the existence of CSC as such next. First bear in mind, however, that we still haven't decided which option of (24a-c) to take. Rafel's structure in (38) suggests either (24a) or, more likely and in the spirit of Rafel's proposal, (24b), where some functional head takes YP as its complement and XP as its specifier. Refraining from further discussion of the structure of a CSC for the time being, Rafel argues that the head X can stand for different heads, such as complementizer C, as illustrated in (38):

(38) a. I regard $[_{CP=CSC}\ John_i$ as-C $[_{SC}\ PRO_i$ my best friend]]
b. They took $[_{CP=CSC}\ John_i$ for-C $[_{SC}\ PRO_i$ a fool]]

Note that this exact structure should raise suspicion, at least for the reason that it contains PRO. If we wanted to adopt Rafel's analysis, we should look for a derivational implementation in the current framework. Moreover, the fully clausal („CP") analysis of the embedded (C)SC-structure isn't compatible with our assumptions: if CSC were indeed CP, then it should constitute its own ω-domain. If that were the case, how could *John* then move into the matrix θ-position (again, holding fast to the inter-clausal movement hypothesis)?

I want to offer and discuss three alternatives to analyze CSCs. One would be to treat the „complex" part (i.e. YP) as an additional Prolific Domain on top of the „simple" SC. This would be a θ-domain, clear if we treat *as* and *for* as the predicative elements. In other words, „complex" SCs would be complex because they constitute two „simple" SCs. This strategy is illustrated in (39b), compared to the „simple" SC in (39a):

(39) a. V [$_{\phi\Delta}$ __ … [$_{\theta\Delta}$ DP XP]] (viz. *Mary considers John intelligent.*)
b. V [$_{\phi\Delta}$ __ … [$_{\theta\Delta}$ DP$_i$ (*as/for*) [$_{\theta\Delta}$ PRO$_i$ XP]]] (viz. *Mary considers John as her friend.*)

DP, the SC-subject, would in these cases raise into the slot within the ϕ-domain marked '__' (and straight into the matrix θ-domain if it is reflexive). One advantage, and hence a potential means for evaluating the options suggested here, is that this allows a movement analysis of the DP-PRO relationship that Rafel assumes. If PRO boils down to being a copy left behind by movement from a θ- to a θ-position, we don't run into trouble.

An alternative would be to say that the „complex" part is a ϕ-domain on top of a θ-domain. The θ-domain would be then be the original SC.

(40) a. V [$_{\phi\Delta}$ __ … [$_{\theta\Delta}$ DP XP]] (viz. *Mary considers John intelligent.*)
b. V [$_{\phi\Delta}$ __ *as/for* [$_{\theta\Delta}$ DP XP]] (viz. *Mary considers John as her friend.*)

This allows us to keep the same structure for SC and CSC in terms of Prolific Domains: both contain one θ- and one ϕ-position, instead of two θ-positions (and presumably another ϕ-domain on top) form the first option. Unlike the first option, however, this alternative doesn't allow for a movement analysis of PRO. But it doesn't need to: given that control is movement across Prolific Domains, the constructions considered here cannot distinguish between movement of the sort we would apply to (39b), from one θ- to another θ-position (recreating PrO), but as we indicated in (40b), from the base-generated θ-position ('DP') to the ϕ-position ('__'), i.e. A-movement business as usual.

Whether the first or the second option fare better (or even which one would be more plausible) shall play no role. There is a third option, and our empirical testing case which we'll see presently is one which cannot be captured by either the first or the second option. The third option can, so it is the one I adopt. This options says that the „complex" part is no additional material beyond the original „simple" SC, but it plainly is part of the original θ-domain. Thus, CSCs and SCs are structures that are base-generated within a single θ-domain with a single ϕ-domain on top — with respect to Prolific Domains completely identical:

(41) a. V [$_{\phi\Delta}$ __ … [$_{\theta\Delta}$ DP XP]] (viz. *Mary considers John intelligent.*)
b. V [$_{\phi\Delta}$ __ … [$_{\theta\Delta}$ DP (*as/for*) XP]] (viz. *Mary considers John as her friend.*)

This treatment of „complex" SCs is basically the line taken by Moro (1997).[8] Once again the last alternative seems to be most compatible (possibly coupled with (ib) from fn. 8). Consider the following data:

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[8] In fact, Moro argues against a layered SC-structure, as the first two options in the text above would imply. The structures he suggests are the following (slightly adopted for current purposes):

(i) a. [$_{SC}$ DP (as) XP] (Moro 1997: 203, ex. (104))
b. [$_{SC}$ DP [$_{asP}$ as XP]] (Moro 1997: 287, n.31, ex. a)
c. [$_{asP}$ DP [$_{as'}$ XP]] (Moro 1997: 287, n.31, ex. b)

Option (ib) is the more general one, disregarding details about the position of *as* (or *for*), but he notes that in (ib) „*as* is entirely parallel to *of* in *of*-insertion."

(42) a. They took [John for a fool].
b. John took [himself for a fool].

(43) a. They took [John for himself].
b. John took [himself for himself].

While (42) could be analyzed under either option (cf. (44)), (43) shows that we must allow SC-internal movement to derive a reflexive in the „simple" part of „complex" SCs. Following the discussion up to this point, the most likely derivation for (43b) would be (45):

(44) a. $[_{TP}$ they $[_{AgrP}$ John $[_{vP}$ ~~they~~ took $[_{SC}$ ~~John~~ for a fool]]]]
b. $[_{TP}$ John $[_{AgrP}$ ~~John~~ ➲ himself $[_{vP}$ ~~John~~ took $[_{SC}$ ~~John~~ for a fool]]]]

(45) a. $[_{TP}$ they $[_{AgrP}$ John $[_{vP}$ ~~they~~ took $[_{SC}$ ~~John~~ for ~~John~~ ➲ himself]]]]
b. $[_{TP}$ John $[_{AgrP}$ ~~John~~ ➲ himself $[_{vP}$ ~~John~~ took $[_{SC}$ ~~John~~ for ~~John~~ ➲ himself]]]]

As there is presumably no way that we could argue the lowest occurrence of *himself* in these cases to move into the matrix clause, it must be generated (or derived via Copy Spell Out) internally to the SC. This means that *John*, the original (and only) DP in (43b), must move from one position to another position within the same Prolific Domain. In order to „become" a reflexive (again), it must also move into the matrix θ-position. This suggests that *John* leaves the SC from a θ-position (by the inter-clausal movement hypothesis). In other words, the structure of the „complex" SC-complement in (43b), marked simply SC in (45b), has the same structure as any „simple" SC we have seen so far, regardless of the presence of *for*.

Under these considerations, the domain-relevant structure of (45b) is (46):

(46) $[_{\phi\Delta}$ John ~~John~~ ➲ himself $[_{\theta\Delta}$ ~~John~~ took $[_{\phi\Delta}$ Ø $[_{\theta\Delta}$ ~~John~~ for ~~John~~ ➲ himself]]]]

After all this discussion of domain-relevant aspects of the structure of SC-complements, note that we still haven't decided on the categorial status of SCs from (24a-c) above. Ideally, I'd leave it at that, but I feel compelled to at least discuss some aspects of the structures mentioned. While we cannot yet satisfactorily decide on any single one, we should be able to rule out some, on pretty much principled grounds in the current framework. I leave it to the reader to decide in how far the argument goes through, as I don't believe that a resolution matters for the main point argued for.

As we noted repeatedly, a Prolific Domain is not simply a technical gimmick, but relates to contextual information in the guise of thematic properties. The current framework clearly dissociates thematic from agreement properties and as such pin-points the locus of Case- and ϕ-feature checking beyond the thematic layer unambiguously. This dissociation is muddled under „standard" recent approaches, since section 4.10 of Chomsky (1995). That line of research pursues Case-checking through some property of *v*, by creating an additional specifier to *v*P where accusative gets licensed. This is not the right place to discuss multiple specifiers (see Grohmann 2001a for discussion and references). But what this muddling amounts to is to allow a potential mixing of θ- and ϕ-properties. This might be the right way; after all, Koizumi (1993, 1995) originally suggested splitting the verbal layer into iterative VP-AgrP structures (the „Split VP-Hypothesis"), mixing them uniformly (see also Lasnik 1995b). But it would be incompatible with the anti-locality framework laid out here.

The suggestion that SCs are generated in a structure like (24b) has often been followed by identifying the head F with a particular functional head, such as Asp(ect) or Agr(eement), as mentioned above. This seems to be the same type of muddling as licensing accusative on *v*: for all purposes, Asp and Agr are ϕ-related and not uniquely predicational or thematic. As such, they're not predicated to be part of a θ-domain, but as the discussion above has argued ad nauseam, this is the kind of Prolific Domain that we need.

The first suggestion, (24a) comes in two flavors, as also briefly mentioned above. Generating the SC-subject as an adjunct or as a specifier. For reasons laid out elsewhere (such as Grohmann 2000a:80-112, 2001a), structurally adjuncts make very poor candidates for as tight predication relations as we are dealing with in SC-constructions. If we choose the specifier option, we would again have to say something about the head X, projecting XP — and if the answer is one along the lines of „F" just discussed, we can dismiss it on the same grounds.

This leaves us with two other options. The subject is generated as a specifier of a head X, and X is clearly and uniquely thematic in nature; or the entire SC is formed by merging the subject DP and the predicate XP. A lot of background information hangs on both choices, so I will leave the discussion at that. For the anti-locality framework as presented here it doesn't matter whether we're dealing with [$_{SC}$ DP XP] or [$_{XP}$ DP [$_{X'}$ YP]], as long as both can be shown to be possible θ-domains.

Now that we have considered the domain-relevant structure (and, to some degree, the categorial status) of SCs in quite some detail, let's revisit control, one more time. We could ask ourselves why control verbs don't take SC-complements (Williams 1994, Schein 1995):

(47) a. * John persuaded Bill [PRO happy].
b. * John tried [PRO happy].

The explanation seems to be that SC-selecting verbs assign nominative and accusative (cf. ECM-*believe*), while control verbs don't. Note that Hornstein (2001a: 158) also remarks that verbs may differ as to whether they discharge accusative case or not. Thus, verbs like *expect* optionally assign case, in which case they function as ECM-verbs. When they don't, they are used in their control-verb function.

(48) a. John expects himself to be elected.
b. John expects PRO to be elected.

The relevance of Case here is obvious: as both (48a) and (48b) involve movement of *John* in the present framework, the ad hoc character of the „optional" movement of *John* (either into a θ- or into a ϕ-position) is accounted for.

Verbs like *believe*, on the other hand, do not have this option. they must assign accusative case:

(49) a. John believes himself to be elected.
b. * John believes PRO to be elected.

The explanation I would like to suggest goes as follows. *Expect*-type verbs may assign nominative and accusative, *believe*-type verbs only nominative. Thus for *expect* there are two derivational choices. The embedded agent may become the matrix agent and then check both accusative and nominative (with the result that one of the two „becomes" an anaphoric element, viz. copy spell Out, forced by the CDE). Alternatively, the embedded agent becomes the matrix

agent and then check nominative only; in this case the matrix subject/agent „controls" the embedded subject/agent. In the other case, we only have one option. Agents that are embedded within complement clauses of *believe* may only become the matrix agent, in which case they check nominative.

Let's sum up the main results of this paper. At least with respect to a clausal tripartition in terms of Prolific Domains, the behavior of SC-subjects suggests that ECM- and SC-constructions should be analyzed on a par. Both involve obligatory movement of the embedded subject into a matrix Case position. For ECM-constructions, this is fairly standard. The relevant (abstract) derivation for sentences like (50) are given in (51):

(50) a. John expects Mary to win the race.
b. John expects himself to win the race.

(51) a. $[_{\phi\Delta}$ subject … DP … $[_{\theta\Delta}$~~subject~~… V … $[_{\phi\Delta}$~~DP~~ to … $[_{\theta\Delta}$ ~~DP~~ … VP]]]]
b. $[_{\phi\Delta}$ DP … ~~DP~~ ➲ anaphor … $[_{\theta\Delta}$~~DP~~ … V … $[_{\phi\Delta}$ to … $[_{\theta\Delta}$~~DP~~ … VP]]]]

As we have argued, SC-constructions underlie the same derivational steps. Note that while the embedded structure arguably differs from ECM-structures in terms of projections, they share the same number and types of Prolific Domains, one θ- and one ϕ-domain. Thus, the relevant derivations for SCs, like (52), are the same as the ones for ECM-constructions; (53) and (51) are virtually identical (differing only in the embedded predicate):

(52) a. John considers Mary intelligent.
b. John considers himself intelligent.

(53) a. $[_{\phi\Delta}$ subject … DP … $[_{\theta\Delta}$~~subject~~… V …:$[_{\phi\Delta}$~~DP~~ … $[_{\theta\Delta}$ ~~DP~~ XP]]]]
b. $[_{\phi\Delta}$ DP … ~~DP~~ ➲ anaphor … $[_{\theta\Delta}$~~DP~~ … V … $[_{\phi\Delta}$ … $[_{\theta\Delta}$~~DP~~ XP]]]]

The last question I am going to mention (briefly) is whether this striking similarity is any bad. One could argue against a collapse of SC- and ECM-syntax in all practical matters relevant to the anti-locality framework. One possible objection is perhaps the well-known extraction asymmetry found in SCs, already noted by Kayne (1984). As (54) shows, only the predicate of a SC may be extracted from:

(54) a. * Who did you consider [[the sister of ~~who~~] [a friend of Mary]]?
b. Who did you consider [[the sister of John] [a friend of ~~who~~]]?

Should we now conclude that SC-subjects can't move (overtly) into a matrix object position, because they don't behave much like objects? The natural answer should be „no." After all, the same holds for ECM-constructions:

(55) a. * Who did you expect [the sister of ~~who~~] to kiss [a friend of Mary]?
b. Who did you expect [the sister of John] to kiss [a friend of ~~who~~]?

One might, of course, object and consider these data evidence against a movement analysis of for ECM-constructions as well, under which the ECM-subject stays (and receives/checks Case) in the embedded clause. But an alternative explanation is available, and it is a more

general one as well. Note that the landing site in the matrix clause (e.g. AgrOP) is a specifier position and as such a left branch. Hence both (54a) and (55a) are ruled out by whatever rules out extractions from left branches in general.

8. Conclusion

This paper took as its starting point the radical derivational direction formulated by Hornstein (2001a) and investigates relevant predication structures in a specific model, the anti-locality framework (Grohmann 2000a, 2001b). Subject of investigation was the question how small clauses fit into the partitioning into Prolific Domains, and one of the main conclusions is to liken them to ECM-constructions. As such, the subject of an SC moves in the overt syntax into the matrix clause. As an anaphoric subject, it also spells out in the matrix ϕ-domain as a reflexive, for example, after moving into a matrix θ-position. A non-anaphoric SC-subject, on the other hand, moves straight into the matrix ϕ-position. The same analysis was argued to hold for ECM-subjects. This derives fairly naturally the Case properties of SC-subjects.

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Secondary Predication and Default Case

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Abstract

This paper compares secondary predication constructions (including small clause complements, resultatives, and/or depictives) in English and Korean and argues that these two typologically different languages employ different modes of satisfying the Case Filter (Chomsky 1981) with regard to the Case of the subjects of secondary predication constructions. More specifically, we argue that the subject of the secondary predicate in English is Accusative Case-marked by the higher governing verb, while that in Korean is Nominative Case-marked by default. Evidence for default Nominative Case will be provided from Korean and other languages.

1 Introduction

The purpose of this paper is to compare small clauses such as complement small clauses, resultatives, and/or depictives in English and Korean and argue that these two typologically different languages employ different modes of satisfying the Case Filter (Chomsky 1981) with regard to the Case checking/marking of the subjects of small clauses. More specifically, we argue that the subject of a small clause (or secondary predication) in English is Accusative Case-marked by the higher governing verb, while that in Korean is Nominative Case-marked by default.

In Section 2, we discuss the case properties of the subjects of small clauses in English, and show that the subjects of small clauses should be Accusative Case-marked either by raising to an appropriate Case position (Bowers 1993, 1997, 2001) or by changing the matrix governing verb into a "transitive" one (Kim and Maling 1997). In Section 3, we show that the subjects of small clauses in Korean are Accusative Case-marked or Nominative Case-marked according to the types of the matrix verbs. That is, if the matrix verb governing the subject of a small clause is transitive, then the subject is Accusative Case-marked. If the matrix verb governing the subject of a small clause is intransitive, on the other hand, then the subject is Nominative Case-marked, unlike in English. In this Section, we also argue that Korean employs default case strategy in order to satisfy the Case Filter with regard to the Case checking/marking of the subject of a small clause when there is no source of case assignment, while English employs various other strategies. In Section 4, we discuss the default case strategy from a more broad perspective. In this Section, we compare English and Korean with regard to satisfying the Case Filter. We argue that English allows *of*-insertion and/or a preposition-like complementizer *for* in order to mark Case on Caseless nouns, while Korean allows default Nominative Case for Caseless nouns. Section 5 concludes this paper.

2 Case Filter and English Small Clauses

It is generally assumed that the subject of the secondary predication has its Case

assigned/checked by the matrix verb in English. Consider the following examples:

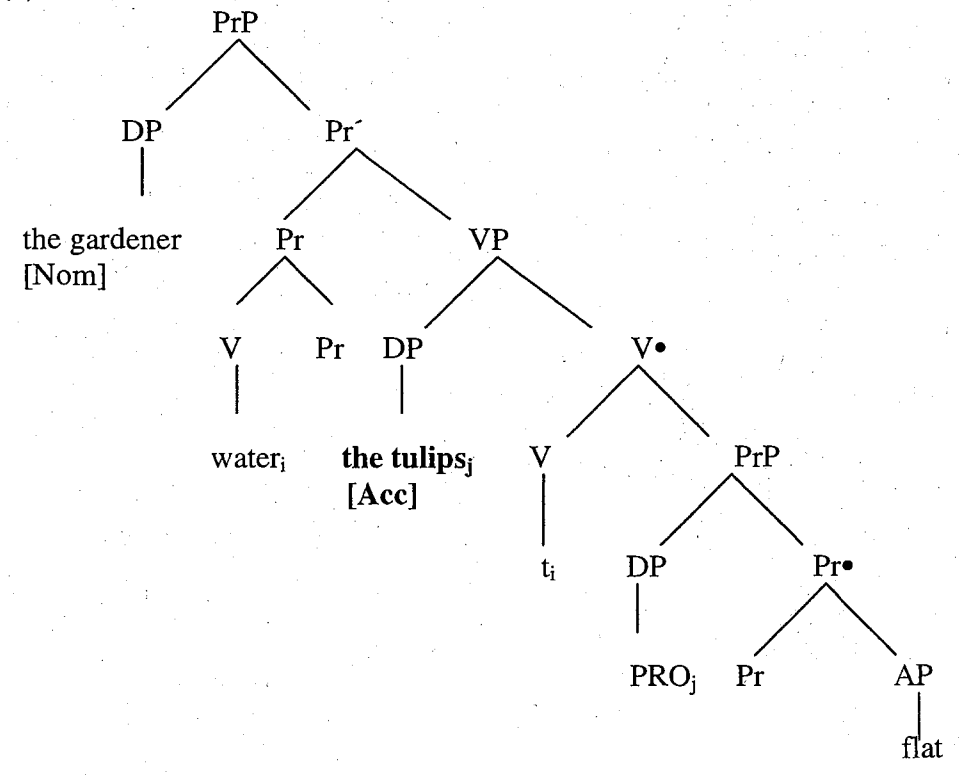
(1) a. I consider [*him* honest] (complement small clause)
b. The gardener watered [*the tulips* flat] (transitive resultative)
c. The joggers ran [*their Nikes* threadbare] (intransitive resultative)
d. The lion gnawed (*on) [*the bone* raw] (object depictive)

(1a) contains a complement small clause, (1b) and (1c) contain resultative small clauses, and (1d) contains a depictive small clause. Here we assume a verbless complement to be a small clause (see Williams 1980, Rothstein 1992, among others). Note in examples given in (1) that the subjects of these small clauses are all Case-marked by the governing verb of the matrix clause. That is, in (1a), *him* is Accusative Case-marked by the matrix verb *consider*. In (1b-c), the subjects *the tulips* and *their Nikes* are each assumed to be Case-marked by the matrix verbs *watered* and *ran*, respectively. In (1d), *the bone* is assumed to be Case-marked by the transitive-like *gnawed* (see Kim and Maling 1997, among many others).

Various mechanisms are proposed to account for the Case properties of these subjects of secondary predicates. For example, Stowell (1981) argues that the matrix verb "governs" into the subject of small clauses. Thus in (1a), the matrix verb *consider* "governs" into the bracketed category so that *him* is assigned/checked off its accusative Case.

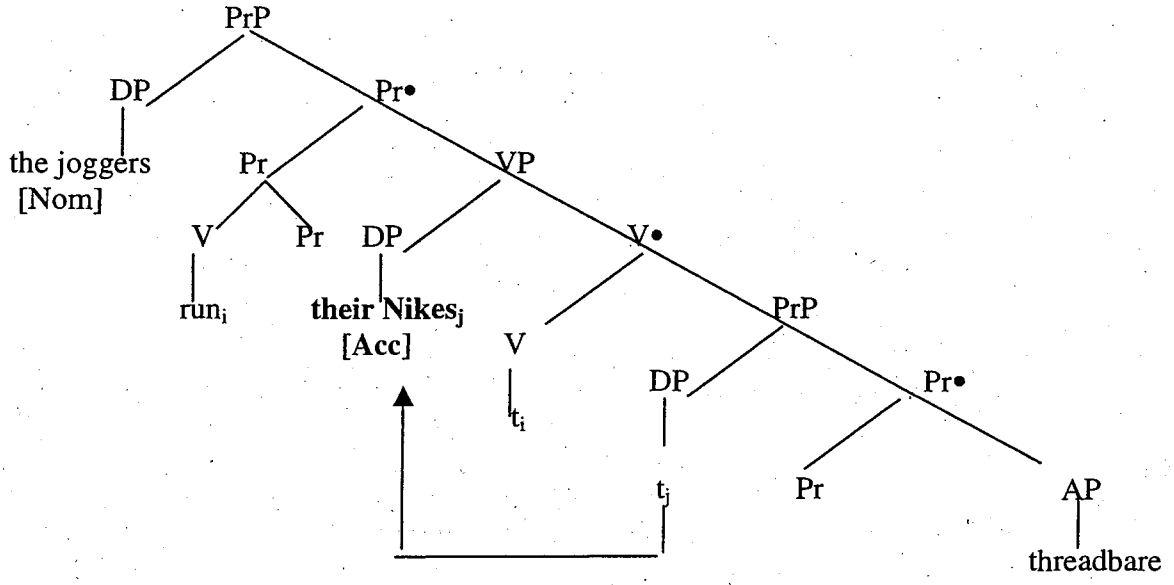
In his extensive series of works on secondary predication, Bowers (1993, 1997, 2001) assumes that the subjects of small clauses are posited in a Case position. In particular, he assumes that transitive resultatives are control constructions in which the subjects of the resultative predicates are in [Spec, VP] and that intransitive resultatives are raising constructions inwhich the subjects of the resultative predicates are raised from [Spec, PrP] to [Spec, VP]. Consider the two different structures given by Bowers (2001:327). According to him, the derivations of transitive resultatives would be as follows:

(2) transitive resultative



In the structure (2), the object of the matrix verb, namely *the tulips*, is in the [Spec, VP] and it controls the PRO subject of the secondary predicate, namely *flat*. Bowers (2001: 325) proposes the following structure for intransitive resultatives:

(3) Intransitive resultatives



In the structure (3), the subject of the secondary predicate, namely their Nikes, is raised from [Spec, PRP] to [Spec, VP]. Bowers (1997: 45) argues that the strong [Acc] case-marked subject of the resultative PrP is forced to move overtly to [Spec, VP] to check case features.[1] It is important for our purposes here to note that in both the transitive and intransitive structures, given in (2) and (3) respectively, the subject of the (so-called) predicate phrase PrP is in [Spec, VP] to which Accusative Case is assigned by the higher governing verb of the matrix clause. More examples of intransitive resultatives are provided below:

(4) a. The kids laughed themselves into frenzy.
b. He sneezed his handkerchief completely soggy.
c. The tenors sang themselves hoarse.

In all of the examples above, the subjects of the secondary predicates are Accusative Case-marked by the matrix verbs, which are "intrinsically" intransitives.

On a different background, Kim and Maling (1997) argue that the matrix intransitive verbs of the intransitive resultative constructions undergo so-called "Resultative Formation," whereby the intransitive verbs change to transitive verbs so that they can assign/check Case. Consider their structures:

(5) a. The lion gnawed (*on) [*the bone* raw]
b. The winemakers stomped (*on) the grapes flat.
c. The professor lectured (*to) the class into a stupor.

[1] In general, Accusative Case in English is assumed to be weak, so that it can be checked off at LF. What Bowers intend to mean by "strong [Acc]" seems to be that the subject of the secondary predicate in English must be "overtly" Case-marked by matrix verb governing it.

(6) a. The lion gnawed *(on) the bone
b. The winemakers stomped *(on) the grapes.
c. The professor lectured *(to) the class.

In the examples in (5), the matrix verbs are claimed to undergo so-called "Resultative Formation." Thus the prepositions are not allowed in these examples, while in the ordinary intransitive usage in (6) the prepositions should not be omitted. What is not clear about this kind of analysis is the nature of this transitive-formation.[2] Converting intransitive verbs into transitive ones is not infrequent, but Kim and Maling (1997) do not discuss what exactly motivates the function-changing process in intransitive resultatives.

A process like "Resultative Formation" proposed in Kim and Maling (1997) seems to be needed, anyhow, to account for why the prepositions in the examples given in (5) are not allowed and, equally importantly, to explain why the "fake" reflexive objects are obligatory in the examples in (7) below:

(7) a. Joggers often run *(*themselves*) sick
b. The kids laughed *(themselves) into a frenzy.
c. The tenors sang *(themselves) hoarse.

In the examples in (7), the reflexive objects should not be omitted. Otherwise, the Case (feature) of the matrix verbs may not be checked/saturated, after it is transformed into a transitive verb.[3]

In all of these analyses, one common feature is that Case Filter holds of the subjects of the secondary predicates in English and that Case Filter is satisfied by the "transitive-like" properties of the matrix verbs. In sum, the subjects of the secondary predicates in English are Case-marked and the case of these subjects is assigned/checked by the matrix verbs governing the subjects.

3 Small Clauses in Korean

In this section we are concerned with the two Case forms of the subjects of small clauses in Korean. In Section 3.1, it is shown that the subject of a small clause is Accusative Case-marked if the matrix verb is transitive, while that is Nominative Case-marked if the matrix verb is intransitive. In Section 3.2, we argue that the subject of a small clause in Korean is Nominative Case-marked by default if there is no case assigned (to the subject of the small

[2] It seems that in English semantic transitivity might be expressed in terms of syntactic transitivity. That is, resultative itself is a semantic transitive and this transitivity seems to be expressed by syntactic "transitivization" of the intransitive verbs. However, it does not necessarily hold cross-linguistically. See Section 4 of this paper for the case of Korean in which we argue that Korean intransitive resultatives do not under "Resultative Formation" in the sense of Kim and Maling (1997).

[3] Rothstein (1992:157) argues that case consideration cannot explain the obligatoriness of the pleonastic in examples like (i) below, since the assignment of accusative Case by a potentially Case-assigning verb is not obligatory:

(i) I consider [*(it) obvious that they had to leave]

We do not entirely agree with her, instead adopting the minimalist assumption that the Case feature of a functional head/lexical head must be checked off. Another possibility is that the so called Extended Projection Principle (EPP) is violated in (i) if the pleonastic *it* is omitted.

clause) by the matrix verb.

3.1 Accusative and Nominative Subjects of Small Clauses

Bowers's (1993, 1997, 2001) raising analysis of intransitive resultatives or Kim and Maling's (1997) "Resultative Formation" may not be extended over to Korean data. The subjects of the secondary predicates in Korean are invariably Accusative Case-marked if the matrix verbs are transitive verbs. This is illustrated in (8) below:

(8) a. Robin-i [soy-**lul/*ka** ttukep-key] takkwu-ess-ta. (resultative)
Robin-Nom metal-Acc/*Nom hot-Comp heat-Past-Dec
'Robin heated the metal hot.'
b. na-nun [Robin-**ul/*-i** cohci ahn-key] yeki-n-ta. (complement)
I-Top Robin-Acc/*Nom not good-Comp consider-Prs-Dec
'I consider Robin not good.'
c. Robin-un umsik-**ul/*-i** cca-key mek-nun-ta (depictive)
Robin-Top food-Acc/*Nom salty-Comp eat-Prs-Ind
'Robin eats food salty.'

In the examples in (8), the subjects of the secondary predicates are all Accusative Case-marked and not Nominative Case-marked. On the other hand, the subjects of the secondary predicate are invariably Nominative Case-marked, if the matrix verbs are intransitive. Consider the following (examples are taken from Kim and Maling 1997):

(9) a. Robin-i [paykkop-**i/*lul** ppaci-key] wus-ess-ta (intransitive resultative)
Robin-Nom belly-Nom/*Acc come.out-key laugh-Pst-Ind
'Robin laughed his belly out.'
b. Robin-un [nwun-**i/*ul** ppaci-key] (Mary-lul) kitari-ess-ta.
Robin-Top [eye-Nom/Acc come out-Comp] (Mary-Acc) wait-Past-Dec
'Robin waited (for Mary) (so long) that his eyes almost came out.'
c. Robin-un [kwutwu-**ka/*lul** talh-key] talli-ess-ta.
Robin-Top [shoes-Nom/*Acc threadbare-Comp run-Past-Dec

In examples in (9), the subjects are all Nominative Case-marked. This is strikingly different from the intransitive resultatives in English.

Suppose that Bowers's (1997) raising analysis or Kim and Maling's (1997) Resultative Formation analysis are correct in that the subject of the intransitive resultative predicate discussed so far must be in a Case position. That is, suppose that it is in [Spec, VP] in Bowers (1997, 2001) or in object position in Kim and Maling (1997).[4] Suppose further that this analysis is intended to be applied cross-linguistically. Then it is incorrectly predicted that in (9) the subjects of the resultative predicates should be Accusative Case-marked and not Nominative Case-marked.

If the Case Filter (Chomsky 1981) is a universal condition and Korean is not an eception to its application, then we need to explain how the examples in (9) would be compatible with the Case Filter. In the next subsection we are concerned with this issue.

[4] Kim and Maling (1997) note in passing that the Nominative Case of the subjects of the Korean small clauses is assigned by the morpheme "-key". In this paper we assume, contra Kim and Maling (1997), that "-key" is simply a complementizer and does not assign Case. E.-K. Kang (2001) takes this morpheme to be a Predicate head, following Bowers (2001). For a similar approach to ours, see Sells (1998).

3.2 Default Nominative Case

Given that the Case Filter is a universal condition, Korean data, in particular those in (9) seem to pose a potential problem. If the matrix verbs undergo "Resultative Formation" or if they are transitive verbs, then the subjects of the secondary predicates would be Accusative Case-marked. This is not the case, however.

A careful examination, however, reveals that it is only an apparent one. It is highly conceivable that languages may differ in allowing default Case strategy. Thus English and Korean may be parameterized with regard to the default Case strategy: English does not allow default Case strategy, while Korean does allow it. In the case of secondary predication, English employs "Raising to Case position" (see Bowers 1993, 1997, 2001) or "Resultative Formation"(see Kim and Maling 1997) to satisfy Case Filter. Korean does not employ these apparatuses since it allows default strategy.[5] In the next section we provide evidence for the claim that we need to admit default Case strategy in Korean.

4 Default Case in Korean and Other Languages

In this section we provide arguments for our claim that Korean allows default Nominative Case when there is no source of any case for an argument NP. Supporting evidence includes Case phenomena in adjective constructions and in the infinitival constructions. We also provide supporting evidence from typologically unrelated languages such as Icelandic. Section 4.1 discusses the default Case strategy in Korean and Section 4.2 deals with default Case in other languages.

4.1 Default Case in Korean

In Korean, transitive verbs assign Accusative Case to its sister/complement, as shown in (10) below:

(10) Mary-ka John-ul ttayri-ess-ta.
Mary-Nom John-ACC heat-Past-Dec
'Mary hit John.'

Nominative Case is morphologically realized as *-ka* and the accusative Case is realized as *-lul*.[6] There is a consensus on the assumption that structural Accusative Case in Korean is assigned by the verb to its object in transitive sentences, just like in English. Surprisingly enough, however, some objects are not Accusative Case-marked but Nominative Case-marked. This is illustrated in (11) below:

[5] Peter Svenonius (personal communication) suggests that an abstract and morphologically null preposition or postposition might assign Case in Korean secondary predication constructions. Since the distribution of Nominative Case in Korean is not uniform, positing an empty preposition/postposition may not be helpful.

[6] Nominative Case marker is *–i* (as in *John-i*) if the NP ends with a consonant and Accusative Case marker is *–lul* (as in *Mary-lul*) if the NP ends with a vowel. That is the choice between the Nominative markers *–ka* and *–i* and between the Accusative markers *–ul* and *–lul* is phonologically conditioned.

(11) John-i **Mary-ka** coh-ta. (Adjective)
John-Nom Mary-Nom fond-Dec
'John is fond of Mary/John likes Mary.'

(12) John-i **chinkwu-ka** iss-ta.
John-Nom friend-Nom be-Dec
'John has friends.'

In (11) the theme argument *Mary* is Nominative Case-marked, and in (12) the theme argument *chinkwu* is Nominative Case-marked.[7] This is different from their English counterparts, given in the translations.

Y.-S. Kang (1986) first proposed that Nominative Case in Korean is a default Case.[8] Kang's proposal for the Case marking system in Korean is as follows:

(13) Generalized Case Marking-ordered
a. An NP argument which is a sister of [–stative] V is assigned Accusative Case.
b. Nominative Case is assigned to all non-Case-marked NPs.

According to him, Accusative Case is assigned to the theme NP, say *John* in (10), since the predicate is [–stative], according to him. However, the theme NPs in (11-12), namely *Mary* and *chinkwu*, are marked as default Nominative Case, because the verb in these sentences is not [-stative].

M.-Y. Kang (1988:35) proposes a partial Default-Nominative Case Hypothesis. M.-Y. Kang claims that the Nominative Case-marking of the experiencer NP, namely *John* in (11-12), as a consequence of structural Nominative Case assignment by INFL, whereas Nominative Case-marking on the theme NP, namely *Mary* and *chinkwu*, is viewed as a result of default Nominative Case assignment.

Saito (1983, 1985) also argues for the default Nominative Case strategy in Japanese. He argues that Nominative Case in Japanese is not assigned by INFL but assigned as a default Case. He notes that non-arguments may take Nominative Case marker in Japanese.

(14) Yahari, [natu-ga [biiru-ga umai]]
after all summer-Nom beer-Nom tasty
'After all, it's during the summer that beer tastes good'

He points out that in (14) *natu* 'summer' is not an argument of the predicate *umai* 'tasty', and

[7] In some tradition of Korean grammar, the first Nominative marked NP is not considered as a subject. Rather it is considered as a topic experiencer and the second Nominative marked NP is considered as a real subject. Man-ki Lee (personal communication) points out that in Spanish the first NP is Dative Case marked and the second NP is a real subject. See the following example:

(i) me gusta Maria.
me.DAT like.3SG Mary.NOM
'I like Mary.'

In the example (i) the experiencer me is Dative and the subject Maria is Nominative. However, we assume that the theme NP is a syntactic object and the experiencer NP is a syntactic subject in Korean.

[8] Y.-S. Kang (1986) points out that there is no positive evidence that (AGR in) INFL assigns nominative Case in Korean, because Korean doesn't have AGR. He indicates that INFL in Korean doesn't have any independent properties as a head of S, and concludes that the assumption that the nominative Case is assigned by INFL in Korean is unmotivated. We will not discuss in detail the Case assigning mechanism of Korean in this paper. Readers are referred to Y.-S. Kang (1986) and M.-Y. Kang (1988).

nevertheless takes the nominative marker *-ga*. This Japanese sentence can be translated into its Korean equivalent:[9]

(15) eccaysstun, [**yelum-i** [bie-ka choyko-ta]]
after all summer-Nom beer-Nom tasty
'After all, it's during the summer that beer tastes good'

Thus, we are led to conclude that the non-argument *yelum* is assigned default Nominative Case, just like in Japanese.

Y. Kim (1991:135) provides several more arguments for default Nominative Case in Korean. According to her, a lexical NP can appear in the subject position of infinitival control constructions. Let us consider the following example, slightly changed from her sentence:

(16) a. Inho-ka [$_{S'}$ [$_S$ PRO/*caki*-ka ka]-ko] sipheha-n-ta.[10]
Inho-Nom PRO/self-Nom go-comp hope-Pres-Dec
'Inho hopes PRO/*self* to go.'

b. Inho-ka [$_{S'}$ [$_S$ PRO/*caki*-ka ku kes-ul ha]-lyeko] ayssu-ess-ta.
Inho-Nom PRO/self-Nom that thing-Acc do-Comp endeavor-Past-Dec
'Inho endeavored PRO/*self* to do it.'

Korean infinitival complement constructions like (16) have "obligatory control" property. That is, the following sentence is ungrammatical:

(16a)• *Inho-ka [$_S$ Yumi-ka ka-ko] sipheha-n-ta.
Inho-Nom Yumi-Nom go-Comp hope-Pres-Dec
'*Inho hopes Yumi to go'

Returning to the control structure (16), the subject of the infinitival clause is PRO. As is well established, PRO must not be governed and hence is not Case-marked.[11] That is, the subject position of the infinitival clause in (16) is not a Case position. Therefore, the nominative Case on the reflexive subject, namely *caki*, cannot be assigned any Case. simply because this position is not a Case position. Nevertheless, the subject *caki* of the infinitive complement occurs with the Nominative Case marker *-ka*. To account for the occurrence of the Nominative Case marker on this subject of the infinitival clause, Kim (1991) argues that we need to posit default Nominative Case marking.

There are other pieces of supporting evidence for the claim that Korean allows default Nominative Case for caseless NPs. Throughout the paper, we have assumed that English employs a special apparatus to satisfy the Case Filter. For example, "Resultative Formation" (Kim and Maling 1997) or Raising to [Spec, VP] (Bowers 1997) is needed to satisfy the Case Filter in secondary predication. On the other hand, the Case Filter is satisfied by default Case assigning strategy in Korean. Consider the following data:

[9] Carlson Schütze (1997) claims that *-ka* in Korean is homophonous and that in this kind of example would be a focus/topic marker. Readers are referred to Schütze's work.

[10] The English glossary for *sipheha-n-ta* in the original sentence was "want". However, we changed it to "hope" to emphasize the control property of the given verb.

[11] We will not discuss the status of null Case of PRO. See Martin (1999, 2001) for null Case assignment on PRO.

(17) John-un Mary-ka coh-ta. (Adjective)
John-Top Mary-Nom fond-Dec
'John is fond of Mary/John likes Mary.'

The sentence (17) is more readily translatable into "John is fond of Mary" rather than "John likes Mary." The adjective *coh-ta* 'fond' assigns theme role to its sister, but it does not assign Case to its sister. This is just like the English counterpart shown in (18):

(18) a. John is fond *(of) Mary.
b. John is proud *(of) his son.
c. John is aware *(of) the fact.
d. John is sure *(of) his appointment.

In the English examples in (18), it is clear that the adjectives assign theme role to their complements. It is also clear, however, that they do not assign Case to their complements. In order to satisfy the Case Filter, the preposition *of* is inserted in these particular cases.[12]

In contrast to this *of*-insertion strategy for satisfying the Case Filter, Korean seems to employ default Nominative Case. In other words, in cases like (17), where the adjective *coh-ta* 'fond' assigns theme role to its sister but it does not assign Case, as mentioned before, the Caseless NP, namely *Mary*, is assigned default Nominative Case.[13]

Another case of default Nominative Case in Korean is witnessed in infinitival constructions. Before discussing infinitival constructions, consider the following small clause construction:

(19) John-un [$_{SM}$ **Mary-lul ka-key**] ha-ss-ta
John-Top Mary-Acc go-Comp do-Past-Dec
'John made Mary go.'

In (19) the matrix verb *hayssta*, which is a transitive (or causative) verb, assigns Accusative Case to the subject of the small clause, namely *Mary*. There seems to be no controversy on this point. The English counterpart of this example, given in the translation, suggests that *Mary* is Accusative Case-marked by the matrix verb *made*.

Now let us consider the infinitival clauses in Korean. It is important to note that the subject position of infinitival clauses is not a Case position.[14]

(20) [$_{IP}$ **ku-ka cinaka-tolok**] John-up pilhyese-ss-ta
he-Nom pass by-Comp John-Top stand aside-Past-Dec
'John stood aside in order [for him to pass by].'

The embedded clause in (20) is an infinitival clause. Hence there is no tense or agreement marker in this infinitival clause, as shown in (21):

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[12] In Chomsky (1986) it is argued that the preposition *of* is a realization of the inherent case borne by the complement of the theta-role assigning head. Admitting this, we still need to explain why the preposition of is inserted because other inherent case does not appear in some cases, as in English indirect-direct object order.

[13] We do not deny the existence of inherent Case. What we want to show is that even the inherent Case in English must be overtly marked/realized, while the inherent Case is automatically realized as Nominatie in Korean as a default Case.

[14] The subject position of control infinitival constructions is assumed to be assigned Null Case. See Martin (1999, 2001) and Chomsky (1995).

(21) *[$_{IP}$ **ku-ka cinaka-ss-tolok**] John-up pilhyese-ss-ta
he-Nom pass by-Past-Comp John-Top stand aside-Past-Dec
'John stood aside in order [for him to pass by].'

As in English, the infinitival clause in Korean does not carry tense markers. Hence the ungrammaticality of (21).[15] Given that in (20) the bracketed embedded clause is infinitival, there is no source of the Nominative Case on *ku*, the subject of the embedded infinitival clause. If the subject *ku* is not Case-assigned, then the sentence would incorrectly be judged to be ungrammatical. This is, however, not the case. Thus we are led to admit that Korean allows default Nominative Case in this situation. Compare this sentence with its English counterpart, given in (22):

(22) [For **him** to pass by], John stood aside.

As is well known, the subject position of the infinitival clause in English is not a Case position (see footnote 10). Given the Case Filter, however, the subject *him* must be assigned any Case. Since English does not allow default Case strategy, *him* must be assigned Case by some appropriate Case-assigning head. The preposition-like complementizer *for* is thus employed only for Case theoretic reasons. Once again, an argument NP must be assigned Case in some way or other.

In sum, English does not allow default Case so that it employs *of*-insertion or prepositional complementizer *for* in cases where there is no source of Case. On the other hand, Korean allows default Nominative Case so that it does not need any special apparatus for satisfying the Case Filter.

4.2 Default Case in Other Languages

Icelandic also allows Nominative NPs to occur in the subject position of certain infinitival clauses. First of all, consider the examples in (23), cited from Thráinsson (1979: 299, 301):[16]

(23) a. Maria skipaði [honum að vera goður/goðum/*goðan]
Mary ordered him(D) to be good(N / D/*A)
b. Maria bað [pa að vera goðir/goða/goðum]
Mary asked them(A) to be good(N/A/*D)

(24) a. Eg bað [hann að fara einn/einan/*einum pangað]
I asked him(A) to go alone(N/A/*D) there
b. Eg skipaði [henni að fara ein/einni/eina pangað]
I ordered her(D) to go alone(N/D/*A) there
c. Mer virðist [Anna vera veik]
me-Dat seems Anna-Nom to-be sick

The examples in (23) are object-controlled infinitival constructions. In (23a), the Case agrees between predicate adjectives and their PRO subject. In (23b), subject-oriented adjuncts agree in case with their PRO subjects, which are controlled by the object of matrix verbs. The basic generalization about "object-controlled equi" sentences like (23a,b) is that the predicate

[15] Kiyong Choi (personal communication) claims that there might not be default Case in Korean, by pointing out that even in (21) subject honorific agreement marker "-si" can be inserted. We do not incorporated such data because honorific agreement is quite often overgenerated.
[16] D=Dative Case, A=Accusative Case, and N=Nominative Case

adjectives and subject-oriented adjuncts agrees in case with the matrix controller (=the matrix object) or Nominative Case marked. What this means is that PRO is covertly Nominative Case marked. In certain raising constructions like (24c), a nominative lexical NP overtly shows up in the subject position of infinitival complements.

Andrew (1982: 470) proposes that Nominative Case in Icelandic should be considered an "unmarked case," so that there is no nominative case-marking rule, whereas objects will call for a restriction to the effect that their Case be ACC. His Case-Marking Rule does not introduce Nom, since, according to him, Nom is not a value of Case, but the absence of Case. The fact that both Icelandic and Korean allow Nominative Case marking in the subject position of certain infinitival clauses, unlike English, is consistent with the default nature of Nominative Case in both languages.

Y. Kim (1991) also cites McCloskey (1985) and McCloskey and Sells (1988). According to these works, in Irish and Classical Latin, and perhaps in Ancient Greek as well, lexical NPs show up in non-Case positions such as subject position of infinitival complements. These lexical NPs are, according to them, marked with default Accusative Case, as illustrated below:

(25) *Modern Irish*
a. Nior mhaith liom [e a theacht abhaile]
I-would-not-like him come-Infin home
'I wouldn't like him to come home' (McCloskey & Sells 1988: 151)
b. Ghoillfeadh se orm tu me a ionsai
would-bother it on-me you attack-Infin
'It would bother me for you to attack me' (McCloskey 1985: 193)

(26) *Classical Latin*
te valere gaudeo
you(Acc)be-well-Infin rejoice (Pres S1)
'I rejoice that you are well'

From the discussion above, we would get the following conclusion: If a language has a default Case strategy, it allows a lexical NP in a non-Case position. On the other hand, if a language does not have a default Case strategy, a lexical NP cannot appear in a non-Case position, due to the Case Filter, or that NP should be assigned Case somehow.

5 Concluding Remarks

In this paper we argued that English and Korean differ from each other in satisfying the Case Filter. More specifically, we argued that the subject of a small clause in English is Accusative Case-marked by the matrix verb governing the subject, while that in Korean is assigned default Nominative Case.

In Section 2, we discussed the general case properties of the subjects of secondary predicates in English, and showed that the subjects of small clauses should be Accusative Case-marked either by raising to an appropriate Case position (Bowers 1997, 2001) or by changing the matrix verb into a "transitive" one (Kim and Maling 1997). By contrast, we showed that the subjects of small clauses in Korean are either Accusative Case-marked or Nominative Case-marked according to the types of the matrix verbs. That is, if the matrix verb governing the subject of a small clause is transitive, then the subject is Accusative Case-marked. If the matrix verb governing the subject of a small clause is intransitive, on the other

hand, then the subject is Nominative Case-marked. In this section, we proposed that Korean employs default Case strategy in order to satisfy the Case Filter on the subject of a small clause when there is no source of case assignment. In Section 4, we discussed the default Case strategy from a more broad perspective. We argued that English allows *of*-insertion and/or a preposition-like complementizer *for* in order to mark Case on Caseless nouns, while Korean allows default Nominative Case for Caseless nouns. Default Case in other languages is also discussed in this section.

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Small Clause Results Revisited*

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To Ken Hale and Teun Hoekstra,
sine quibus non

Abstract

The main purpose of this paper is to show that argument structure constructions like complex telic path of motion constructions (*John walked to the store*) or complex resultative constructions (*The dog barked the chickens awake*) are not to be regarded as "theoretical entities" (Jackendoff (1997b); Goldberg (1995)). As an alternative to these semanticocentric accounts, I argue that their epiphenomenal status can be shown *iff* we take into account some important insights from three syntactically-oriented works: (i) Hoekstra's (1988, 1992) analysis of S<mall>C<lause> R<esults>, (ii) Hale & Keyser's (1993f.) configurational theory of argument structure, and (iii) Mateu & Rigau's (1999; i.p.) syntactic account of Talmy's (1991) typological distinction between 'satellite-framed languages' (e.g., English, German, Dutch, etc.) and 'verb-framed languages' (e.g., Catalan, Spanish, French, etc.). In particular, it is argued that the formation of the abovementioned constructions involves a conflation process of two different syntactic argument structures, this process being carried out via a 'generalized transformation'. Accordingly, the so-called 'lexical subordination process' (Levin & Rapoport (1988)) is argued to involve a syntactic operation, rather than a semantic one. Due to our assuming that the parametric variation involved in the constructions under study cannot be explained in purely semantic terms (Mateu & Rigau (1999)), Talmy's (1991) typological distinction is argued to be better stated in lexical syntactic terms.

1. Constructions: Theoretical entities or epiphenomena?

The main purpose of this paper is to show that argument structure constructions like those exemplified in (1) are not to be regarded as "theoretical entities". In particular, I will be arguing against Goldberg's (1995) and Jackendoff's (1997b) claims quoted in (2) and (3), respectively.

(1)	a.	They danced the night away.	("The time-*away* construction")
	b.	Morris moaned his way out of the hall.	("The *way*-construction")
	c.	He sneezed the tissue off the table.	("The caused motion construction")
	d.	The dog barked the chickens awake.	("The resultative construction")
	e.	The truck rumbled into the yard.	("Sound verbs in path of motion constructions")
	f.	The boy danced into the room.	("Manner of motion verbs in path of motion constructions")

(2) "In the past two decades, the pretheoretical notion of construction has come under attack. Syntactic constructions have been claimed to be epiphenomenal, arising solely from the interaction of general principles (Chomsky (1981, 1992)); the rejection of

* I would like to thank the audience at the *Workshop on the Syntax of Predication* for many comments and suggestions. Needless to say, all remaining errors are my own. Research for this paper has been supported by the Ministerio de Ciencia y Tecnología (BFF2000-0403-C02-01), and the Generalitat de Catalunya (1999SGR00113).

constructions in favor of such general principles is often assumed now to be the only way to capture generalizations across patterns (...).
(...) This monograph represents an effort to bring constructions back to their rightful place on center stage by arguing that they should be recognized as ***theoretical entities***" <emphasis added: JM>

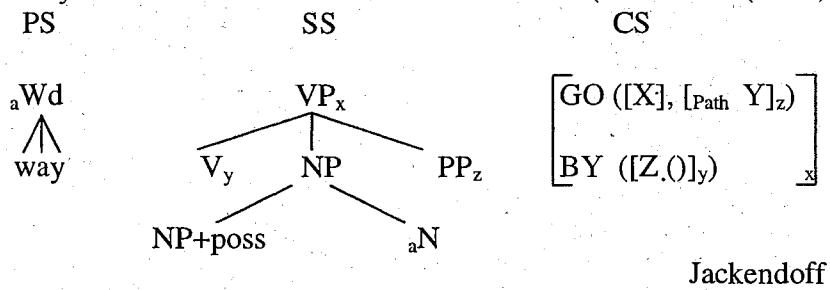
Goldberg (1995: 1-2).

(3) "The task for linguistic theory is not to struggle to eliminate the need for such constructions <like those in (1): JM>. Rather, it is to discover the range of such constructions permitted by UG such that the child can acquire them"

Jackendoff (1997b: 558)

Concerning Jackendoff's claim in (3), it is clear that generative syntacticians and Jackendoff are talking at cross-purposes, that being due to their different conception of what UG is supposed to deal with. Jackendoff's statement in (3) must be understood in the context of his architecture of the language faculty. For example, in (4) is depicted his analysis of the so-called *way*-construction. According to Jackendoff, three different structures are independently generated, being related in a non-derivational way. UG is argued to be flexible enough in order to allow non-canonical correspondences (stated in (4) via indices) like those involved in the *way*-construction.[1]

(4) The *way*-construction as a 'constructional idiom' (Jackendoff (1990, 1992, 1997a/b))



Jackendoff (1997a: 172)

In this paper I will assume a conception of the syntax-semantics interface which is different from that espoused in Jackendoff (1990f.). With Marantz (1992) and Mateu (2000a), I think that the unconstrained nature of Jackendoff's (1990f.) linking theory (cf. (5)) prevents him from recognizing the non-trivial role of syntax when dealing with constructions like those in (1).

(5) "The work developed here leads to a position that might be termed 'autonomy of correspondence rules', the idea that the correspondence rules have their own properties and typology, to a considerable degree independent of the syntactic structures and

[1] Jackendoff points out that (4) licenses correspondences of syntactic structure (SS) and conceptual structure (CS) that do not follow canonical principles of argument structure mapping. As a result, the verb is not what licenses the argument structure of the rest of the VP; rather, the construction does. According to Jackendoff (1997a: 172), the CS in (4) can be read as saying that 'Subject goes along Path designated by PP, by V-ing' (*sic*).
See Marantz (1992) and Mateu (2000a) for a reply. The latter shows that Jackendoff's semantic analysis is not adequate, this being due to his neglecting (i) the causative nature of the *way*-construction and (ii) the semantic contribution of the *way* NP.

conceptual structures that they relate (...). ***The richness of linking theory permits us to keep the syntax simple*** <emphasis added: JM>".

Jackendoff (1990: 286)

By taking a different perspective, I want to show the non-trivial role of (morpho)syntax when dealing with constructions like those in (1). By doing so, I will try to make it clear in which specific sense constructions like those in (1) can be taken as epiphenomena when analyzed from the present syntactic perspective. The specific sense by virtue of which I will be calling those constructions in (1) 'epiphenomena' will be shown to emerge when discussing a non-trivial question: Why is it the case that those constructions in (1) are typically found in some languages (e.g., in English), but not in others (e.g., in Romance)? Following syntactically-oriented work by Snyder (1995), Klipple (1997), and Mateu & Rigau (1999, i.p.), I will show that the so-called 'resultativity/directionality parameter' is crucially involved in accounting for the syntax of those examples in (1). To put it crudely, constructions in (1) will be shown to be epiphenomena as far as their syntax is concerned because a more general morphosyntactic explanation seems to be involved, this accounting for why these constructions are possible in some languages but not in others.

To be sure, our recognizing that those constructions in (1) are epiphenomena should not prevent us from recognizing that there are non-trivial semantic peculiarities associated with them, those that make them 'idiomatic constructions'. However, with Marantz (1997), I think that their idiomaticity (i.e., what allows us to call those examples 'constructions') has nothing to do with syntax or the computational system, as we understand it (cf. (6)). Rather, their idiomatic character should be encoded in what Marantz (1997) recently calls the 'Encyclopedia', which is to be taken as the realm of special meanings. That is, it is at the interface with that non-generative component ('the Encyclopedia') where those special meanings are 'negotiated' (to use Marantz's terms) with those structural contexts provided by syntax.

(6) "I deny the major assumption of Construction Grammar that such meanings may be structure-specific, rather than general for a language and generally universal (...) I would like to insist that ***neither phrasal idioms nor derived words have special structure/meaning correspondences*** (emphasis added: JM)".

Marantz (1997: 212)

Accordingly, it should be clear that, along with Marantz (1992, 1997), I disagree with Jackendoff's (1992) claim that a syntactic account of constructions like that in (4) would not be appropriate since there are lexical-semantic restrictions involved in their formation. Such a claim is a *non-sequitur*. Jackendoff's premise is simply false. Why syntax (e.g., the alleged syntactic rule in (7)) should take care about those semantic peculiarities?! (cf. Mateu (2000a)).

(7) "The movement rule has to be sensitive not only to the lower verb's being intransitive- which seems reasonable- but also to its being an action verb that can be construed as an internally articulated process- which does not seem reasonable in a theory of autonomous syntax".

Jackendoff (1992: 170)

In this sense I disagree with Jackendoff's (1992: 170) claim that a syntactic account of the *way*-construction does not seem reasonable in a theory of autonomous syntax. According

to him, for the syntactic account to be correct, the relevant syntactic rule or other autonomous syntactic principles should prevent sentences like those in (8) from being generated:

(8) a. *Bill blushed his way out of the room.
b. *Bill had to crouch his way through the low opening.
Jackendoff (1992: 170))

However, I will take pains to show that the relevant syntactic operation of conflation involved in (1), that concerning the computational system as we understand it, is sensitive not to a semantic reason but rather to a morphosyntactic reason. As noted above, the obvious and undeniable fact that there are semantic restrictions/peculiarities associated to the constructions in (1) does not affect their syntactic computation. Accordingly, I would like to propose that sentences like that in (8a) or that in (9) are freely generated by the computational system,[2] their anomaly being detected in the non-generative component of the Encyclopedia, the idoneous place where the relevant semantic peculiarities/restrictions analyzed by Jackendoff and Goldberg are to be coded.[3]

(9) # The boy laughed into the room (cf. the truck rumbled into the yard)

It seems to me that Jackendoff's conception of an impoverished syntax makes him commit the same mistake as that exemplified by Spencer & Zaretskaya's (1998) words quoted in (10).

(10) "(...) resultatives are complex predicates formed at a *semantic level* of representation and not constructions formed in the syntax" (p. 4; emphasis added: JM) .
"(...) One indication that we need to form the complex predicate at a *lexical level* comes from the fact that many types of resultative are lexically restricted, in that only certain types of lexeme can serve as the syntactic secondary predicate" (p. 11; emphasis added: JM).
Spencer & Zaretskaya (1998: 4; 11)

With Hoekstra (1984, 1988, 1992), Hale & Keyser (1993f) and Marantz (1997), I disagree with Spencer and Zaretskaya's (1998) fallacious claim that showing that a process has lexical-semantic restrictions is an inevitable sign that syntactic formation is not involved.

Notice then that what Goldberg's (1995), Jackendoff's (1990f.) and Spencer & Zaretskaya's (1998) semantic approaches have in common is that all minimize the role of syntax when dealing with resultative-like constructions such as those in (1). Moreover, notice that they have nothing interesting to offer concerning the non-trivial question of why constructions like those in (1) are present in some languages (e.g., in Germanic languages), but absent from others (e.g., from Romance languages). Unfortunately, they are not alone in

[2] Was the case that *blush* is an unergative verb in English (see Levin & Rappaport Hovav (1995: 160)), it would be better to replace * ('ungrammatical') by # ('semantically deviant') in (8a). By contrast, (8b) could be analyzed as ungrammatical, provided we show that the verb *crouch* is an unaccusative verb. See below for the *syntactic* constraint that only unergative verbs (unergative use of transitive verbs included) are allowed to enter into those constructions in (1).

[3] The computational system is not concerned with the lexical-semantic difference between [GO-laugh] and [GO-rumble]: That is, the fact that the sound of 'rumbling' can be taken as partaking of an intrinsic relation with an inherently directed motion event, whereas that of 'laughing' cannot, is a "lexical" fact to be coded in the Encyclopedia of English. No matter how systematic that semantic relation turns out to be across languages (e.g., (9) is out in German as well), that semantic difference is fully opaque to the computational system.

being unable to provide a principled explanation of the crosslinguistic variation issue: for example, what could it mean to say that Romance languages lack the relevant LCS operation (Levin & Rapoport (1988); Legendre (1997); Spencer & Zaretskaya (1998)), the relevant aspectual operation (Tenny (1994), the relevant event type-shifting operation (Pustejovsky (1991); van Hout (1996)), or whatever relevant semantic operation to be invented in the days to come? I will not review my criticism of these aspectual/event structure-based approaches here (see Mateu (2000b; 2001a)), but I will limit myself to pointing out that the solution of such a linguistic variation problem cannot be stated in *purely* aspectual or event structure terms. To be sure, I do not want to deny the relevance of the aspectual semantics in analyzing the data in (1) nor the descriptive insights found in the abovementioned works. Here I will concentrate on showing that morphosyntax has a non-trivial role in accounting for the parametrized variation involved in (1).

As an alternative to the semanticocentric accounts, I think that the syntactic approach to constructions like those in (1) has some important insights to offer concerning their epiphenomenal status, basically those provided by the three following syntactically-oriented works in (11):

(11) (i) Hoekstra's (1988, 1992) analysis of S<mall>C<lause> R<esults>
(ii) Hale & Keyser's (1993f.) syntactic theory of argument structure (adopted by Chomsky (1995))
(iii) Mateu & Rigau's (1999;i.p.) syntactic account of Talmy's (1991) typological distinction between 'satellite-framed languages' (e.g., Germanic languages) and 'verb-framed languages' (e.g., Romance languages).

2. Hoekstra's (1988, 1992) S<mall>C<lause> analysis

Hoekstra (1992) analyzed resultative constructions from an interesting perspective that combined Stowell's (1981) SC theory with some insights on aspect taken from event semantics works (Carlson (1977); Kratzer (1988)). According to Hoesktra (1992: 161-162),

(12) "We can isolate the circumstances under which a resultative may be found: the predication must be stage-level <(e.g., cf. **This enclyclopedist knows*$_{individual\ level}$ *[*$_{SC}$ *all books superfluous])*> and dynamic <(e.g., cf. **Medusa saw*$_{-dynamic}$ *[*$_{SC}$ *the hero into stone])*>, but not inherently bounded (e.g., <e.g., cf. **The psychopath killed*$_{+bounded}$ *[*$_{SC}$ *the village into a ghost town]*>)".

Hoesktra (1992: 161-162)

In those examples in (1), repeated below in (13), the verb expresses a stage level, dynamic, and not inherently bounded predicate.[4]

(13) a. They danced [$_{SC}$ the night away].
b. Morris moaned [$_{SC}$ his way out of the hall].
c. He sneezed [$_{SC}$ the tissue off the table].
d. The dog barked [$_{SC}$ the chickens awake].
e. The truck$_i$ rumbled [$_{SC}$ t_i into the yard].
f. The boy$_i$ danced [$_{SC}$ t_i into the room].

[4] Quite importantly, Hoekstra (1984, 1988, 1992) provided extensive evidence in favor of positing a *syntactically-based* unaccusativization process of those unergative verbs in (13e-f).

On the other hand, as emphasized by Hoekstra (1988: 138) in (14), the SC analysis defines the upper bounds of the distribution of resultative SCs, that is to say, the structural ones. Moreover, it should be clear that he was aware of the fact that "the distribution appears to be more restricted". That is, Hoekstra was aware of the fact that there are additional semantic peculiarities involved in resultatives. However, he considered them as falling outside of the theory of the I-Language. Notice then the compatibility of Hoekstra's claim with our claim of encoding those semantic peculiarities alluded to above in the so-called 'Encyclopedia component' (to put it in Marantz's terms).

(14) "The present analysis defines the ***upper bounds*** <emphasis added: JM> of the distibution of resultative SCs (...) In fact, the distribution appears to be more restricted, showing that language does not fully exploit its resources. What we have here is parallel to the distinction between actual and possible words, familiar from the domain of morphology (...) ***The gap between the possible and the actual is not to be bridged by a theory of the I-Language, but belongs to the domain of the E-language in the sense of Chomsky (1986)*** <emphasis added: JM>".

Hoekstra (1988: 138)

On the other hand, Hoekstra made another invaluable contribution to the linguistic theory by showing the flaws of some current lexicalist theories. As Hoekstra (1988: 138) noted, "the common distinction between lexical word making and non-lexical sentence making is questionable at best". For example, he showed that structurally, the c- and d-examples in (15) are identical, "consisting of the activity denoting verb, taking a SC complement which is interpreted as a resulting state" (p. 166): see (16).

(15) a. dat Jan bier drinkt. (Dutch)
that John beer drinks
b. *dat Jan zich drinkt.
that John himself drinks
c. dat Jan zich dronken drinkt.
that John himself drunk drinks
d. dat Jan zich bedrinkt.
that John himself BE-drinks

Hoekstra (1992: 166)

(16) drinkt [$_{SC}$ zich {dronken/BE-}]

Hoekstra was succesful in showing that the alleged distinction between "syntactic formation" (cf. the 'syntactic object' in (15c)) and "lexical formation" (cf. the 'morphological object' in (15d)) seems to be questionable. Notice then the compatibility of Hoekstra's attacks of Lexicalism with Hale & Keyser's (1993f.) or Marantz's (1997) syntactically-based approaches to derivational morphology.

Hoekstra's insights on SCRs notwithstanding, I would like to emphasize here that there is non-trivial problem that remains unaccounted for in his syntactic approach. In particular, notice that what Hoekstra's theory, as it stands, does not explain is the crosslinguistic variation involved: No explanation is provided concerning the so-called 'directionality/resultativity parameter' (see Snyder (1995); Mateu & Rigau (1999), among others). For example, what prevents Romance speakers from forming SCRs like those in

(13)? That is, why is it the case that activity verbs in Romance cannot typically take a SCR complement? To be sure, those questions can be said to be "innocuous" for constructionalists like Jackendoff but they should not be so for Hoekstra's syntactic approach.

According to Jackendoff, it is simply the case that Romance languages lack the relevant 'correspondence rule', in particular his *Verb Subordination Archi-construction* depicted in (17), which is said to account for all those cases in (1). Thus, for example, 'the time-*away* construction' in (1a) can be regarded as a particular instantiation of the 'Archi-construction' in (17): see (18).

(17) *Verb Subordination Archi-construction* (Jackendoff (1997b))
a. [$_{VP}$ V....]
b. 'act (by) V-ing'

(18) a. [$_{VP}$ V NP away]
b. 'waste [$_{Time}$ NP] by V-ing'

Jackendoff (1997b: exs. (101-102); 554-555)

Despite the descriptive merits of Jackendoff's constructional approach, here I would like to argue that Hoekstra's syntactic approach can be shown to be more explanatory than the non-syntactically based semantic approaches *iff* it is complemented by Mateu & Rigau's (1999; in press) lexical syntactic account (Hale & Keyser (1998)) of Talmy's (1991) typological distinction between satellite-framed languages (e.g., Germanic languages) and verb-framed languages (e.g, Romance languages).

Before analyzing the relevant parameter involved in Talmy's (1991) typological distinction, it will be useful to sketch out briefly the fundamentals of Hale & Keyser's (1998, 1999a) configurational theory of argument structure, which my analysis of constructions like those in (1) will be argued to depend on. Quite crucially, an important modification/reduction of Hale & Keyser's basic argument structure combinations will be shown to be motivated by my unified approach to complex telic path of motion constructions (e.g., *The boy danced into the room*) and adjectival resultative constructions (e.g., *The dog barked the chickens awake*) (cf. Mateu (2000b)).

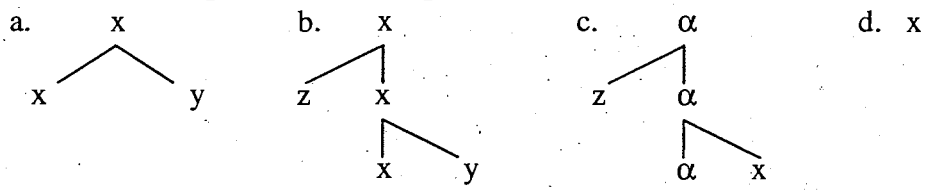
3. The syntax of argument structure (Hale & Keyser (1998;1999a))

According to Hale & Keyser (1999a: 454):

(19) Argument structure is defined in reference to two possible relations between a head and its arguments, namely, the head-complement relation and the head-specifier relation.

A given head (i.e., *x* in (20)) may enter into the following structural combinations in (20): "these are its argument structure properties, and its syntactic behavior is determined by these properties" (Hale & Keyser (1999a: 455)).

(20) Head (*x*); complement (*y* of *x*), predicate (*x* of *z*)



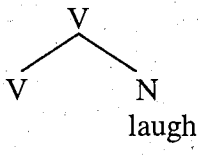
According to Hale & Keyser, the prototypical or unmarked morphosyntactic realizations in English of the lexical heads in (20) (i.e., the *x*'s) are the following: *V* in (20a), *P* in (20b), *A* in (20c), and *N* in (20d).

The main empirical domain on which Hale & Keyser's hypotheses have been tested includes denominal verbs (unergative verbs like *laugh* (cf. (21a)), transitive locative verbs like *shelve* (cf. (21b)), or locatum verbs like *saddle* (cf. (21c))), and deadjectival verbs (e.g., *clear* (cf. (21d)).

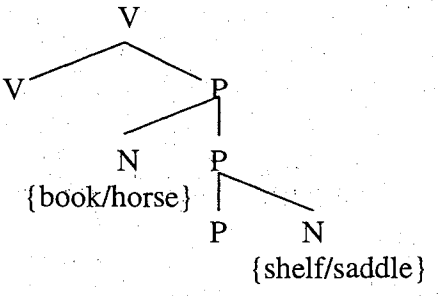
(21) a. John laughed.
b. John shelved the book.
c. John saddled the horse.
d. John cleared the screen.

Unergative verbs are argued to be transitive since they involve merging a noun with a verbal head , this resulting in (22a); both locative verbs (e.g., *shelve*) and locatum verbs (e.g., *saddle*) involve merging the structural combination in (20b) into that of (20a): see (22b). Finally, transitive deadjectival verbs also involve two structural combinations, i.e., that in (20c) is merged into that of (20a): see (22c).

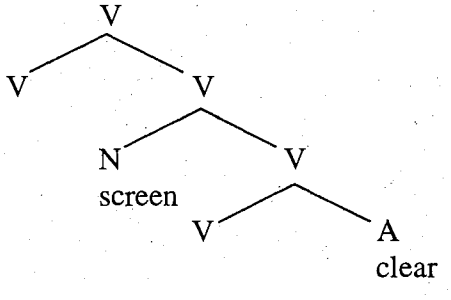
(22) a.



b.



c.



Locative and locatum verbs are said to be transitive (cf. (23a)) because their inner P-projection cannot occur as an autonomous predicate. By contrast, deadjectival verbs can be intransitive ((cf. (23b)), since their inner V-projection can occur as an autonomous predicate. Crucially, notice that it can be associated with tense morphology.

(23) a. *The book shelved; *The horse saddled.
b. The screen cleared.

Furthermore, as justified in Hale & Keyser (1993f.), the external argument of transitive constructions (unergatives included) is argued to be truly external to the argument structure configuration. It will appear as the specifier of a functional projection in s(ential)-syntax.

Both denominal and deadjectival verbs implicate a process of conflation, essentially an operation that copies a full phonological matrix into an empty one, this operation being carried out in a strictly local configuration: i.e., in a head-complement one. If Conflation can be argued to be concomitant of Merge (Hale & Keyser (1999a)), the argument structures in (22) turn out to be quite abstract since they have been depicted as abstracted away from those conflation processes involved in the examples in (21). Applying the conflation operation to (22a) involves copying the full phonological matrix of the noun *laugh* into the empty one corresponding to the verb. Applying it to (22b) involves two steps: the full phonological matrix of the noun {*shelf*/*saddle*}is first copied into the empty one corresponding to the preposition; since the phonological matrix corresponding to the verb is also empty, the conflation applies again from the saturated phonological matrix of the preposition to the unsaturated matrix of the verb. Finally, applying the conflation process to (22c) involves two steps as well: the full phonological matrix of the adjective *clear* is first copied into the empty one corresponding to the internal verb; since the phonological matrix corresponding to the external verb is also empty, the conflation applies again from the saturated phonological matrix of the inner verb to the unsaturated matrix of the external verb.

To conclude my review of Hale & Keyser's (1999a) theory of argument structure, it is important to keep in mind that both aspects of the conflation processes, the syntactic and the lexical, are regarded by Hale & Keyser in no way as incompatible. See their relevant quotes in (24).

(24) "Our conservative position holds that the lexical entry of an item consists in the syntactic structure that expresses the full system of lexical grammatical relations inherent in the item". Hale & Keyser (1993: 98)

"Argument structure is the system of structural relations holding between heads (nuclei) and the arguments linked to them, *as part of their entries in the lexicon* <emphasis added: JM>. Although a lexical entry is much more than this, of course, argument structure in the sense intended here is precisely this and nothing more".
Hale & Keyser (1999a: 453)

"Conflation is a lexical matter in the sense that denominal verbs, and deadjectival verbs as well must be listed in the lexicon. Although their formation has a syntactic character, as we claim, they constitute part of the lexical inventory of the language. *The two characteristics, the syntactic and the lexical, are in no way incompatible* <emphasis added: JM>". Hale & Keyser (1999a: 453)

Notice that adopting the conservative position alluded to in their first quote in (24) leads Hale & Keyser to posit the existence of phrasal projection in the lexicon. In order to avoid such a potential contradiction, Uriagereka (1998) argues that those structures given in (22) are not lexical representations, but syntactic structures corresponding to lexical representations, after they are selected from the numeration. For example, according to

Uriagereka, (25) could be taken as the actual lexical representation of the denominal verb *saddle* that determines the syntactic structure in (22b).[5]

(25) $\begin{bmatrix} -N \\ +V \\ F\text{-}P \end{bmatrix} \begin{bmatrix} -N \\ -V \\ v\text{-}F \\ F\text{-}N \\ \dots \end{bmatrix} \begin{bmatrix} +N \\ -V \\ P\text{-}F \end{bmatrix}$

[e.g., v + P + saddle] Uriagereka (1998: 438)

Since my present concern (i.e., to provide a syntactic account of resultative-like constructions such as those in (1)-(13)) does not crucially hinge on Uriagereka's refinements in order to properly derive syntactic structures like that in (22b), I will omit such a discussion here and I will continue to use syntactic structures à la Hale & Keyser, with the proviso that I do not necessarily assume their *conservative* position, i.e., that these syntactic argument structures are encoded as such into the Lexicon.

4. On the non-primitive status of argument structure properties of 'Adjectives'

In this section, I put forward the hypothesis that the lexical head *x* in (20c) is not to be seen as an atomic element, as in Hale & Keyser's approach, but as a composite unit: in particular, the lexical head *x* in (20c), whose unmarked morphosyntactic realization in English is the category Adjective (*A*), can be argued to be decomposed into two more primitive lexical-syntactic elements:[6] I claim that *A* involves the conflation of a non-relational element like that expressed by the lexical head *y* in (20b) into a relational element like that expressed by the lexical head *x* in (20b). That is to say, the structural combination in (20b) allows us to account for the argument structure properties of *A*s as well. Accordingly, the 'small clause'-like argument structure involved in two sentences like those in (26a,b) turns out to be the same, that in (26c). Quite crucially, I claim that the conflation of *y* into *x* involved in *A* accounts for both its relational or predicative character, which *A* shares with *P*, and its nominal properties, which *A* shares with *N*.[7]

(26) a. is *[the cat [in the room]]*
b. is *[the cat [happy]]*
c. is $[_x\, z\, [_x\, x\, y]]$

Furthermore, the decomposition of adjectives into a relational element plus a non-relational element appears to be quite natural from a conceptual perspective as well. For

[5] According to Uriagereka (1998: 434), "the features in question <those in (i): JM> are purely combinatorial markings, uninterpretable formal features of words like *saddle* and *shelve* that are idiosyncratic to each of these verbs"

(i)

F-P	=	feature-P	("a-Prep-incorporates-into-me")
v-F	=	v-feature	("I-incorporate-into-v")
F-N	=	feature-N	("a-Noun-incorporates-into-me")
P-F	=	P-feature	("I-incorporate-into-P")

[6] At first glance, this hypothesis should not be surprising at all: the fact that the A category is missing in some languages is coherent with its secondary status.

[7] For example, the fact that languages like Latin mark *A*s with morphological case can be taken as empirical evidence in favor of their nominal nature.

example, from a Jackendovian perspective, the Conceptual Structure assigned to (27a) can be argued to contain a relational element introducing an abstract Place (*AT*). In fact, this extension is clearly expected under the so-called 'Thematic Relations Hypothesis' (Gruber (1965), Jackendoff (1983, 1990)), according to which the same conceptual functions we use when dealing with physical space (e.g., *BE, GO, AT, TO,* etc.) can also be applied to our conception of abstract space.[8]

(27) a. The door is open.
b. $[_{State}$ BE $[_{Thing}$ DOOR], $[_{Place}$ AT $[_{Property}$ OPEN]]]

On the other hand, more relevant for the purposes of the present paper is the fact that such a parallelism between physical and abstract spatial domains receives in turn further empirical support when considering the crosslinguistic morphosyntactic properties of resultative predicates: e.g., not only do Romance languages lack adjectival resultative constructions like the one in (28a), but prepositional ones like the one in (28b) are missing in these languages as well:[9]

(28) a. Joe kicked the door open.
a'. *El Joe colpejà la porta oberta. (Catalan)
The Joe kick-past-3rd.sing the door open
b. Joe kicked the dog into the bathroom.
b'. *El Joe colpejà el gos a dins el bany.
The Joe kick-past-3rd.sing the dog inside the bathroom

Quite interestingly, the "reduction" of the syntactic configuration in (20c) to the one in (20b) can be argued to be empirically motivated: the lexical-syntactic element corresponding to the 'terminal coincidence relation' (i.e. the telic Path) involved in both prepositional and adjectival resultatives can be argued to be the same, this being explicit in directional PPs like that in (28b), but covert in resultative APs like that in (28a).[10] If we are willing to maintain that the relevant explanation accounting for the contrasts in (28) is basically morphosyntactic rather than purely semantic, it will be seen inevitable to decompose resultative APs in two different lexical syntactic elements: the relevant parameter must have access to the relational element incorporated in *A*s, i.e., that corresponding to the telic directional relation. That is to say, to the extent that both prepositional and adjectival resultatives are treated in a uniform way as far as the lexical parameter is concerned, the decomposition of adjectival resultative predicates into two lexical syntactic elements seems to be justified.

Notice moreover that my modification or reduction of Hale & Keyser's (1998/9) argument structure types becomes incompatible with their structural distinction between those denominal verbs involving Merge of (20b) into (20a), and those deadjectival verbs involving Merge of (20c) into (20a). According to Hale & Keyser, it is precisely such a structural distinction that explains why the former are always transitive, while the latter can have an intransitive variant (the α verbal head in (20c) being then inflected with Tense).

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[8] See Jackendoff (1990: 250) for a localistic analysis of the LCS corresponding to the {causative/inchoative} verb *open*.

[9] (28a') and (28b') are grammatical on the following irrelevant readings: (28a') is grammatical if A is interpreted not as resultative but as attributive: i.e., 'the open door'; (28b') is grammatical if the the PP has a locative, non-directional reading: i.e., 'the kicking took place inside the bathroom'.

[10] See Jackendoff (1990) or Goldberg (1995) for their insight that AP resultative constructions involve an abstract Path.

However, as Kiparsky (1997) and Mateu (2001b) have shown, Hale & Keyser's generalization is not well-grounded (cf. (29)). According to Kiparsky, denominal verbs *can* participate in the causative/inchoative alternation if they denote events that can proceed without an explicit animate agent.

(29) "Denominal verbs do participate in the causative/inchoative alternation if they denote events which can proceed on their own (*caramelize, shortcuit, carbonize, gasify, weather*). This is also true for location verbs, such as those denoting mechanical processes which are understood as capable of proceeding on their own (*reel, spool, stack, pile* (*up*)), and the positioning of self-propelled vehicles (*dock, berth, land*) or of persons (*bed, billet, lodge*)".

Kiparsky (1997: 497)

On the other hand, Kiparsky points out that there are deadjectival verbs that can *not* participate in the causative/inchoative alternation: e.g., cf. *legalize, visualize*, etc.

Similarly, Levin and Rappaport Hovav's (1995: 104-105) examples in (30-31) also show that the licensing of the verb in the causative/inchoative alternation is more dependent on semantic conditions rather than on morphosyntactic ones. According to Levin & Rappaport Hovav (1995: 105), "detransitivization is possible precisely where an externally caused eventuality can come about without the intervention of an agent.".

(30) a. The dressmarker lengthened the skirt.
b. *The skirt lenghtened.
c. The mad scientist lengthened the days.
d. The days lenghtened.

(31) a. The waiter cleared the table.
b. *The table cleared.
c. The wind cleared the sky.
d. The sky cleared.

Levin & Rappaport Hovav (1995: 105)

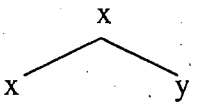
That is to say, the relevant conclusion for my present purposes is the following one: the causative/inchoative alternation cannot be taken as a valid structural criterion when working out the relevant syntactic argument structures. In particular, the fact that denominal locative verbs like *shelve* or denominal locatum verbs like *saddle* do not enter into the causative/inchoative alternation is not due to a purely structural source, as Hale & Keyser propose, but to the fact that they involve an animate agent.

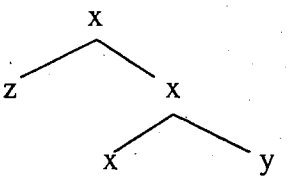
This said, one important caveat is in order: my recognizing that the facts partly go with the semantics with respect to the causative/inchoative alternation should not be seen as incompatible with my adopting a syntactic approach to argument structure. Rather the relevant conclusion should be the following: those who are willing to adopt a pure syntactic approach to argument structure should avoid elaborating on complex hypotheses to explain facts that fall out of their program.

5. The semantics of argument structure (Mateu & Amadas (2001))

The reduction of (20c) to (20b) is not only empirically supported, as we have pointed out in section 4, but is welcome from a theoretical perspective as well. My goal in this section is to

show that this reduction strengthens the theoretically desirable claim that there is a strong homomorphism between the syntax and semantics of argument structure.[11] The present proposal partakes of both Hale & Keyser's (1993) paper, where certain meanings were associated with certain structures, and their more recent (1999a) paper, where a refinement of the basic argument structure types is presented. Quite importantly, Mateu & Amadas (2001) argue that the reduction argued for in section 4 allows us to synthesize these two compatible proposals in quite an elegant and simple way. Given this reduction, the basic, irreducible argument structure types turn out to be those in (32).

(32) a. 

b. 

c. 

We claim that the reduction of (20) to (32) allows homomorphism to show up in the terms expressed in (33): given (33), the relational syntax of argument structure can be argued to be directly associated to its corresponding relational semantics in quite a uniform way:

(33) a. The lexical head *x* in the syntactic configuration of (32a) is to be associated to an *eventive relation.*
b. The lexical head *x* in the syntactic configuration of (32b) is to be associated to a *non-eventive relation.*
c. The lexical head *x* in (32c) is to be associated to a *non-relational element.*

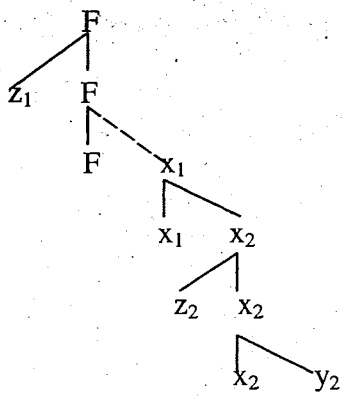
In turn, the eventive relation which is uniformly associated with the *x* in (32a) can be instantiated as two different semantic relations:[12] If there is an external argument in the specifier position of the relevant *F*(unctional) projection (cf. Hale & Keyser (1993f.)), the eventive relation will be instantiated as a *source relation*, the external argument being interpreted as 'Originator' (cf. Borer (1994) and Mateu (1999)). If there is no external argument, the eventive relation will be instantiated as a *transitional relation* (cf. Mateu (1999)), which in turn always selects a non-eventive relation (cf. (32b)), whose specifier and complement are interpreted as 'Figure' and 'Ground', respectively (this terminology being adapted and borrowed from Talmy (1985)).

The source relation is involved in transitive structures (cf. x_1 in (34)) and unergative structures (cf. x_1 in (35)), while the transitional relation is that involved in unaccusative structures (cf. x_1 in (36)). Notice that the only structural difference between transitive structures and unergative structures is based on the type of complement selected by the source relation: While a non-eventive relation is selected in (34) as complement, it is a non-relational element that is selected in (35). As a result, the transitive structure in (34) can be argued to partake of both an unergative structure (the eventive relation x_1 is interpreted as a source relation to be associated with an external argument z_1 via *F*) and an unaccusative structure ((34) includes a non-eventive relation x_2).

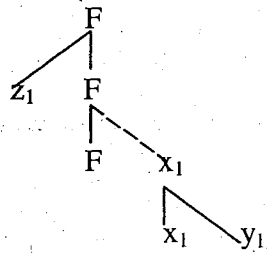
[11] See Bouchard (1995), Baker (1997) or Mateu (1999) for discussion on the homomorphic nature between the syntactic and semantic structures.

[12] In this sense our proposal is similar to that developed by Harley (1995). The main difference is that we, along with Hale & Keyser (1993f.), do not analyze the syntactic head associated to the eventive relation as a functional one.

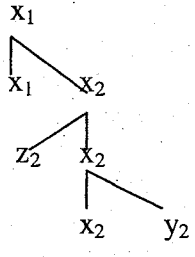
(34) *Transitive structure*



(35) *Unergative structure*



(36) *Unaccusative structure*



It is important to draw a crucial distinction between the *constructional/configurational* semantics that can be read off the mere syntactic structure and the *lexical* semantics that is expressed via semantic features associated to the particular lexical heads (Chomsky's (2001) semantic properties SEM(H) of the head). That is to say, the syntactic constructions in (34), (35), and (36) are to be associated to their corresponding structural meanings, independently of the particular lexical items that instantiate them (see Hale & Keyser (1993) for a particular implementation of such a view). Structural semantic properties like eventive ({source/transitional}), non-eventive, and non-relational can then be argued to be directly read off the mere syntactic configurations. For example, the x_1 relation is to be read as a source relation in (34) and (35), but as a transitional relation in (36). The x_2 relation is to be read as a non-eventive relation in both (34) and (36).

There must be a compatibility between the structural semantic properties, those that can be read off the mere syntactic structure, and those semantic features of the lexical head. Let us assume that the latter semantic features are assigned to the lexical relational heads in a binary way like that exemplified in (37):[13]

[13] See Hale (1985) for the distinction between TCR and CCR.

(37)	CAUSE/DO:	dynamic value of the source relation
	HAVE:	static value of the source relation
	BECOME/GO:	dynamic value of the transitional relation
	BE:	static value of the transitional relation
	*T*erminal *C*oincidence *R*elation (TCR):	dynamic value of the non-eventive/spatial relation
	*C*entral *C*oincidence *R*elation (CCR):	static value of the non-eventive/spatial relation

Notice that those binary values in (37) are not relevant to the syntactic projection of arguments.[14] Consider the minimal pairs (38a-b) and (38c-d), and their corresponding argument structures in (39).

(38) a. John sent Peter to prison.
b. John kept Peter in prison.
c. Peter went to prison.
d. Peter was in prison.

(39) a. $[_F$ John $[_{x1}$ CAUSE $[_{x2}$ Peter $[_{x2}$ TO prison]]]]
b. $[_F$ John $[_{x1}$ HAVE $[_{x2}$ Peter $[_{x2}$ IN prison]]]]
c. $[_{x1}$ GO $[_{x2}$ Peter $[_{x2}$ TO prison]]]
d. $[_{x1}$ BE $[_{x2}$ Peter $[_{x2}$ IN prison]]]

Despite the different semantic values associated to the source relation (the dynamic one in (39a), and the static one in (39b)), and despite the different ones associated to the non-eventive/spatial relation (TCR in (39a), and CCR in (39b)), it is nevertheless clear that both (39a) and (39b) are indistinguishable as far as their syntactic projection of arguments is concerned. This is due to the fact that both (39a) and (39b) project the very same argument structure, that in (34). Accordingly, in both (39a) and (39b), *John* is interpreted as 'Originator', *Peter* as 'Figure', and *prison* as 'Ground'.

Similarly, the same reasoning should be valid with respect to the minimal pair (39c)-(39d): Despite the different semantic values associated to the transitional relation (the dynamic one in (39c), and the static one in (39d)), and despite the different ones associated to the non-eventive relation (TCR in (39c), and CCR in (39d)), it is nevertheless clear that both (39c) and (39d) are indistinguishable as far as their syntactic projection of arguments is concerned. This is due to the fact that both project the very same argument structure, the unaccusative structure in (36): Accordingly, in both cases *Peter* is interpreted as 'Figure', and *prison* as 'Ground'.

As it stands, notice that our claim that the semantic values in (39) are not directly relevant to the syntactic projection of argument structure, allows syntax to generate structures like that in (40b).

(40) a. Peter stayed with him.
b. # John stayed Peter with him.

[14] One important caveat is in order here: To be sure, our specific claim is not to be regarded as incompatible with the more general claim that those semantic values in (37) can be said to be relevant to grammatical processes. For example, see Tenny (1994: 190-192), where it is explicitly argued that the information associated to the CAUSE function or the GO function is essentially aspectual, *ergo* grammatically relevant.

c. [BE [$_{X2}$ Peter [$_{X2}$ WITH him]]]
d. # [$_{F}$ John [$_{X1}$ BE [$_{X2}$ Peter [$_{X2}$ WITH him]]]]

Following Chomsky (2001: 9), we assume that theta-theoretic failures at the interface yield 'deviant structures' (cf. (41)). Given our set of present assumptions, (40b) is to be ruled out because of the failure induced by the incompatibility between the presence of an external argument and the semantic feature lexically associated to the eventive head of *stay* (i.e., *BE*). That is to say, the failure in (40b) is not to be regarded as syntactic in nature because nothing prevents (40b) from being attributed the configurational interpretation corresponding to the transitive structure in (34). That is, its mere syntactic configuration is interpretable: crucially, *John* in (40b) is structurally allowed to be interpreted as Originator. However, it is the case that 'verbs of existence', 'verbs of appearance', etc. do not appear to have an external causer,[15] hence the deviance of (40b).

(41) "Uncontroversially, theta-theoretic properties depend in part on configuration and the semantic properties SEM(H) of the head (label). In the best case, they depend on nothing else (the Hale-Keyser version of theta theory). Assuming so, there are no s-selectional features or theta-grids distinct from SEM (H), which is typically a rich and complex structure, and theta-theoretic failures at the interface do not cause the derivation to crash; such structures yield 'deviant' interpreations of a great many kinds."

Chomsky (2001: 9)

Finally, I will conclude my sketchy review of Mateu & Amadas (2001) with one important tenet of their theory of argument structure: There is no configurationally based lexical decomposition beyond l-syntax. Accordingly, the lexical decomposition of verbal predicates (cf. (42) for a sample) stops at this coarse-grained level, the root being always associated to a non-relational element (cf. (43)).[16] As a result, we want to embrace the non-trivial hypothesis that the only open-ended class of roots corresponds to non-relational elements, e.g., those occupying the specifier and complement positions in (43).

(42) a. John corraled the horse.
b. John killed the horse.
c. John loved the horse.
d. John pushed the horse.
e. John laughed.
f. The horse died.

(43) a. [$_{F}$ John [$_{X1}$ CAUSE [$_{X2}$ the horse [$_{X2}$ TCR *CORRAL*]]]]
b. [$_{F}$ John [$_{X1}$ CAUSE [$_{X2}$ the horse [$_{X2}$ TCR *KILL*]]]]

[15] See Levin & Rappaport Hovav (1995). The fact that this class of verbs is consistently associated with an unaccusative syntax in English can be argued to be related to the claim that these verbs are lexically associated with the {GO/BE} value. Accordingly, the lexical item *stay* is prevented from entering into a transitive argument structure of the following type: [$_{F}$ z_1 [$_{X1}$ *{CAUSE/HAVE}* [$_{X2}$ z_2 [$_{X2}$ x_2 y_2]]]].

[16] The conceptual stuff depicted by caps must not be interpreted "as it stands". For example, we do not actually claim that the non-relational element *CORRAL* in (43a) is to be interpreted as the noun *corral*. Rather what is required is that *CORRAL* be interpreted as the non-relational element (i.e., the abstract Ground) included in the locative verb *to corral* (see Mateu (2001b)). The same holds for those morphologically less transparent cases: e.g., in (43b,f) what is meant by {*KILL/DIE*} is the non-relational element (i.e., the abstract Ground) included in the change of state verb {*kill/die*}.

c. $[_F$ John$_i$ $[_{X1}$ CAUSE $[_{X2}$ the horse $[_{X2}$ CCR *PUSH*$_i$]]]]]^{17}
d. $[_F$ John$_i$ $[_{X1}$ HAVE $[_{X2}$ the horse $[_{X2}$ CCR *LOVE*$_i$]]]]
e. $[_F$ John $[_{X1}$ DO *LAUGH*]]
f. $[_{X1}$ GO $[_{X2}$ the horse $[_{X2}$ TCR *DIE*]]]

In other words, as far as the syntactically-based lexical decomposition is concerned, we claim that the non-relational element corresponding to the root in (43) (the root is depicted in italics) is a Fodorian-like monad. However, unlike Fodor, we think that a minimal lexical decomposition is necessary in order to provide an appropriate answer to theoretically interesting questions like those emphasized in (44). Without such a minimal lexical-syntactic decomposition, it is not clear to us which interesting answer could be provided to those non-trivial questions. To the best of our knowledge, no principled account has been given by Fodor concerning those two questions pointed out by Hale & Keyser (1993) and addressed by Mateu (1999) or Mateu & Amadas (2001).

(44) "It seems to us that one theoretically interesting insight to be found in Hale & Keyser (1993) (in our view, one that strongly militates against a complex syntax-semantics interface like that envisioned by Jackendoff (1990, 1997)) is their realizing that the following questions are intrinsically related: *'Why are there so few lexical categories?' / 'Why are there so few thematic roles?'*. Notice that for Jackendoff it does not make sense to inquire into the relation of both questions. No doubt, we consider that important insight pointed out by Hale & Keyser (1993) and developed by Mateu (1999) as providing us with a very strong theoretical argument in favor of the perfectly designed syntax-semantics interface envisioned by Chomsky (1995f.)".

Mateu & Amadas (2001)

6. The l-syntax of Small Clause Results

After having presented the basics of our argument structure theory, let us return to the constructions under study in the present paper, those in (1). Since Hale & Keyser appear to assume that phrase structure is exclusively projected from lexical heads, Jackendoff's point in (45) could be argued to be problematic for one willing to adopt their syntactic approach when dealing with resultative-like constructions such as those in (1).

(45) "Many contemporary theories of syntax proceed under the premise that phrase structure is projected exclusively from lexical heads. If the analysis proposed here is correct, these constructions <i.e., examples like those in (1): JM> constitute an interesting challenge to this premise, for in such constructions, the argument structure of the VP is licensed not by the verb, as in the usual situation, but by the construction itself".

Jackendoff (1997b: 534)

However, Jackendoff's (implicit) reasoning in (46) to be drawn from (45) is a *non sequitur*:

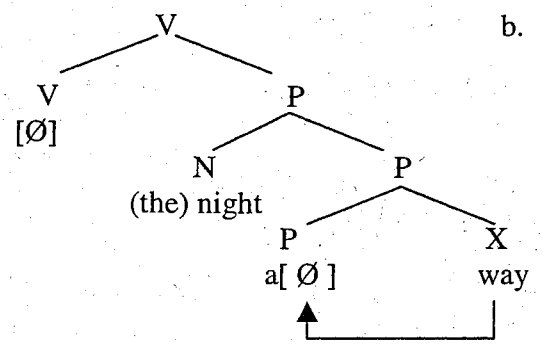
(46) premise: phrase structure is projected exclusively from lexical heads

[17] See Hale & Keyser (1999b) for the lexical syntactic analysis of atelic activity verbs like *to push* and atelic stative verbs like *to love*: According to them, the 'impact noun' *push* and the 'psych nominal' *love* must be linked to their source, the external argument, i.e., the s(ential)-syntactic subject. These nominal roots are supplied with a bracketed subscript representing a variable which must be bound *obviatively*. See Hale & Keyser (1999b) for more details.

then (?)
the argument structure of the VP is necessarily licensed by the surface verb.

That is to say, I would like to argue that the premise in (46) does not *necessarily* entail what is intended to entail in (46). Given this, Jackendoff's criticism of the premise in (46) does not hold. In fact, I will immediately show that assuming such a premise can be taken as fully compatible with providing an adequate syntactic account of the complex argument structure involved in examples like those in (1). In particular, as pointed out by Mateu & Rigau (1999), the formation of resultative-like constructions like that in (1a) involves two different syntactic argument structures, the *main* one being transitive (e.g., that in (47a)), and the *subordinate* one being unergative (e.g., that in (47b)). The transitive structure in (47a) is associated to an 'accomplishment' (e.g., 'to cause y to go away'),[18] while the unergative structure in (47b) is associated to an 'activity', (e.g., 'to do z').

(47) a.



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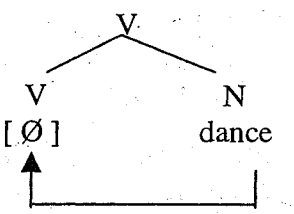
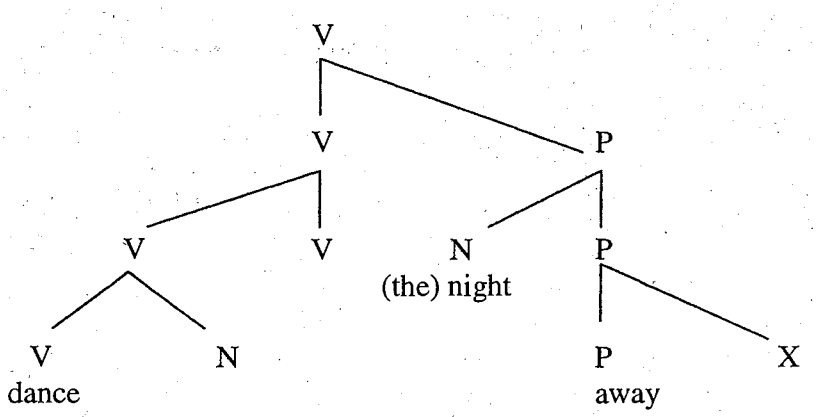


As I will show in the following section, it is precisely the non-conflating nature of the P element in (47a) what allows the complex verbal head in (47b) to be conflated/merged into the phonologically null transitive verb in (47a). Quite interestingly, Chomsky (1995) provides us with the adequate device for such a conflation process to be carried out: a 'generalized transformation'; see (48) for the resulting adjunction process.

(48)



Accordingly, the semantic intepretation involved in the *subordination process* depicted in (49) can be argued to be associated to the complex syntactic argument structure in (48):

[18] Notice that Hoekstra's Small Clause constituent is to be translated into Hale & Keyser's (1998) P projection, headed by a birelational telic 'Path' element (in their terms, a 'terminal coincidence relation'): it relates a 'Figure' (e.g., *night*) to an abstract 'Ground' (e.g., *(a)way*).

Moreover, notice that the external argument is not present in the syntactic argument structure, but is to be introduced by the relevant *F*unctional projection (cf. Hale & Keyser (1993f.) or Kratzer (1996)).

(49) [(they) [[DO-dance]-CAUSE] [the night away]] (i.e., 'they caused the night to go away by dancing').[19]

Unlike Levin & Rapoport's (1988) or Jackendoff's (1990) semantic analyses, the present analysis of the so-called 'lexical subordination' as involving a syntactic operation should be regarded in full tune with Hale & Keyser's (1993) particular interpretation of the Chomskian tradition of interpretivist semantics, which is summarized in their quote in (50):

(50) "(...) these semantic roles, like the elementary semantic interpretations in general, are *derivative* of the lexical syntactic relations <emphasis added: JM>".

Hale & Keyser (1993: 72)

In the next section I will show that the empirical justification of my lexical syntactic analysis of resultative-like constructions like those in (1) is to be grounded on Talmy's (1985, 1991) typological work on so-called 'conflation processes', which have been recently argued to involve the crucial role of morphosyntax when accounting for the relevant parametric variation (cf. Klipple (1997), Snyder (1995; 2001), and Mateu & Rigau (1999; in press)).

7. Small Clause Results and parametric variation

As noted above, semanticocentric approaches to resultative-like constructions such as those in (1) can be granted descriptive validity but they do not provide any *principled* explanation of some important parameterizable morphosyntactic facts put forward by syntactically-oriented works like Snyder (1995), Klipple (1997), or Mateu and Rigau (1999; in press). To put it clearly, they cannot explain why resultative-like constructions like those in (1) exist in some languages (e.g., in English or German) but not in others (e.g., in Catalan or Spanish). They often limit themselves to stating this as a fact: e.g., the following statement in (51) can be taken as representative of adopting such a position. No explanation is pursued concerning *why* it is the case that in Romance languages "the two components" involved in a complex telic path of motion construction like *She ran into the room*, have to be obligatorily separated in the syntax. Why doesn't such a restriction hold in English?

(51) "Not all languages can conflate (118) <i.e., [BECOME (x, [LOC (y)]), BY [RUN (x)]]: JM> into a single verb name, of course. For those such as the Romance languages the two components have to be separated in the syntax. The core predication is the LCS for a general verb of directed motion such as *enter*. Thus the realization of (118) <cf. supra: JM> in Romance will look something like *She entered the room running*".

Spencer & Zarestakya (1998: 33)

Before showing the non-trivial role of morphosyntax in (1), it will be useful to introduce some basic ideas from Talmy's (1985, 1991) typological work on so-called 'conflation processes'.

According to Talmy's descriptive typology, examples like those in (1) fall on the *lexicalization pattern* that is typically involved in satellite-framed languages like English or German. For example, consider the following complex telic path of motion construction in (52a). To put it in Talmy's (1985) terms, (52a) involves conflation of Motion with Manner, or

[19] The fact that the structurally-based paraphrase in (49) is not actually adequate for the so-called '*time*-away construction' should not be of concern to syntacticians: Syntax has nothing to say concerning its (non-structurally based) idiomatic meaning: e.g., '*wasting time* doing something'.

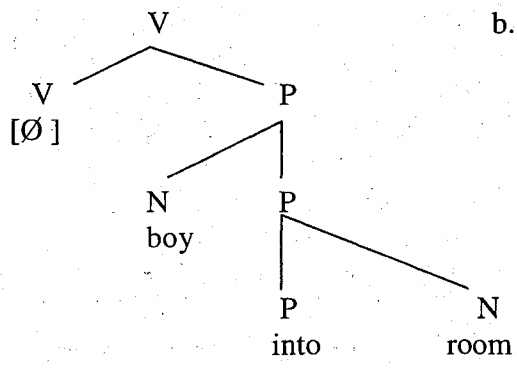
alternatively, in Talmy's (1991) terms, (52a) involves conflation of AGENTIVEMOVE with SUPPORTING[EVENT]. By contrast, the corresponding counterpart of (52a) in a Romance language like Catalan typically involves a different lexicalization pattern (i.e., conflation of Motion with Path, the Manner component being expressed as an adjunct).

(52) a. The boy danced into the room. Conflation of Motion + Manner
b. Cat. El noi entrà a l'habitació ballant. Conflation of Motion + Path
The boy went-into loc.prep the room dancing

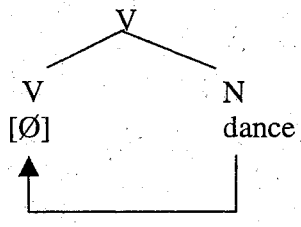
In Germanic languages sentences like that in (52a) (or those in (1)) can be argued to be possible because of the following fact: the telic *P*(ath) is not conflated into the verb (hence their satellite-framed nature), this verb being then allowed to be conflated with the so-called {'Manner constituent'/ SUPPORTING[EVENT] }.

Quite interestingly, Hale & Keyser's theory reviewed in section 3 allows us to express this fact in the following morphosyntactic terms: the absence of lexical saturation of the main verb (e.g., cf. V in (53a)) by the birelational element P allows this phonologically null unaccusative verb to incorporate a subordinate verb from an independent structure (e.g., the unergative one in (53b)), this incorporation/conflation process being carried out via a generalized transformation (cf. supra). The result of this syntactic operation is depicted in (54).

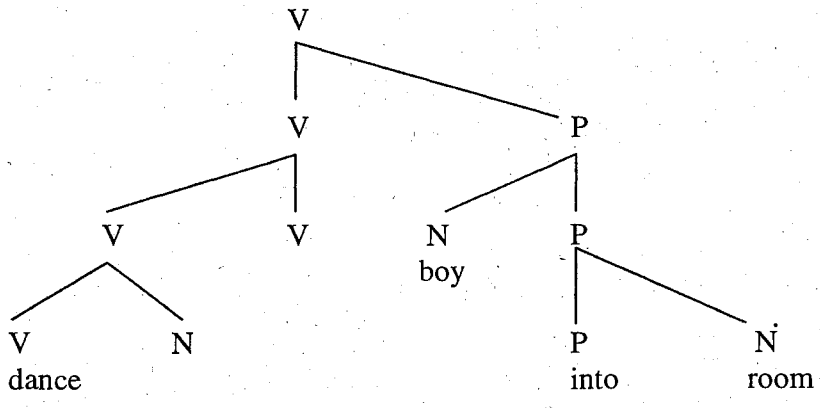
(53) a.



b.



(54)



As above, the semantic intepretation to be associated to the complex syntactic argument structure in (54) can be depicted as in (55):

(55) [[[DO-dance]-GO] [boy into room]] (i.e., 'the boy went into the room dancing').

By contrast, in Romance languages sentences like that in (52a) can be argued to be impossible because of the following fact: the *P*(ath) is often conflated into the verb (hence their verb-framed nature), this verb being then prevented from being conflated with the so-called { 'Manner constituent'/ SUPPORTING[EVENT] }. To put it in the present morphosyntactic terms, the lexical saturation of V in (52a) by the relational directional element P prevents this unaccusative verb from incorporating a subordinate verb from an independent structure (e.g., the unergative one in (52b)).

For example, consider the following Catalan Path verbs in (56):

(56) *sortir* 'to go out', *entrar* 'to go in', *pujar* 'to go up', *baixar* 'to go down'. (Catalan)

From a synchronic perspective, the conflation involved in the verbs in (56) can be regarded as a clear example of 'fossilized incorporation': roughly speaking, what corresponds to the motion verb and what to the telic Path relation cannot be distinguished any longer (cf. Mateu & Rigau (in press) for more discussion).

By contrast, according to Talmy (1991), 'satellite' status must be attributed to Germanic preverbs like those involved in complex denominal verbs such as those in (57). As pointed out by Mateu (2001c), the syntactic analysis presented above for 'syntactic objects' like that in (52a) or those in (1)) can also be argued to hold for 'morphological objects' like those in (57). If such a move is correct, we are allowed to take this as evidence in favor of Hoekstra's (1988, 1992) or Marantz's (1997) criticisms of current Lexicalist approaches (see (58)).

(57) a. Er *ver*-gärtner-te sein gesamtes Vermögen. (German)
he *VER*(away)-gardener-ed his whole fortune
'In gardening, he used up all his fortune.'

b. Sie *er*-schreiner-te sich den Ehrenpreis der Handwerkskammer.
she *ER*-carpenter-ed herself$_{DAT}$ the prize of the trade corporation
'She got the prize of the trade corporation by doing carpentry.'

Exs. from Stiebels (1998: 285-286)

(58) a. "(...) the common distinction between lexical word making and non-lexical sentence making is questionable at best".

Hoekstra (1988: 138)

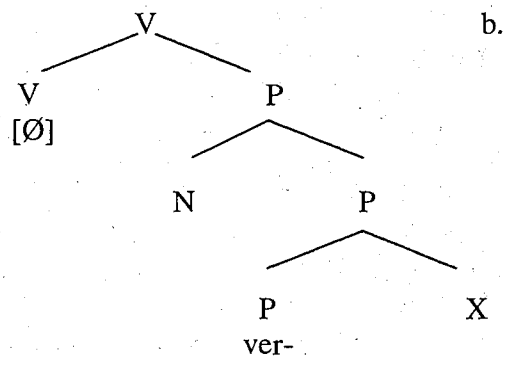
b. "(...) there is no reason not to build words in the syntax via 'merger' (simple binary combination) as long as there are no special principles of composition that separate the combining of words into phrases from the combining of morphemes into words".

Marantz (1997: 205)

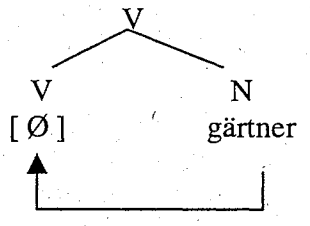
For example, let us analyze the German example in (57a). The complex denominal verb *ver-gärtner-te* can be argued to involve two different syntactic argument structures, the main one being transitive (cf. (59a)), while the subordinate one being unergative (cf. (59b)). Crucially, the non-conflating (i.e., satellite) nature of the Path relation *ver-* in (59a) allows an independent lexical-syntactic verbal object (e.g., cf. the unergative argument structure in (59b)) to be conflated into the phonologically null main verb (i.e., the V in (59a)), the former

providing the latter with phonological content (cf. (60)).[20] By contrast, Romance languages, which typically lack complex denominal verbs like those in (57), are verb-framed: the Path relation is conflated into the verb, this incorporation being fossilized (see (56)). This fossilized incorporation prevents a manner component (in our terms, an unergative argument structure) from being conflated into the main verb.

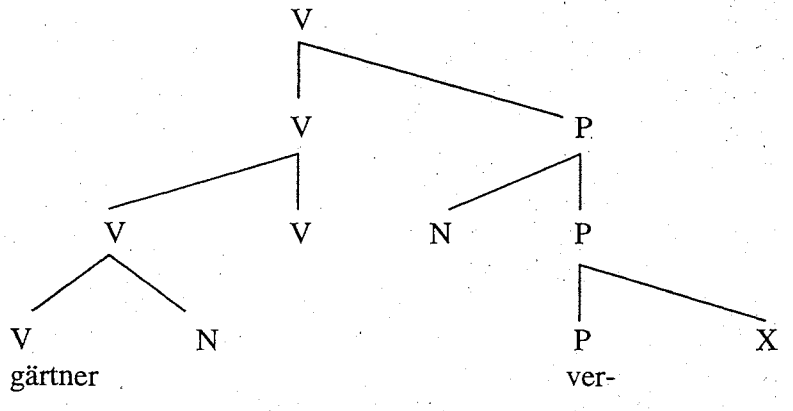
(59) a.



b.



(60)



Furthermore, an additional step in the derivation of (60) appears to be involved: the affixal nature of the Path relation *ver-* forces it to be adjoined to the superior complex verbal head. By contrast, such an additional step is typically missing in English, as shown in (61a), even though some complex verbs similar to those in (57) can also be found in English: cf. the *out*-prefixation examples in (61b).

(61) a. He gambled all his fortune *away*.
b. I *out*played/*out*swam him.

Notice moreover that the lexicalization pattern accounting for the German examples in (57) is the same one holding for English complex denominal verbs like *nail down* or *brick over*. This seems then the adequate place to refute Stiebels's (1998: 298) words quoted in (62).

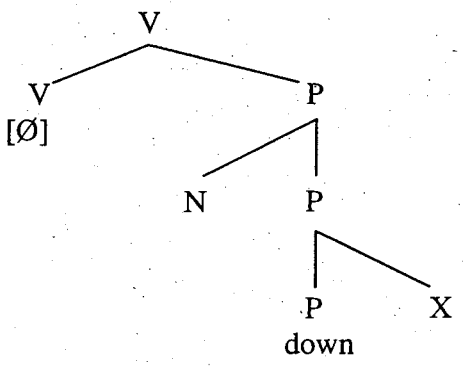
[20] Directional or resultative preverbs (prefixes/particles) and PPs involving a 'terminal coincidence relation' can be argued to be assigned the same argument structure (both contain a birelational element), the difference being that the former involve the conflation of a non-relational element *X* (i.e., an abstract Ground) into a directional relational element *P* (i.e., the 'Path'). *N* in (59a) is to be interpreted as 'Figure/Theme'.

(62) "(...) as with complex denominal verbs in German, Hale & Keyser might have problems to account for complex denominal verbs in English (e.g., *nail down, brick over the entrance, pencil out the entry, brush out the room*) for which the role of the preverb should be clarified".

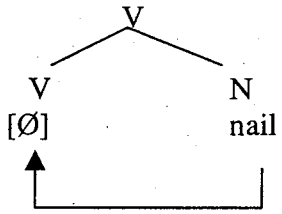
Stiebels (1998: 298)

As above, my rebuttal will be grounded on the descriptive basis of Talmy's (1985, 1991) typological work on conflation processes, which is not taken into account by Stiebels (1998). My lexical syntactic analysis of complex denominal verbs in English runs as follows. For example, consider the complex denominal verb *to nail down*, which can be regarded as the result of conflating two different syntactic argument structures, those in (63). (63a) is a transitive one, which contains a phonologically null verb subcategorizing for a PP as complement: Its head, the particle *down*, is to be taken as the result of conflating a non-relational element *X* (i.e., an abstract Ground) into the prepositional head expressing a terminal coincidence relation.[21] Its specifier is to be interpreted as Figure/Theme. On the other hand, (63b) is a denominal verb, which is formed by conflating the nominal root *nail-* into another phonologically null verb expressing an activity (i.e., the activity of *nailing*).

(63) a.

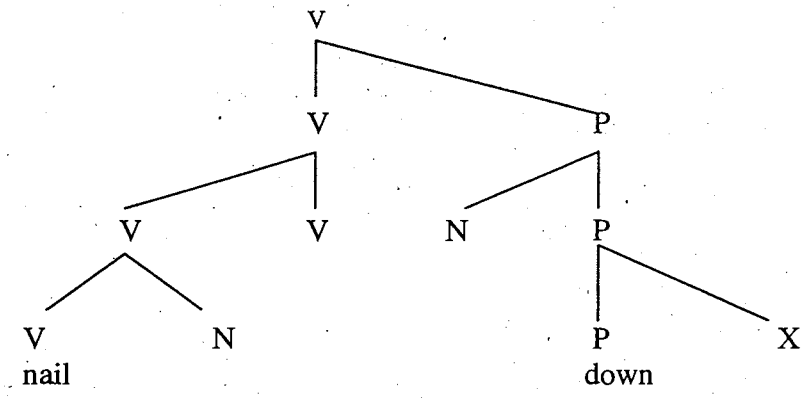


b.



As stressed by Hale & Keyser (1998), phonologically null properties associated to heads must be saturated at PF. As it stands, the syntactic argument structure in (63a) would then crash at PF. The Path relation (e.g., *down*) has non-conflating (i.e, satellite) status in English, this being unable to saturate the empty phonological properties of the verbal head in (63a). An option becomes then available: namely, to resort to an independent lexical syntactic object (e.g., that in (63b)) in order to saturate the empty phonological properties of the verb in (63a). The phonologically null properties of the verb in (63a) allow an independent lexical syntactic object with full phonological content (that expressed by *nailing*) to be conflated into it. The same generalized transformation operation we made use of above can also be argued to be resorted to when accounting for complex denominal verbs in English. The resulting complex lexical syntactic structure is depicted in (64):

(64)



[21] See Svenonius (1996) and Hale & Keyser (2000) for more discussion on the argument structure of particles.

To conclude, a *syntactic* approach to resultative-like constructions like that pursued here is to be regarded as a particular way of attempting to provide a principled explanation of how to deal with the linguistic variation that is determined by morphosyntactic properties that do not affect functional categories, but lexical categories.[22] Crucially, I have tried to show that there is a unified morphosyntactic explanation of why verb-framed languages like Romance do not have "syntactic objects" like those in (1) nor "morphological objects" like those in (57). Quite interestingly, notice that this can be taken as evidence for Hoekstra's or Marantz's claims quoted in (58).

Finally, some remarks concerning the crosslinguistic variation involved in (1) are in order.

8. Concluding remarks

(I) My approach can be regarded to be in tune with those syntactically-based aspectual approaches to resultative-like constructions like those in (1): e.g., Hoekstra (1988, 1992), Borer (1994), or Ritter & Rosen (1998), among others. However, my work crucially parts ways with them in a non-trivial point: they neglect the so-called 'resultativity/directionality parameter' involved in the data in (1). Moreover, they omit the conflation process involved in their formation. As a result, they do not explain the crosslinguistic variation involved in Talmy's (1991) typological distinction. For example, let us take Borer's (1994) pioneering analysis into account: As it stands, it is not clear what prevents Romance languages from having *John walked into the cave.* Why is it the case that in Romance, *John* cannot be generated as the specifier of the functional category $Asp_{Event\text{-}Measurer}$? In other words, why does the unaccusativization process involved in that sentence appear to be impossible in Romance?[23] As shown above, my solution to such a puzzle has been argued to have nothing to do with aspectual properties associated to functional categories, but with morphosyntactic properties associated to lexical categories.

(II) On the other hand, let me emphasize that my intention was not to provide a complete picture of the crosslinguistic variation involved in resultative-like constructions like those in (1). I have concentrated myself on dealing with what I take to be some of the most relevant differences between satellite-framed languages like English and verb-framed languages like Romance. I leave it for another research agenda to work out the interrelations between the present Hale & Keyserian syntactic approach and works adopting a wider crosslinguistic perspective (e.g., cf. Kim & Maling (1997)).

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[22] See Snyder (1995, 2001) or Mateu & Rigau (1999, in press) for more discussion on the claim that parametrized variation cannot be said to be limited to inflectional systems.

[23] Some exceptions can be found: e.g., in Italian unergative verbs like *correre* ('to run'), *volare* ('to fly') and a few others can enter into the unaccusative construction when a telic directional PP is present. My provisional proposal runs as follows: exceptional cases like It. *correre* must be lexically listed as both unergative and unaccusative, while It. *camminare* ('to walk') or Engl. *to run* and *to walk* are only lexically listed as unergative. The unaccusativization of manner of motion verbs and sound verbs in English is to be regarded as a regular process (see Levin & Rappaport Hovav (1995), among others). But see the relevant discussion on (9) above.

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The Syntax of Small Clause Predication

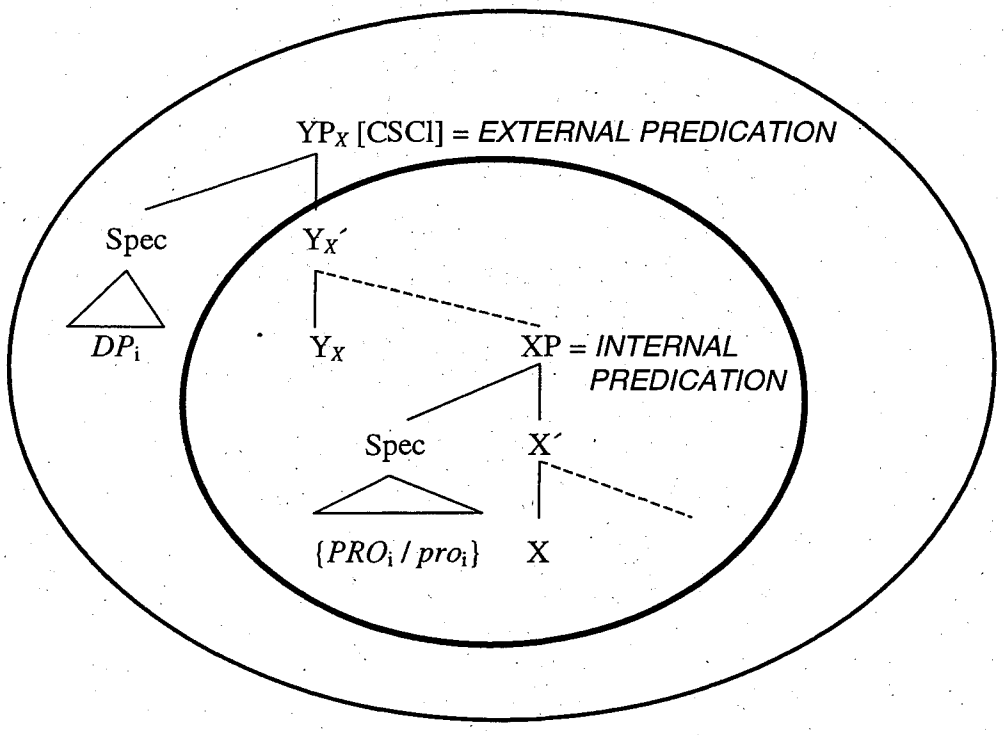
Abstract

In this paper I put forward and justify a syntactic configuration that I call *Complex Small Clause*-structure. I show that this *single* syntactic structure can explain both the semantic value and the syntactic behavior of a range of constructions that up to now have been explored separately and, hence, proposed divergent analyses among them.

1 The Complex Small Clause-structure

The syntactic configuration that I want to propose and defend in this article is depicted in (1). This is the syntactic configuration of what I call a *Complex Small Clause* (CSCl).

(1)



From the bottom up, we can see here that a *lexical head* X selects an external argument (alternatively, a *constituent* of lexical material selects an external argument if X appears with complements). This external argument is base-generated in the specifier of the projection headed by this lexical element, that is, in Spec, XP. As usual in a syntactic configuration like this, these two components end up establishing a subject-predicate relationship, which will have to be licensed within a functional domain. Typically, the members and the content of each member of this functional domain will be determined by the lexical head X, in the sense that each functional projection of this domain will have to be associated with the lexical head of the predicate (X) (see Grimshaw 1991, Riemsdijk 1998).

In the structure in (1), I only represent the *highest* extended projection associated with X, which I call YP. The subscript *X* on the YP-projection indicates the association of this functional category

with the lexical head X. The dots between XP and YP, on the other hand, mean that other functional projections may also appear between these two projections, but, of course, only if required by the lexical head X.

Now, going back to the external argument of the lexical head X, we can see in (1) that this argument has to be null in a CSCl, that is, it must be either a *PRO* or a *pro*. The former will show up if this argument cannot check Case within the functional domain of X, namely somewhere between the XP-projection and the head Y, or, alternatively, it can only check off null Case.[1] The latter will appear if it can check off nominative Case within the functional domain of X.

As you may have already noticed, up to this point nothing special has been said in the structure in (1), since the syntactic configuration as described so far actually embodies the syntactic configuration of an ordinary predicative domain.

The special thing in the structure in (1), however, arises when we consider the highest extended projection of X, that is, the YP-projection. As it can be observed here, the unusual thing is that a DP-argument appears base-generated in its specifier, i.e., Spec, YP. As indicated by the subscript, we also notice that this DP will have to corefer with the grammatical subject downstairs, which is the null subject *PRO / pro*.

Now what this syntactic configuration tells us is that, if this arrangement of lexical and functional categories can be instantiated by some construction in some language, then language in general must permit the possibility for a *single* extended projection - YP in (1) - to contain two predicative relationships. In (1), on the one hand, we have the predicative relationship that is established by the null subject *PRO / pro* in Spec, XP and the X´-constituent. I call this subject-predicate relationship the *internal predication* of the CSCl. As we will see, this internal predication can come in two varieties: either as a verbal clause (section 2) or as a Small Clause (section 3).

On the other hand, we also have the predicative relationship that is set up by the DP in Spec, YP and the Y´-constituent. I call this predicative relationship the *external predication* of the CSCl. Now the nature of this external predication will determine the status, and hence the behavior, of the whole construction in (1). At this point, we already know that Y must be the highest extended projection of the lexical head X. This means that Y cannot be itself a lexical head, but a functional element (or semilexical, grammatical... head (see Corver and Riemsdijk 2001, Rafel 2001). On the other hand, we know that the head of a full clause can only be verbal. Therefore, if the construction in (1) is headed by Y, which is not a verb, then we can already anticipate that the whole construction in (1) will behave like a Small Clause.[2] Hence the name complex *Small Clause*.

Differently from ordinary SCls, though, here the predicate of this "Small Clause" contains a full-fledged predication. In other words, its predicate is much more complex than that of a regular SCl.[3] Hence the term *Complex* small clause.

What I want to do in the remainder of this article is to discuss the properties of several constructions in order to demonstrate that the syntactic configuration described by the CSCl-structure in (1) really exists. And, importantly, it really exists as a general structure. That is, this configuration is proven to encode the semantic and syntactic properties of various constructions in different languages. This means that language must indeed admit the possibility for a single extended projection to contain two predicative relationships, an idea that, I think, would be worth taking into account when we intend to explain the semantic or syntactic properties of constructions that behave like SCls.

The constructions that I deal with here are divided in two types. Type 1 represents constructions that express an event in progress in Romance and Germanic languages. These

[1] This apparent "optional choice" simply responds to the more general controversy surrounding the type of Case that *PRO* checks, if any.

[2] For the concept of Small Clause, see Stowell 1981, 1983, and for some discussion with regard to this notion, see Cardinaletti and Guasti 1995.

[3] Recall that the predicate of a regular SCl is X´, where X is a lexical category (N, A, P). As I point out in section 4.2 below, there cannot be "regular" SCls where X is V. I claim that the so-called Verbal Small Clauses are actually Complex Small Clauses, where X is V and the (C)SCl-subject is base-generated in the specifier of the highest extended projection associated with that V.

constructions are discussed in section 2. Type 2, on the other hand, are complex constructions the predicate of which is nominal or adjectival. I explore constructions containing the words *regard-as* and *take-for*. But within this type I also include resultative constructions in Chinese, although I claim that the analysis for the Chinese resultative constructions can also be extended to the resultative constructions in English. This is the topic of section 3. Finally, in section 4, I point out some general conclusions both for the general Theory of Grammar and for the SCl-Theory that can be drawn from the CSCl-structure presented in this article.

2 Complex Small Clauses *Type 1*: The Progressive

The constructions that are discussed in this section have two properties in common at least. The first one is that they all respond to the CSCl-structure presented in (1) above. And the second one is that they all express an event in progress. In section 2.1, I focus on the so-called Pseudo-Relative in Romance. In section 2.2, I consider the so-called Prepositional Infinitival Construction, which is found in European Portuguese, in some Italian and English dialects, and in Middle English. But, as we will see, the nominal version of this construction is also found in languages like German and Dutch.

2.1 The Pseudo-Relative

The so-called Pseudo-Relative (PR) is a construction that is used in the majority of the Romance languages to express an event in progress. An example is provided in (2) for Spanish, (2a), and French, (2b).[4]

(2) a. He visto a [$_{PR}$ Juan que corría.]
b. J´ai vu [$_{PR}$ Jean qui courait.]
I have seen to-$_{ACC}$ John that ran.he-$_{IMPERF}$
`I saw John running.´

Before going on, let me just remark that this construction is not a relative clause. There are some arguments that conclusively show that this is so. Here are some of them:

(i) In the PR, the *that*-constituent does not modify the DP, but it rather expresses a situation in which that DP is a participant. This is what allows the whole construction to express an event in progress.

(ii) The DP can be a proper name in the PR, and, importantly, there is no break in the intonation between the DP and the *that*-constituent, at least necessarily.

*(iii)*Differently from a relative clause, the DP can only be interpreted as (or associated with, see shortly below) the subject of the embedded finite verb.

(iv) The tense of the *that*-constituent must match the tense of the matrix clause only in the PR.

(v) And only in the PR the DP can be extracted leaving the *that*-constituent behind.

Now, from a semantic point of view, the PR can only express an *event* in progress. In other words, this construction cannot denote a *proposition* despite being a CP-constituent. As expected, then, the only type of verbs that will be able to appear in this structure are verbs that are related to events. If this condition is not satisfied, the sentence becomes ungrammatical. This is what the example in (3a) shows us.[5]

[4] Constructions like *I saw [John running]* are ungrammatical in some Romance languages like, for instance, French and Italian.

[5] In this section I use Spanish data, but crucially the same effects do also hold for the other Romance languages that possess this construction.

(3) a. *Vi a [Juan que *sabía* francés.] PR → *proposition
saw.I to-$_{ACC}$ Juan that knew.he French
b. Vi [que Juan *sabía* francés.] CP → ^{OK}proposition
saw.I that Juan knew.he French
`I saw that Juan could speak French.´

Notice that here the verb used is *saber* (`to know´), namely a verb typically linked to propositional expressions. The example in (3b), on the other hand, indicates that the verb *saber* (`to know´) can appear in an ordinary CP-structure, since the inherent semantic properties of this verb are not in conflict with the propositional status of a CP.

There are also some interesting syntactic facts that define the PR. To begin with, it is important to remark that this construction is interpreted as a single constituent, at least in one possible reading. Therefore, a pronoun like *lo* (`it´) can resume the whole construction, as illustrated in (4).[6]

(4) He visto a [María que corría.] Yo también *lo* he . visto.
have.I seen to-$_{ACC}$ María that ran.she I also it have.I seen
`I saw María running. I saw it too.´

Note, incidentally, that this possibility clearly indicates that we are not dealing with a complex DP headed by the N *María* in (4), but rather with a "thing." And this "thing" here is an event.

As far as the assignment / checking of theta-roles and Cases is concerned, we must assume, first, that the constituent headed by the V assigns an external theta-role to an argument base-generated in its Spec, namely, in Spec, VP. This theta-role will be that of AGENT if the V is *to run*, as in (4). The Case that this argument will check off will be the nominative that is provided by the finite IP. Now, at this point, we can follow two possible ways:

Hyp. 1] The first one is to suppose that the argument that is base-generated in Spec, VP is the lexical DP (*Juan*). In this hypothesis, then, this is the element that will check off the nominative Case that is provided by the finite IP.

Hyp. 2] The second approach consists in saying that the argument that is base-generated in Spec, VP is null, and that this is the element that will check off the nominative Case that is provided by the finite IP. Since this null argument checks nominative Case, then it has to be a *pro*. Notice that, in this hypothesis, the licensing of *pro* in the PR does not differ from the licensing of the *pro* that appears in an ordinary clause, like the one in (5).

(5) *pro* corría.
ran.(s)he-$_{IMPERF}$
`(S)he was running.´

Now, if we adopt this second hypothesis, then we must address the question concerning the position in which the lexical DP (*Juan*) is base-generated in the PR. The claim is that this lexical argument is base-generated in Spec, CP. This idea is consistent with the fact that this argument shows up preceding the C *that*, which is the highest extended projection of the lexical head, namely the verb, and the fact that the whole construction can be replaced by the pronoun *lo* `it´ (see (4)). Notice that this latter fact prevent us from saying that the DP is base-generated in a higher position. Were this the case, then the whole construction would be expected to behave like a complex DP-structure, contrary to what we have.

The next question that arises from this second hypothesis is how this DP is licensed semantically and structurally. The answer is that it must be semantically licensed by predication. If

[6] As expected, all the traditional constituency tests can be also successfully applied to this construction. So, for example, the PR can be clefted, pseudoclefted, the answer to a question, etc.

predication necessarily involves the assignment of a theta-role, then we should assume that this DP gets a theta-role from the C´-constituent, since this C´-constituent is predicated of this DP. On the other hand, the sentence in (6) shows us that this DP is structurally licensed by checking off the accusative Case that is provided by the matrix verb.

(6) {*Lo / La*} he visto [que (*pro*) corría.]
him / her have.I seen that ran.(s)he-IMPERF
`I saw {him / her} running.´

Now this fact is crucial since it immediately allows us to rule out the first hypothesis presented above. This is so since, according to that approach, the lexical DP (*Juan*) would end up checking off two structural Cases in the PR. The nominative assigned by the embedded finite IP, and the accusative assigned by the matrix verb (see (6)). Of course, this goes against the general idea that an argument is frozen in place when it checks structural Case (Chomsky 1995). So, at this point, we are just left with one hypothesis, the second one.

Another interesting fact about the PR is that the lexical subject must necessarily corefer with the null subject *pro*. In the example in (7), for instance, this condition is not fulfilled. So, as expected, the sentence is ruled out.

(7) *He visto a [*María*$_i$ que *pro*$_k$ corrían.]
have.I seen to-ACC Maria that ran.they

The observations provided so far are just part of a battery of arguments that lead us to analyze the PR the way it is shown in (8).[7]

(8) PR = [$_{CP\,(CSCl)}$ Juan$_i$ [$_{C'}$ que [$_{IP}$ [$_{VP}$ *pro*$_i$ [$_{V'}$ corría]]]]]
Juan that ran.he-IMPERF
(1) CSCl = [$_{YPx}$ DP$_i$ [$_{Yx'}$ Y$_X$ ..... [$_{XP}$ {*PRO*$_i$ / *pro*$_i$} [$_{X'}$ X ...]]]]

Now notice that this structure reproduces the syntactic configuration that is put forward by the CSCl-model presented in section 1 above. The CSCl-model is reproduced here again so we may compare the general structure, (1), with a specific realization of this model, (8).[8]

2.2 The Prepositional Infinitival Construction

Interestingly enough, European Portuguese does not accept the PR despite being a Romance language. Instead, it uses the so-called Prepositional Infinitival Construction (PIC) to express an event in progress. As we can see in (9), the PIC is formed by a lexical DP, the P *a* (`at´), and an infinitive, which can show up inflected, as in (9a), or as a bare infinitive, as in (9b).

(9) a. Eu vi [$_{PIC}$ os meninos a correr*em*.]

[7] There are two important things that must be pointed out here. The first one is that the PR can be an argument or an adjunct. In the former case, the PR is selected by a lexical head. The analysis, then, would be as shown in (8). In the latter, it just functions like a depictive SCl. This means that Spec, CP would be occupied by a *PRO* which would be controlled by a DP argument. These two versions are also found in the Prepositional Infinitival Construction (section 2.2) and in the progressive *–ing* Construction (section 2.3).

The second thing is that the lexical DP in Spec, CP in (8) must corefer with the *grammatical* subject of the internal predication, independently of the semantic properties of this grammatical subject. That is, the grammatical subject can turn out to be a nonanimate entity or an internal argument. This latter possibility is what we find when the verb in the PR is unaccusative or passivized. Again, these phenomena also apply to the Prepositional Infinitival Construction and to the progressive *–ing* Construction.

[8] For more details on the analysis in (8) and the analyses that are presented in the remainder of this article, see Rafel 2000b.

b. Eu vi [$_{PIC}$ os meninos a correr.]
I saw the children at run-$_{INF}$-(3P, PL)
`I saw the children running.´

The sentences in (10), on the other hand, tell us that the same structure is also productive in some Italian and English dialects, and was productive in Middle English.

(10) a. [L´] ho visto [a corre.] [Falconara dialect, Italy]
him have.I seen at run-$_{INF}$
`I saw him running.´
b. [He]´s been [a-hunting a deer.] [Modern Appalachian English, U.S.A.][9]
c. [He] was [{on > a} laughing.] [Middle English]

Not surprisingly, the PIC behaves semantically and syntactically just like the PR. From a semantic viewpoint, then, this construction cannot express a proposition, but only an event. So the argument that was used above to show this very same thing for the PR can be reproduced here again this time using the PIC. Consider the following contrast:

(11) a. *Eu vi [o João a *saber* francês.] PIC → *proposition (cf. (3))
I saw.I the João at know-$_{INF}$ French
b. Eu vi [que o João *sabia* francês.] CP → ^{OK}proposition
I saw.I that the João knew.he French
`I saw that João could speak French.´

As expected, the verb *saber* (`to know´) cannot appear in the PIC, (11a), but it can show up in a regular CP-structure, (11b). This indicates that the PIC is a syntactic construction that can only denote an event and, because of that, it cannot contain verbs that are not inherently linked to that ontological category.

As far as its syntactic properties are concerned, we must say first that the PIC can also be interpreted as a single constituent in one reading. So it can be resumed by the clitic *it* or be pseudoclefted. This latter possibility is illustrated in (12).

(12) *O* que eu vi foi [os meninos a correr(em).] (cf. (4))
what that I saw was.it the children at run-$_{INF}$-(3P, PL)
`What I saw was the children running.´

As usual, we must also suppose here that the specifier of the phrase projected by the infinitive, that is, Spec, VP, hosts the argument that will be assigned the theta role of AGENT by the constituent headed by the V *to run*. But, once again, the nature of this argument leads us to consider two possible ways to proceed.

Hyp. 1] In the first hypothesis, we would say that the argument that is base-generated in Spec, VP is the lexical DP (*os meninos*). From this viewpoint, this argument would be the one that checks off the nominative Case that is provided by the IP only when the infinitive shows up inflected. If the infinitive is bare, then this lexical DP would need to move up into the matrix clause to check off accusative Case.

Hyp. 2] The second approach consists in saying that the argument that is base-generated in Spec, VP is null. This null argument would be a *pro* if it can check off nominative Case. This would

[9] It is interesting to notice that the DP *the deer* is not preceded by the P *of*, which indicates that *hunting* is a V and, as a such, it assigns accusative Case.

occur when the infinitive appears inflected. If the infinitive is bare, then the null subject would be a *PRO*, and presumably would check off a sort of null Case.[10]

Of course, this second hypothesis needs to tell us where the lexical DP (*os meninos*) is base-generated in the construction. The answer would be that this DP is base-generated in Spec, PP. Again, this would be so because of the fact that this argument appears preceding the P *a* (`at´) and the whole construction is not interpreted as a complex DP, but as a clause.[11] This latter aspect prevent us from assuming that this DP is base-generated in a higher position.

So, according to this second hypothesis, the lexical DP is base-generated in the specifier of the highest extended projection of the lexical head of the construction, namely the verb. Notice that the P *a* (`at´) is the aspectual element that provides the PIC with its progressive interpretation. This means that this element is a functional head that operates on the infinitive. Now the idea that it is the highest head of the verbal functional domain is strongly supported by the German and Dutch data presented shortly below.

The sentence in (13), on the other hand, shows us that the accusative Case that is provided by the matrix verb is checked off by the lexical subject contained within the PIC.

(13) Eu vi- [*os* a correr(em).] (cf. (6))
I saw them at run-INF-(3P, PL)
`I saw them running.´

Interestingly, it shows us that this occurs independently of the agreement properties of the embedded verb. In other words, the lexical DP checks off accusative Case even when the embedded IP can provide nominative Case. Again this leads us to adopt the second hypothesis pointed out above as the right one. Otherwise we would be claiming that an argument can check off two structural Cases.

Exactly like in the PR, the lexical subject has to corefer necessarily with the null grammatical subject downstairs. Thus, the sentence in (14) is out just because this condition is not satisfied.

(14) *Eu vi [*o João*$_i$ a {*PRO*$_k$ / *pro*$_k$} correr(*em*).] (cf. (7))
I saw the João at run-INF-(3P, PL)

Based partly on the analysis that Raposo 1989 proposes for these constructions, partly on the properties that we have seen here, we can say that the syntactic analysis of the PIC is as shown in (15).

(15) PIC = [$_{PP\,(CSCl)}$ os meninos$_i$ [$_{P'}$ a [$_{CP}$ [$_{C'}$ [$_{IP}$ [$_{VP}$ *pro*$_i$ [$_{V'}$ correr*em*]]]]]]]
PIC = [$_{PP\,(CSCl)}$ os meninos$_i$ [$_{P'}$ a [$_{CP}$ [$_{C'}$ [$_{IP}$ [$_{VP}$ *PRO*$_i$ [$_{V'}$ correr]]]]]]]
the children at run-INF (3P, PL)
(1) CSCl = [$_{YPx}$ DP$_i$ [$_{Yx'}$ Y$_X$ ..... [$_{XP}$ {*PRO*$_i$ /*pro*$_i$} [$_{X'}$ X ...]]]]

As you may have already noticed, the syntactic organization of this construction, (15), also faithfully matches the more general syntactic configuration that I have called CSCl-structure, (1).

Before moving on to the English data, let us very briefly consider the German and Dutch examples that we have in (16).

(16) a. [Jan] war [am Schreiben eines Briefes.] (German)
Jan was at.the write a-GEN letter-GEN
`Jan was writing a letter.´

[10] See footnote 1.

[11] For example, it can be resumed by the clitic *it*, as pointed out above, and it triggers a third person, singular agreement on the matrix verb when the whole construction occupies the subject position in the sentence.

b. [Jan] was [een brief aan het schrijven.] (Dutch)
Jan was a letter at the write
`Jan was writing a letter.´

The elements that make up these constructions are just like the elements that make up the PIC. And, just like the PIC, these structures do also express an event in progress, as we can see through the translations into English. Now the only relevant difference between the constructions in (16) and the PIC is found in the fact that here the aspectual P *at* is not part of the extended projection of a V, but part of the extended projection of a nominalized V. Since this seems to be the only significant difference between these constructions and the PIC, it seems plausible, at least in principle, to analyze the constructions in (16) as indicated in (17). (`Nom.´ means``nominalized version of the PIC´.)

(17) Nom. = [$_{PP}$ Jan$_i$ [$_{P'}$ an [$_{DP}$ dem [$_{NP}$ *PRO*$_i$ Schreiben eines Briefes]]]]
Jan at the write a-$_{GEN}$ letter-$_{GEN}$
(1) CSCl = [$_{YPx}$ DP$_i$ [$_{Yx'}$ Y$_X$ ..... [$_{XP}$ {*PRO*$_i$ / *pro*$_i$} [$_{X'}$ X ...]]]]

Notice that these constructions clearly show, on the one hand, that the lexical DP is base-generated in the specifier of the projection headed by the aspectual marker *an* `at´, namely Spec, PP. And, on the other hand, that this aspectual element is the highest head associated with the lexical noun, since it precedes a DP-projection with an overt D (*dem*).[12] This is strong evidence in favor of the idea that, in the verbal version of this construction, namely in the PIC, the lexical DP is also base-generated in this position, that is, in Spec, PP, and that the P *a* `at´ is also the highest head associated with the lexical head of the construction, namely the verb (see (15)). Now the difference lies in that in the PIC the P *a* `at´ precedes a CP, the head of which is null.[13]

2.3 The *–ing* Construction

An obvious question that arises at this point is whether a similar syntactic configuration like the one proposed here for the PR and the PIC can also be applied to the progressive construction in Modern English, in which a suffix *–ing* appears attached on the verbal head (*-ing* Construction). An example is provided in (18) for Spanish, which also admits it, and English.

(18) a. He visto a [$_{-ing\ C}$ Juan corrie*ndo*.]
have.I seen to-$_{ACC}$ Juan running
`I saw Juan running.´
b. I saw [$_{-ing\ C}$ John runn*ing*.]

I can already anticipate that the answer is affirmative, that is, that this construction perfectly accommodates to the CSCl-model put forward here. But before presenting the analysis, let me first remark some properties that show that this construction behaves just like the PR and the PIC.

The first important thing for our purposes here is that this construction does not denote a proposition. So, as we have already seen before for the PR and the PIC, a verb that does not express

[12] As David Adger points out to me, the nominal version of the PIC is also used in Irish, as shown in (i).
(i) Chunnaic mi lain na ruith.
saw I John in-$_{AGR}$ (his) running
`I saw John running.´
The interesting thing about Irish lies in that the P *na* `in´ appears inflected. This indicates that there is a *pro* between this P and the nominalized verb. That an inflected P is followed by an argumental *pro* in Irish has been independently demonstrated in McCloskey and Hale 1984.

[13] The (phonological) null properties of the C must be attributed to the infinitival form of the verb. That is, in Portuguese, as in many other Romance languages, an infinitive is always linked to a null C. So, in this sense, the PIC does not stand as an exception at all.

an event will not be allowed to appear in this construction. This is the case of the verb *to know*. This fact is illustrated by the already familiar contrast in (19) (cf. (3) and (11)).

(19) a. *I saw [John *knowing* the answer.] *-ing* C → *proposition
b. I saw [that John *knew* the answer.] CP → ^{OK}proposition

In this sense, the *-ing* Construction differs from another construction in English in which the verb also appears bearing the suffix *–ing*. This construction, which can be combined with verbs like *to hate* and *to remember*, is apparently an ordinary CP and, as expected, denotes a proposition. A pair of examples are provided in (20).

(20) a. I hate [{everybody / PRO } tell*ing* him what he has to do.] = proposition
b. I remember [PRO hav*ing* read all these books.] = proposition

Some relevant differences between this construction and the progressive *-ing* Construction are the following:

(i) The embedded structures in (20) do not express an event in progress, but a proposition.
(ii) The subject of the embedded constructions in (20) can be a null PRO. This possibility is not available in the progressive *-ing* Construction. Compare (20) with (21).

(21) a. I saw [$_{\text{-}ing}$ C {*John / *PRO*} watching the stars.] = event
b. I saw [$_{\text{-}ing}$ C {*myself / *PRO*} watching the stars.] = event

*(iii)*Even though Spanish has the progressive *–ing* Construction, (22a), it does not possess the propositional construction with *–ing*, (22b).

(22) a. He visto a [$_{\text{-}ing}$ C Juan corri*endo*.] = event
have.I seen to-$_{ACC}$ Juan running
`I saw Juan running.´

b. *Odio a [todo el mundo dici*éndo*le lo que tiene que hacer.] = proposition
hate.I to-$_{ACC}$ all the world telling.him what that has.he that do-$_{INF}$
(intended meaning: `I hate everybody telling him what he has to do.´)

Thus, in the Spanish counterparts of the English sentences in (20) we can only find either a *that*-clause (when the subject of the matrix clause and the subject of the embedded clause do not refer to the same person), (23a), or an infinitival complement (when the subject of the main clause and the subject of the embedded construction do refer to the same person), (23b).

(23) a. Odio [$_{\textit{that}\text{-clause}}$ *que* todo el mundo le diga lo que tiene que hacer.]
hate.I that all the world him tell what that has.he that do-$_{INF}$
`I hate everybody telling him what he has to do.´

b. Odio [$_{\textit{Inf}\text{-clause}}$ *PRO* decirle lo que tiene que hacer.]
hate.I tell-$_{INF}$-him what that has.he that do-$_{INF}$
`I hate telling him what he has to do.´

This indicates that the progressive *–ing* Construction and the embedded structures in (20) are indeed different constructions.

Like the PR and the PIC, the progressive *-ing* Construction can also be interpreted as a single constituent, at least in one possible reading. Thus, the whole (embedded) structure in (24) can be resumed by the clitic *it*.

(24) I saw [John running.] I saw *it* too. (cf. (4) and (12))

Let us point out now what we know for sure about the assignment of theta-roles and Cases in this construction. First, we know that, as usual, the verb *to run* in (25) assigns an external theta role (AGENT) to an argument situated in the Spec of its projection, that is, Spec, VP. And, secondly, we know that a lexical DP contained within the progressive *-ing* Construction checks off the accusative Case that is provided by the matrix verb in the example in (25).

(25) I saw [*him* run(n)ING.] (cf. (6) and (13))

On the other hand, we also know for sure that the suffix *–ing* that appears on the verb is the aspectual marker that provides the construction with its progressive interpretation, and that this construction does not denote a proposition. In other words, it seems fair to think that this construction cannot be an ordinary CP-structure, probably in contrast to the embedded *-ing* constructions in (20).

Now, if we put together all the things that we know for sure about the *-ing* Construction,[14] then we are led to analyze this construction the way it is depicted in (26).

(26) *-ing* C = $[_{CP\,(CSCl)}$ John$_i$ $[_{C'}$ _ing $[_{IP}$ $[_{VP}$ *PRO*$_i$ $[_{V'}$ run(n)_]]]]]
(1) CSCl = $[_{YP\,X}$ DP$_i$ $[_{Y'\,X}$ Y$_X$ ..... $[_{XP}$ {*PRO*$_i$ / *pro*$_i$} $[_{X'}$ X ...]]]]

Now, as you may have already noticed, the only difference between this construction, on the one hand, and the PR and the PIC, on the other, lies in the morphological nature of the CSCl-head. That is, in this construction the CSCl-head is the aspectual suffix *–ing*. So, as a suffix, it will have to appear at the overt Syntax attached on a lexical element, in this case the verbal head. Differently, the CSCl-head in the PR and in the PIC, namely *que* and *a*, respectively, is an unbound element. So it will be able to show up at Syntax as an independent morphological head. All in all, this means that Modern English uses a *synthetic* version of the progressive construction, whereas those languages that utilize the PR or the PIC make use of the *analytic* version of exactly the same construction.

2.4 Summary

The specific instantiations of the CSCl-model that have been presented in this section are reproduced here once again in (27).

The progressive construction → A single syntactic configuration

(27) a. $[_{CP\,(CSCl)}$ Juan y María$_i$ $[_{C'}$ que $[_{IP}$ *pro*$_i$ corrían]]] *(analytic)*
b. $[_{PP\,(CSCl)}$ o João e a Maria$_i$ $[_{P'}$ a $[_{CP}$ $[_{C'}$ $[_{IP}$ *pro*$_i$ correrem]]]]] *(analytic)*
c. $[_{PP\,(CSCl)}$ o João e a Maria$_i$ $[_{P'}$ a $[_{CP}$ $[_{C'}$ $[_{IP}$ *PRO*$_i$ correr]]]]] *(analytic)*
d. $[_{CP\,(CSCl)}$ John and Mary$_i$ $[_{C'}$ _ing $[_{IP}$ *PRO*$_i$ run(n)_]]] *(synthetic)*

The main properties that characterize these structures are the following:

[14] The ones mentioned in the text but also the idea that the verb must be associated with an IP- and a CP-projection; the fact that this construction behaves like a SCl, and just like the PR and the PIC, which do also express an event in progress; or the fact that the lexical subject can move further up to an A-position:

(i) a. *John*$_i$ was seen $[_{CSCl}$ t_i running.]
b. *John*$_i$ is $[_{CSCl}$ t_i running.]

(i) The CSCl-predicate (i.e., the internal predication) can be either verbal (Romance, English) or nominal (German, Dutch, Irish).
(ii) The highest extended projection of X is an aspectual marker: [Y = Asp][15]
(iii) The aspectual marker can be an independent head (*analytic* version [Romance, German, Dutch, Irish, dialectal and Middle English]) or a bound head (*synthetic* version [Modern English and some Romance languages]).

3 Complex Small Clauses *Type 2*: *regard-as / take-for* and Resultative Constructions

The question that arises at this point is whether the CSCl-model presented in section 1 can only account for the progressive construction in various languages or, differently, this syntactic configuration is more productive than that. Well, the answer is that this structure *is* more productive than that. I claim that it can also be found in constructions that here I call *regard-as* and *take-for* constructions (section 3.1), and may also be found in resultative constructions (section 3.2).

3.1 *regard-as* and *take-for* constructions

The examples of CSCl that here I call the *regard-as* and *take-for* constructions are provided in (28).

(28) a. I regard [John as my best friend.]
b. They took [John for a fool.]

Once again, let us first start remarking what we surely know about these constructions. To begin with, we know that the SCl-predicate *my best friend* and *a fool* in (28) must assign a theta-role to a subject, just like it does in the sentences in (29).

(29) a. *John*$_i$ is [$_{SCl}$ t_i my best friend.]
b. *John*$_i$ is [$_{SCl}$ t_i a fool.]

On the other hand, we know that the lexical DP *John* in (28) checks off the accusative Case that is provided by the matrix verb. This is shown in (30).

(30) a. I regard *him* as my best friend.
b. They took *him* for a fool.

Now, if we want to make things easy, we can say at this point that the argument that gets the theta-role from the SCl-predicate in (28) and the argument that checks Case within the matrix clause in (30) is exactly the same one, that is, the lexical DP *John*. Thus, from this perspective, the DP *John* would be the thematic subject of the SCl-predicate *my best friend* or *a fool*, that is, it would be base-generated in a position following the particle *as / for*. Later on, it would move up in the structure in order to check Case within the matrix clause. Hence, this lexical DP ends up in a position preceding the particle *as / for* at the overt Syntax. This line of reasoning has actually led to many linguists to propose what we can call the "traditional" analysis of these constructions. The representation is given in (31).[16]

[15] For arguments in favor of the idea that the C *que* `that´ behaves like an aspectual marker in the PR, see Rafel 2000a, b.
[16] The particles *as / for* have been taken as `prepositional complementizers´ (see Starke 1995). Even though I also use this term here, my analysis does not depend at all on the categorial status of these heads.

(31) a. [$_{CP}$ [$_{C'}$ as [$_{XP\,(SCl)}$ John [my best friend]]]]
b. [$_{CP}$ [$_{C'}$ for [$_{XP\,(SCl)}$ John [a fool]]]]

Although the analysis in (31) seems to be the simplest one (even the most logical one), it raises some important problems that should not be ignored for the sake of simplicity. Some of these problems are the following:[17]

(i) Differently from English, in Spanish subjects do not have to appear necessarily in Spec, IP at the overt Syntax (or its equivalent in a SCl). So, for example, in SCls the subject can show up either following or preceding the SCl-predicate. This is shown in (32).

(32) a. Tomaron a [*Juan* por tonto.]
took.they to-$_{ACC}$ Juan for fool
`They took Juan for a fool.´
b. Tomaron [por tonto *a Juan.*]

Despite that, the subject cannot appear in this construction between the particle *por* `for´ and the predicate *tonto* (`fool´) ever. This is illustrated in (33a).

(33) a. *Tomaron [por *Juan* tonto.]
took.they for Juan fool
b. Tomaron a [Juan por *extraordinariamente* tonto.]
took.they to-$_{ACC}$ Juan for extraordinarily fool
`They took Juan for a big jerk.´

The example in (33b), on the other hand, tells us that the ungrammaticality of (33a) cannot be attributed to some kind of affixation of the particle *for* onto the predicate *fool.*

(ii) Following the analysis in (31), we must assume that in the passive sentences in (34) the DP *John* has moved from the position where it is base-generated (an A-position), to the Spec of the projection headed by the particle *as / for* (an A-bar position)[18] and, finally, into the subject position of the matrix clause, where it checks off nominative Case (again an A-position).

(34) a. *John*$_i$ is regarded [t_i [as [t_i my best friend.]]]
b. *John*$_i$ is taken [t_i [for [t_i a fool.]]]

Now the legitimacy of this movement operation is not, by any means, obvious since we obtain a mixed [A, A´, A] chain and, according to the generative tradition, this combination should get us an ungrammatical output, in contrast to what we have, (34).

(iii) Another question is why the lexical DP in (35a) cannot be assigned structural Case by the P *for* contrary to what we have in (35b). Furthermore, we may wonder why the D/NP *women* [3 person, plural] in (36a) has to move to a position preceding the particle *as* if this D/NP does not check off the nominative Case that is provided by the finite IP of the matrix clause [3 person, singular].

(35) a. *They took [for *him* a fool.]
b. For *me* to do that, ...

(36) a. [*Women* as engineers] still surprise*s* some people. (from Emonds 1985: 276)
b. *[As *women* engineers] still surprise*s* some people.

[17] For more arguments and details, see Rafel 2000b, 2001.
[18] Since this is not an agreement position nor a theta position in this analysis. Recall, furthermore, that in this analysis *as* and *for* are considered `prepositional complementizers´.

(iv) And, finally, in the *regard-as* case, we happen to have a version in which the particle *as* introduces a finite clause, as shown in (37b).

(37) a. I regard *John* as my best friend.
b. I regard *John*$_i$ as if *he*$_i$ were my best friend.

In this finite clause we find a subject that, in this example, must corefer with the lexical DP that appears preceding the particle. Of course, the analysis in (31) does not tell us anything about the obvious relationship between the SCl-version, (37a), and the finite clause-type, (37b).

The position we are at this point is the following. We know that the SCl-predicate *my best friend* and *a fool* must assign a theta-role to a subject (see (28)-(29)), and that the lexical DP checks off the accusative Case that is provided by the matrix verb (see (30)).

But we now know that this lexical DP, first, cannot appear between the particle and the predicate ever, and, secondly, cannot move up into the matrix clause without violating some theoretical principle.

At this stage, we also know that there are some constructions that contain two subjects, one lexical and one null, within a single extended projection. Now the obvious thing to suppose at this point is that maybe a similar analysis can also be applied to these constructions. Were this the case, we would obtain the structures in (38).

(38) *regard-as* = $[_{CP\,(CSCl)}$ John$_i$ $[_{C'}$ as $[_{DP\,(SCl)}$ *PRO*$_i$ my best friend]]]
take-for = $[_{CP\,(CSCl)}$ John$_i$ $[_{C'}$ for $[_{DP\,(SCl)}$ *PRO*$_i$ a fool]]]
(1) CSCl = $[_{YPx}$ DP$_i$ $[_{Yx'}$ Y_X .... $[_{XP}$ {*PRO*$_i$ / *pro*$_i$} $[_{X'}$ X ...]]]]

Now the surprising thing is that by adopting this analysis we can immediately account for the problems that we encounter by using the traditional analysis. Here are the explanations:

(i) The lexical DP (*John*) cannot appear between the particle and the SCl-predicate because this DP is base-generated in a higher position in the structure, namely Spec, CP. Of course, the same goes for languages with a relatively free word order like Spanish (see (33a)). But, as we have already seen, in Spanish, even though we can find the SCl-subject either preceding or following the SCl-predicate (see (32)), and even lexical material between the particle *por* `for´ and the predicate *tonto* `fool´ (see (33b)), we can never find the lexical DP between these two elements. This fact could be attributed to a prohibition of inserting an argumental DP-subject into the subject domain already occupied by another argumental subject, namely *PRO*, which is, furthermore, coindexed with, or controlled by, that very same lexical DP.

(ii) In this configuration, the specifier of the projection headed by the particle turns out to be an A-position. This is so because the lexical DP is base-generated there. So this lexical DP will be free to move further up in the structure to an A-position. Hence the grammaticality of the passive sentences in (34), where we end up with a uniform [A, A] chain.

*(iii)*The lexical DP cannot get Case from the prepositional C *for* (see (35a)), as opposed to what we find in structural contexts like that in (35b), because in the derivation this lexical DP never occupies a position below that particle.

(iv) The only difference between (37a) and (37b) lies in that the constituent introduced by the particle *as* is a SCl in (37a), the subject of which is a *PRO* because it cannot check structural Case, whereas it is a finite clause in (37b), where the subject is a pronoun that can check off nominative Case.

3.2 Resultative Constructions

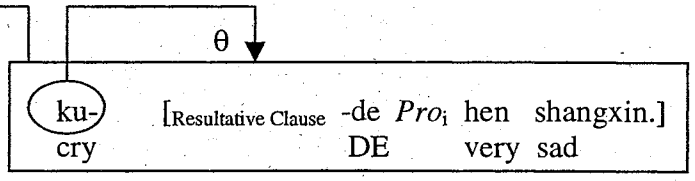
Interestingly enough, Huang (1992) proposes an analysis for the resultative constructions in Chinese that reminds us a great deal of the CSCl-structure that we are testing here.

An example of the resultative construction in Chinese is given in (39).

(39) John [ba Mary] ku- [de hen shangxin.]
John BA-PREP Mary cry-DE-CLITIC (=OLD V `obtain') very sad
(lit. John to Mary cried till very sad.)
`John cried till Mary got very sad.´

In this sentence, we can see that the resultative construction in Chinese is formed by two constituents, the ones that appear into brackets. In the first one, we have a DP, *Mary*, which is introduced by a particle, presumably a Case marker. In the second one, on the other hand, we have a particle, which derives from the old verb *to obtain*, plus an adjectival predicate that indicates the state in which the DP *Mary* ends up in.

Now, the analysis that Huang proposes for this construction is the one depicted in (40).[19]



(40) John [NP ba Mary$_i$]
John BA-PREP Mary

`John cried till Mary got very sad.´

According to this analysis, the V (*cry*) selects and theta-marks the resultative clause (*"obtain" very sad*). After that, the resultative clause (*"obtain" very sad*) plus the V (*cry*) select and theta-mark the lexical DP (*Mary*).

So the question at this point is whether this analysis accommodates or relates, if it does in any way, to the general CSCl-structure that we are using here. Well, the answer is clear cut: It does relate to the general CSCl-model since the analysis in (40) is nothing more than a "restructured" version of the CSCl-configuration. The analysis in (40) previous to the restructuring operation would look like (41).

(41) Resultatives = [CSCl Mary$_i$ [de [*Pro*$_i$ [very sad]]]]
(1) CSCl = [YPx DP$_i$ [Yx´ Y$_X$ .... [XP {*PRO*$_i$ / *pro*$_i$} [X´ X ...]]]]

Here we only have to say that the CSCl-head, which is *de* in (41), incorporates at Syntax onto the matrix verb (*cry*). Nothing else needs to be said.

Just like in other types of CSCl, the lexical subject checks structural Case (accusative) within the matrix clause, and it must corefer with the null subject *Pro*, which gets the theta-role from the adjectival predicate. As expected, if the subject of the external predication and the subject of the internal predication do not corefer, then we obtain an ungrammatical sentence. This is shown in (42) (from Huang).

(42) *ta$_k$ *ba* *fan*$_i$ chi-de [*t*$_i$ [*Pro*$_k$ hen bao]]
he BA-PREP rice eat-DE very full
(intended reading: `He ate rice and got very full.´)

The natural question to ask at this point is whether the same approach to the resultative constructions in Chinese can also be extended to the resultative clauses in English. I think that, as a hypothesis, this is a plausible idea. We would only need to say that in the resultative constructions in English the head of the CSCl is null. So the structure of the embedded construction in (43a) would be as depicted in (43b).

[19] Huang uses *Pro* for *pro* or *PRO* due to the lack of morphological evidence in Chinese in favor of one or another.

(43) a. John kicked [the door open.]

b. $[_{CSCl\ (PP)}$ the door$_i$ $[_{P'}$ $\varnothing_{[=\text{"obtain"}]}$ $[_{AP\ (SCl)}$ PRO_i $[_{A'}$ open]]]]

(1) CSCl = $[_{YPx}$ DP_i $[_{Yx'}$ Y_X ... $[_{XP}$ {PRO_i / pro_i} $[_{X'}$ X ...]]]]

As I said, this is a hypothesis that, I think, would be worth looking into.

3.3 Summary

The analyses of the constructions that have been considered in this section are reproduced here once again in (44).

Non-verbal constructions → *A single syntactic configuration*

(44)

a.	$[_{CP\ (CSCl)}$	John$_i$	$[_{C'}$ as	$[_{DP\ (SCl)}$	PRO_i	my best friend	]]]	*(analytic)*
b.	$[_{CP\ (CSCl)}$	John$_i$	$[_{C'}$ for	$[_{DP\ (SCl)}$	PRO_i	a fool	]]]	*(analytic)*
c.	$[_{PP(CSCl)}$	the door$_i$	$[_{P'}$ $\varnothing$	$[_{AP\ (SCl)}$	PRO_i	open	]]]	*(??)*

The main properties that characterize these structures are the following:

(i) The CSCl-predicate is nominal or adjectival.
(ii) The highest extended projection of X is either a modal marker (*as / for*) or a relational element (resultatives).
(iii) This marker can be an independent head (*analytic* version [*regard-as* and *take-for* constructions]) or a bound head (*synthetic* version [Chinese resultative constructions]).

4 The Complex Small Clause-structure: Some consequences

In this article, I have put forward the structural model of what I have called a *Complex Small Clause*, and have applied this model to several constructions in different languages. The (main) constructions that have been examined and the analysis in terms of a CSCl that has been proposed for each one of these constructions appear in (45).

(45)

a.	$[_{CP\ (CSCl)}$	Juan$_i$	$[_{C'}$ QUE	$[_{IP}$	*pro*$_i$	corría	]]]	*(analytic)*
b.	$[_{PP\ (CSCl)}$	os meninos$_i$	$[_{P'}$ A	$[_{CP}$	*pro*$_i$	correrem	]]]	*(analytic)*
c.	$[_{PP\ (CSCl)}$	os meninos$_i$	$[_{P'}$ A	$[_{CP}$	PRO_i	correr	]]]	*(analytic)*
d.	$[_{CP\ (CSCl)}$	John$_i$	$[_{C'}$ _ING	$[_{IP}$	PRO_i	run(n)_	]]]	*(synthetic)*
e.	$[_{CP\ (CSCl)}$	John$_i$	$[_{C'}$ AS	$[_{DP\ (SCl)}$	PRO_i	my best friend	]]]	*(analytic)*
f.	$[_{CP\ (CSCl)}$	John$_i$	$[_{C'}$ FOR	$[_{DP\ (SCl)}$	PRO_i	a fool	]]]	*(analytic)*
g.	$[_{PP(CSCl)}$	the door$_i$	$[_{P'}$ $\varnothing$	$[_{AP\ (SCl)}$	PRO_i	open	]]]	*(??)*

In this section, I remark some consequences that can be drawn from the discussion presented in this paper. In section 4.1, some consequences for the general Theory of Grammar are pointed out. In section 4.2, I outline some consequences for the SCl-Theory. Of course, these general consequences must be implemented by the ones drawn by the reader.

4.1 Some consequences for the General Theory of Grammar

• We have learned that a structural model, the one put forward by the *Complex Small Clause*-structure, explains the semantic and syntactic properties of a set of constructions that up to now have been analyzed in tremendous different ways.

• The constructions examined here have told us once again that every element counts, be it an independent head or a morpheme. So the simplest element can determine the syntax and semantics of the construction it appears in. For example, we have seen that the particle *as* that shows up in the *regard-as* construction is not an "optional" head, that is, the phonological realization of the head of a PredP-projection, as sustained in Bowers 1993, but the head of a CSCl. So there is an important semantic and syntactic difference between the example in (46a), on the one hand, and the ones in (46b, c), on the other.

(46) a. I consider [$_{SCl}$ John my best friend.]
b. I consider [$_{CSCl}$ John *as* my best friend.]
c. I consider [John *as* if he were my best friend.]

This means that, if there is really a PredP introducing a clause, be it a full clause or a small clause, its head cannot be covert or overt optionally.

The *–ing* Construction, on the other hand, shows us that the same simple element can also be linked to different semantic and syntactic structures. We have seen that the suffix *–ing* can be associated presumably with a plain CP, (47a), or associated with a CSCl-configuration, (47b). In the former case, the construction has a propositional value, whereas in the latter context it denotes an event.

(47) a. I hate [$_{CP}$ people tell*ing* him what he has to do all the time.]
b. I saw [$_{CSCl}$ him runn*ing*.]

4.2 Some consequences for the SCl-Theory

• The CSCl-model suggests that predication is the result of a syntactic relationship. We have seen that a full-fledged predicative relationship can be itself predicated of a subject, although certain conditions must be met. The most remarkable ones are (just to recall):

(i) The CSCl-subject must be base-generated in the Spec of the *highest* extended projection associated with the lexical head of the construction (X).

(ii) The CSCl-subject must corefer with the *grammatical* subject of the internal predication.

This structural configuration is used to express the idea that an entity (DP) is or becomes (progressive and resultatives, respectively) a participant in some sort of *event* (e) [Type 1] or *situation* (s) [Type 2]:

(48) a. [DP ^ e] where *e* is [$_{Event}$ PRO V]
b. [DP ^ s] where *s* is [$_{Situation}$ PRO A / N]

• A functional (or semi-lexical, grammatical...) element (see Corver and Riemsdijk 2001, Rafel 2001) can be the head of a SCl. This occurs when a subject is base-generated in the specifier of its projection. This means that the asymmetry between lexical and functional categories traditionally assumed by the Small Clause Theory (since Stowell 1981, 1983) does not exist.

The functional properties of the CSCl-head make us expect this head to "look for a lexical host." It can already do it at the overt Syntax. In this case, we can see that the CSCl-head can look either "down," like in the progressive construction in English [*-ing* run(n)-], or "up," like in the resultative constructions in Chinese [eat-*de*]. But it can also wait and do it after Spell Out. In this

case, the CSCl-head shows up at the overt Syntax as an independent head, like in the PR [*que* corría], PIC [*at* work], `regard-*as*´, and `take-*for*´ constructions.

• The so-called `Verbal Small Clauses´ may just be tokens of the CSCl-model. From this viewpoint, in a full clause the subject would be base-generated in Spec, VP, whereas in a Verbal Small Clause the subject of the construction would be base-generated in the Spec of the highest extended projection associated with the verb. This is what occurs in the examples of Verbal Small Clause that have been considered in this article, namely the PR, the PIC and the progressive *-ing* Construction. But it is also expected to happen in other examples of Verbal Small Clause, typically in the so-called Bare Infinitive (BI), (49). ((49a) is in Spanish.)

(49) a. He visto a $[_{BI}$ Juan correr.]
have.I seen to-$_{ACC}$ Juan run
`I saw Juan run.´
b. I saw $[_{BI}$ John run.]

According to the position adopted here, the BI would be analyzed as shown in (50). Compare (50) with the version of the PIC in which the lexical head is a bare infinitive, (15).

(50) BI = $[_{CP}$ $John_i$ $[_{C'}$ ∅ $[_{IP}$ $[_{VP}$ PRO_i $[_{V'}$ run]]]]]
(1) CSCl = $[_{YPx}$ DP_i $[_{Yx'}$ Y_X ... $[_{XP}$ {PRO_i / pro_i} $[_{X'}$ X ...]]]]

This is a possibility that, I think, deserves to be explored seriously, just like the analysis of the resultative construction in terms of a CSCl addressed in section 3.2 above.

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WHAT SECONDARY PREDICATES IN RUSSIAN TELL US ABOUT THE LINK BETWEEN TENSE, ASPECT AND CASE*

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Abstract

In this paper I show that the different case marking possibilities on predicate adjectives in depictive secondary predicates in Russian constitute the uninterpretable counterpart of the interpretable tense and aspect features of the adjective. Case agreement entails that the predicate adjective is non-eventive, i.e., it occurs when the event time of the secondary predicate is identical to the event time of the primary predicate. The instrumental case, however, entails that the secondary predicate is eventive: some change of state or transition occurred prior to or during the event time of the primary predicate. I claim that case agreement occurs in conjoined tense phrases in Russian, while the instrumental case occurs in adjoined aspectual phrases. In English, secondary predication is sensitive both to the structural location of its antecedent and to the event structure of the primary predicate. I suggest that depictives with subject antecedents in English are true adjunction structures, while those with direct object antecedents occur in a conjoined aspectual phrase. This hypothesis finds support in the different movement and semantic constraints in conjunction versus adjunction phrases in both English and Russian.

0. Introduction

In this paper I address a classic problem of Russian grammar, namely the different case marking possibilities found on predicate adjectives like examples (1)-(5).[1,2]

* I am extremely grateful for the unrelenting patience of my Russian native informants who willingly gave up many hours of their precious time to answer my never-ending questions. Thanks go especially to Polina Rikoun, Ekaterina Dianina, Alfia Rakova, Vadim Platonov, Alexander Spektor and Misha Dobroliubov. Thanks also go to Patricia Chaput, Michael Flier, Catherine Chvany, Sue Brown, Rachel Platonov, Stephanie Harves and the participants in the Slavic linguistics colloquia at Harvard. My ideas in this paper were also influenced by comments made by David Pesetsky in his graduate course on tense and aspect in syntax at MIT, cotaught with Sabine Iatridou in the fall of the 2001-2002 academic year. The usual disclaimers apply.

[1] In Russian every noun and adjective is marked with one of six morphological case endings. I use the following shorthand for the different cases: NOM = nominative; ACC = accusative; GEN = genitive; DAT = dative; PREP = prepositional; INSTR = instrumental.

[2] Russian is a language in which scrambling is common and appears to be cost-free. There is, however, a simple test to determine whether a predicate adjective with case agreement is predicative and not attributive. Attributive adjectives cannot modify object pronouns in Russian, as the examples below show.

(i) * Milicija privela p'janogo ego domoj.
Police brought drunk-ACC him-ACC home

(1) Vadim vernulsja iz bol'nicy zdorovyj/ zdorovym.
Vadim-NOM returned from hospital healthy-NOM/cured-INSTR
'Vadim returned from the hospital healthy/cured.'

(2) Ja zakazala $rybu_i$ $syruju_i$/ $syroj_i$.
I ordered fish-ACC raw-ACC/ raw-INSTR
'I ordered the fish raw'.

(3) My tancuem p'janye/ p'janymi.
We-NOM dance drunk-NOM/ drunk-INSTR
'We are dancing drunk/we dance drunk'.

(4) Ja pokupaju $banany_i$ $spelye_i$/ $spelymi_i$.
I-NOM buy bananas-ACC ripe-ACC/ ripe-INSTR
'I am buying the bananas ripe/I buy (my) bananas ripe'.

(5) Ja pozvonila emu_i $p'janomu_i$/ *$p'janym_i$.
I-NOM phoned him-DAT drunk-DAT/ *drunk-INSTR
'I phoned him (and he was) drunk'.

These constructions are all depictive small clauses. They are commonly referred to as adjunct small clauses, since the predicate adjective is not obligatory. In Russian, the only difference between the minimal pairs in examples (1)–(4) above is the case ending on the predicate adjective. Each example, however, has a different interpretation. In example (1) case agreement (by which I mean that the predicate adjective exhibits the same case marking as its antecedent), entails a description of Vadim's state at the point in time at which he returned home, i.e., the event time of the secondary predicate is identical to that of the primary predicate. The predicate adjective with instrumental case, however, entails that Vadim's healthy state is the result of a change of state at some point prior to the event time of the primary predicate. The different English translations capture this change of state versus its absence in these examples.[3] In example (2) the instrumental case entails a comparison between ordering the fish in its raw state versus, say, its cooked state. The adjective with case agreement does not entail any sort of comparison and simply describes the state of the fish at the time of the ordering event. In examples (3) and (4) the predicate adjectives with case agreement lend a progressive interpretation to the verb phrase, while the predicate adjectives with instrumental case lend a habitual or generic interpretation. In example (5) the verb takes an obligatory quirky case marked object—the dative—and case agreement on the predicate adjective is obligatory.

In this paper, I will show that the case agreement versus instrumental dichotomy is intimately connected to the event structure of both the primary and secondary

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(ii) Milicija privela ego domoj p'janogo.
Police brought him-ACC home drunk-ACC
(Example taken from Nichols 1981: 156)

The examples in this paper have been tested with pronominal antecedents.

[3] I thank Asya Pereltsvaig for discussing this example and similar examples with me.

predicate.[4] I will claim that the different case marking possibilities constitute the uninterpretable counterpart of interpretable tense and aspect features in secondary predicate constructions. Case agreement on predicate adjectives is the uninterpretable counterpart of interpretable tense, while the instrumental case is the uninterpretable counterpart of interpretable aspect. This work thus builds on recent analyses in the literature on C/case that address the link between C/case and tense or aspect (see, for instance, Krifka 1991, Ramchand 1997, Kiparsky 1998, Pesetsky and Torrego 2000, and Svenonius 2001).

The format of this paper is as follows. Section one provides a brief discussion of the role of Case in syntax. Section two contains the body of the paper. It outlines the distribution of depictive small clauses in both English and Russian, and provides a syntactic account for the aspectual constraints on the formation of these constructions in English and on their different case marking possibilities in Russian. Section three provides an analysis of predicate adjectives with obligatory case agreement, namely those adjectives with "quirky" case marked antecedents, those with an indirect internal (dative) argument antecedent, and those with an antecedent contained within a prepositional phrase. Section four is the conclusion.

1. The Role of Case in Syntax

Case is generally considered a formal feature that must be checked and deleted prior to the interfaces (PF and LF). The system of feature checking developed by Chomsky (1995, 1998), among others, states that pairs of features exist in which only one member of the pair is semantically interpretable, while the other is uninterpretable. Feature checking occurs when an uninterpretable feature is matched with an interpretable counterpart within a limited search domain. This checking of features is required before a derivation is sent off to the interfaces, i.e., uninterpretable features must be eliminated for legibility conditions to be satisfied. As Svenonius (2001) notes, in this system we are left with a curious state of affairs, in that the other formal features postulated to account for grammatical processes generally have some semantic content. Take, for instance, the number feature on subject noun phrases. This number feature has a semantic value or interpretable feature in that it indicates the plural or singular nature of the noun phrase. The number feature on the finite verb, however, as manifested in agreement morphology, does not have a semantic value—it is uninterpretable—since the plurality or singularity of the agreement morphology does not bear any semantic value of the verb independently of the semantic value of the subject. When these uninterpretable and interpretable features match, the uninterpretable one is formally deleted (though its morphological manifestation remains). In Chomsky's system of feature checking, however, Case does

[4] This work differs significantly from earlier work (Richardson in press) in which I claimed there was a link between the case marking on predicate adjectives in depictives and grammatical aspect. My earlier work attempted to link the distribution of depictives with *byt'* 'be' small clauses. The distribution of case agreement versus the instrumental in *byt'* constructions does appear to be sensitive to grammatical aspect, as Matushansky (2000a, 2000b) convincingly shows. The different case marking possibilities with depictive small clauses in Russian, however, is sensitive to the event structure of the predicate adjective and to the event structure of the primary predicate, not grammatical aspect. *Byt'* small clauses therefore constitute a different phenomenon.

not have an interpretable counterpart, but instead is an anomaly subject to the descriptive stipulation that unlike other grammatical features, it is "the pure uninterpretable feature *par excellence*" (Chomsky 1995: 278-279; 2000: 102, 119).

The existence of pure uninterpretable features complicates an otherwise "minimalist" approach to feature checking. As Pesetsky and Torrego note, the most "minimalist" possible position would hold that such features do not exist (2000: 7). Recently there has been a move to bring Case features more in line with other grammatical features. Scholars are beginning to seek a connection between uninterpretable Case features and interpretable grammatical features. Such a connection seems to exist between the case of noun phrases and tense or aspect. Pesetsky and Torrego (2000), for instance, claim that nominative case is the uninterpretable manifestation of interpretable tense features. Svenonius (2000) argues that in Icelandic accusative and dative case marking alternations are directly related to the event structure of the verb phrase in which they occur. Kiparsky (1998) claims that Finnish marks unbounded events with partitive case on the direct object, bounded ones with accusative case. Ramchand (1997) has also shown a connection between aspect and object case in Bengali and in Scottish Gaelic.

This work on case is exciting in a number of ways. First, we are finally moving towards an investigation of the role of morphological case in syntax, and, second, with a shift in attention on morphological case marking, the time is ripe for figuring out the nature of case marking on predicate adjectives in Russian, a problem that has long stumped linguists working on this phenomenon in the Slavic languages. In this paper, I will provide further evidence that the elimination of purely uninterpretable features in syntax is a step in the right direction (see, for instance, Svenonius 2001). I will show that the Case features on predicate adjectives in Russian, like the number features on verbs, are the uninterpretable counterpart of the interpretable tense or aspect features on the predicate adjective.

2. Depictive Small Clauses in English and Russian

2.1. Against the Stage-level Constraint on Depictives

It has been suggested that a predicate adjective can only occur in depictive small clauses if it is a so-called Stage-level adjective—an adjective that denotes a more temporary characteristic of its antecedent. So-called Individual-level predicate adjectives—adjectives that denote more permanent characteristics of their antecedents—are claimed to be ungrammatical (see, for instance, Rapoport 1991, 1993. On the Stage- versus Individual-level contrast see Carlson 1977), hence the grammaticality in both Russian and English of examples like (7) below, but the ungrammaticality of (6).

(6)	*Ivan	prišel umnyj/	umnym.
	*Ivan-NOM	arrived intelligent-NOM/	intelligent-INSTR.
(7)	Ivan	prišel p'janyj/	p'janym.
	Ivan-NOM	arrived drunk-NOM/	drunk-INSTR.

It is not clear how one might capture this so-called Individual- versus Stage-level description in the syntax. I will show that this distinction is unnecessary to account for the distribution of depictive small clauses. The distribution of depictives in English and Russian, for instance, suggests that the correct generalization is one that makes reference to the event structure of the predicate adjective. That is, only eventive predicate adjectives can occur in depictives, hence the grammaticality of (7), but ungrammaticality of (6). The adjective *umnyj* 'intelligent' is stative, and thus is devoid of event structure. The adjective *p'janyj* 'drunk', however, is eventive, it entails the transition from one state to another. Unless the context provides a stative adjective with an eventive interpretation (see the examples in McNally 1994, for instance), it will be ungrammatical in depictive small clauses. The distinction between whether an adjective is interpreted as eventive or not plays a crucial role in the case marking possibilities on secondary predicates in Russian. The case marking possibilities have nothing to do with whether an adjective is interpreted as a more temporary or permanent quality of its antecedent, as will soon become clear. We can capture the aspectual constraints on depictives syntactically by positing the existence of aspectual phrases in primary and secondary predicates, as I will show shortly.

It is necessary at this point to clarify some terminology, namely what sort of aspect plays a role in the structure of depictives. There are essentially two phenomena that fall under the rubric of aspect: grammatical aspect and event structure. Russian, for instance, has a rich system of verbal aspectual morphology that manifests itself in a two-way split between the imperfective and perfective aspect. This type of aspect has been referred to in the literature as grammatical, morphological, viewpoint or outer aspect. I will refer to this aspect as grammatical aspect. It is the aspect that specifies how an event is viewed. In Russian, perfective actions are limited in time, and are perceived as a unit, without any importance attached to their duration or internal constituency. Imperfective actions, however, focus on the internal constituency of an event. They are unbounded, and used for situations that focus on an action in progress, in duration, or in repetition. Imperfective verbs in Russian never express single unitary actions with focus on completion or accomplishment.

Aspect is also used in the literature to refer to types of actions. This type of aspect has been referred to as semantic, lexical, situation, Vendlerian, inner aspect, or event structure, eventuality, *Aktionsarten*. I will refer to this aspect as event structure. Event structure is typically used to specify whether a verb and its arguments is perceived as a state, activity, accomplishment or achievement. These four classes are based on Vendler's 1957 distinctions. States have no internal structure and do not change during the span of time over which they are true (e.g., John loves Betty). Activities are ongoing events with internal change and duration, but do not necessarily have an endpoint (Bill walked along the river for an hour). Accomplishments are events with duration and an obligatory temporal endpoint (Bill consumed the pineapple in two minutes). Achievements have an instantaneous culmination or endpoint and are without duration (Jake reached the summit in five minutes).

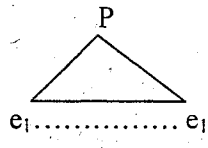
I see no reason why adjectives, like verbs, do not also have event structure. Adjectives are traditionally classified as [+nominal], [+verbal] elements. The traditional breakdown of grammatical categories is as follows ([+N] means that the category contains a nominal element, [+V] means that it contains a verbal element).

(8)	**Nouns**	**Verbs**	**Adjectives**	**Prepositions**
	[+N]	[-N]	[+N]	[-N]
	[-V]	[+V]	[+V]	[-V]

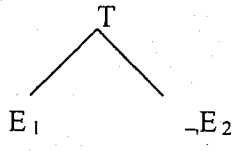
Like nouns, adjectives in Russian have case morphology. Based on the breakdown in (8), it follows that, like verbs, adjectives also have event structure and tense features.[5] It is difficult, however, to see how Vendler's terminology could carry over to a description of the event structure of adjectives, except perhaps the concept of a state. Pustejovsky's (1991) breakdown of the subeventual structure of verbs, however, is able to capture intuitions about the event structure of adjectives. Pustejovsky (1991) claims that events have internal structure that can be decomposed into smaller parts. He identifies three temporal subperiods—initial, internal, and final—that identify three underlying properties of event classification. He uses these three temporal periods to define three event types—states, processes and transitions. His breakdown of event types is as follows.

(9) *State (S)*: a single event, which is evaluated relative to no other event.

(10) *Process (P)*: a sequence of events identifying the same semantic expression.



(11) *Transition (T)*: an event identifying a semantic expression which is evaluate relative to its opposition.



E in the structure for a transition stands for any event type, although transitions generally decompose into a process with a culminating state. Pustejovsky thus collapses achievements and accomplishments into transitions. In Pustejovskian terms, an adjective like 'intelligent' would be a state and thus non-eventive in the sense that it does not involve any sort of transition in its event structure, i.e., it is not evaluated relative to any other event. In the absence of any mitigating circumstances, one is born intelligent and dies intelligent. An adjective like 'drunk', however, is eventive: it entails the transition

[5] Support for the hypothesis that adjectives encode verbal properties like tense and aspect comes from languages like Japanese in which both adjectives and verbs are conjugated.

from one state to another, and it is evaluated relative to its opposition. Only the eventive adjective is licensed in depictives. I will now show that the [+verbal] properties—tense and aspect—play a crucial role in the case marking possibilities on predicate adjectives in Russian and on the structural properties of depictives in English.

2.2. Constraints on the Distribution of Depictives: The data

In English, secondary predication is sensitive to the event structure of the verb phrase when the predicate adjective has an object antecedent. With subject antecedents this sensitivity disappears. Rapoport (1999) claims that secondary predicates with object antecedents can only occur with achievements and accomplishments, while subjects can occur with achievements, accomplishments *and* activities.[6] Thus, in Pustejovskian terms, a predicate adjective with an object antecedent can only occur with an eventive verb phrase, namely a transition. Consider the following examples.

(12) John ate the meat$_i$ raw$_i$. (13) Bill sliced the bread$_i$ warm$_i$.
(14) John$_k$ pushed Bill$_i$ drunk$_{*i/k}$. (15) John$_k$ chased Betty$_i$ drunk$_{*i/k}$.

In (14) and (15) the predicate adjective can only refer to the subject 'John'. 'Push' and 'chase' are not transitions, thus, object reference is not possible. It may seem counterintuitive to think of 'push' and 'chase' as activities or processes. They are, however, activities in the sense that they cannot be modified by *in x time*. Dowty (1979) claims, for instance, that verb phrases in which the modifier is *in x time* are accomplishments, while verb phrases where the modifier is *for x time* are activities. If we

[6] Like Rapoport (1999), I will not discuss the structure of secondary predicates with statives like 'Jones preferred her coffee black', which, as Rapoport notes (pg. 654) have different properties than the depictive constructions under analysis. The claim that statives behave differently from "true depictives" also seems to hold for so-called propositional statives (this term is taken from Timberlake 1982). In propositional stative constructions the eventive constraint on predicate adjectives with object antecedents does not hold, as the following examples show.

(i) Jake drinks coke warm.
(ii) Alli eats meat raw.

The VPs in these examples are not achievements or accomplishments, yet the secondary predicate is still licit with an object antecedent. The different movement constraints on propositional statives also suggest that these constructions are different from true depictives. Consider the following examples.

(iii) Coke warm is what Jake drinks.
(iv) ? The coke warm is what Jake drank.
(v) Meat raw is what Alli eats.
(vi) ? The meat raw is what Alli ate.

Movement of the NP antecedent and the secondary predicate in the stative examples are more acceptable than in the eventive examples. I will not discuss the distribution and behavior of statives. Note, however, that under my analysis, the different behavior of statives is part and parcel of a larger phenomenon: small clauses come in many different flavors.

apply Dowty's test to these examples, 'push' and 'chase' are activities (i.e., they do not encode a transition) while 'ate' and 'slice' can be both accomplishments and activities.

(16) John pushed Bill for an hour/*in an hour.
(17) John chased Bill for an hour/*in an hour.
(18) John ate the meat for an hour/in an hour.
(19) John sliced the bread for a minute/in a minute.

Notice that once we add additional argument structure to 'push' and 'chase', changing their event structure class from activities to accomplishments (processes to transitions), they are much more acceptable. In the following examples, for instance, the addition of the prepositional phrases 'into the lake' and 'into the ditch' change the event structure of the verbs and the secondary predicate is licit with an object antecedent.

(20) John pushed Bill_i into the lake drunk_i.
(21) John chased Betty_i into the ditch drunk_i.

It is important to note that the crucial factor determining whether the secondary predicate is possible is whether the verb *phrase* in its base form is a transition. How the action is then viewed—imperfectively, perfectively or progressively—is not relevant. Thus, a predicate adjective with an object antecedent is possible with progressives, provided the verb phrase in its base form is a transition, i.e., that it is a "propositional process or activity", is inconsequential, as the following examples show.

(22) Kate is buying the meat raw.
(23) ?/* Kate is buying meat raw.

In the absence of a highly defined context, the transition (example (22)) is more acceptable than the process (example (23)) with a depictive small clause. Thus, in English both the primary and secondary predicate in depictive small clauses with object antecedents must be eventive, i.e., "likes occur with likes." Predicate adjectives with subject antecedents, however, are not sensitive to the event structure of the primary predicate, as examples (14) and (15) illustrated.

Unlike English, in Russian a secondary predicate can occur with any verb phrase, regardless of its event structure. A predicate adjective is grammatical with an object antecedent, for instance, with activity or process verbs like 'push', as (24) shows.

(24)	Ja tolknula	Ivana_i	p'janogo_i.
	I pushed	Ivan-ACC	drunk-ACC

Like English, however, a sensitivity to event structure exists in depictives. This sensitivity, however, manifests itself in the different case marking possibilities on the predicate adjective. Take example (1) at the beginning of this paper, for example, repeated below as (25).

(25) Vadim vernulsja iz bol'nicy zdorovyj/ zdorovym.
Vadim-NOM returned from hospital healthy-NOM/cured-INSTR
'Vadim returned from the hospital healthy/cured.'

The verb *vernut'sja* 'to return' is a transition. There is a strong preference amongst native speakers for the secondary predicate to occur with instrumental case marking when the primary predicate is a transition. Case agreement is, however, possible, but it entails a non-eventive interpretation of the adjective (although, of course, the adjective is still eventive in its base form), resulting instead in the interpretation that the event time of the secondary predicate is identical to that of the primary predicate. As a result, constructions in which the secondary predicate has instrumental case marking encode two events—the event of the primary predicate and the event of the secondary predicate. In (25), for instance, the instrumental case on the secondary predicate entails that at some point in the past, Ivan became healthy, he then returned home in this new healthy state. Constructions in which the secondary predicate has case agreement encode one event, since the event time of both the primary and secondary predicate is identical. Consider another example with a primary predicate that denotes a transition.

(26) Polina$_i$ s"jela poslednij kusoček jabloka
Polina-NOM ate last piece-ACC apple-GEN

p'janaja$_i$/ p'janoj$_i$.
drunk- NOM/drunk-INSTR
'Polina ate the last piece of the apple drunk'.

The predicate adjective with nominative case agreement entails that for the entire eating of the apple event, Polina was drunk. The predicate adjective with instrumental case marking entails that Polina became drunk at some point before or during the eating event. One can imagine a situation, for instance, in which Polina is eating the apple and swigging away on a bottle of vodka at the same time. By the time she eats the last little piece of the apple, she has become drunk. Only the instrumental case is licit in this scenario.

It has been claimed that only adjectives that denote a temporary state can occur in the agreeing form in depictives (Hinterhölzl 2001: 103). Hinterhölzl (2001) states, for instance, that adjectives like *spelyj* 'ripe' and *syroj* 'raw' are ungrammatical in depictives in the agreeing form because they do not denote temporary properties. He provides examples like (27) to support his hypothesis:

(27) On sobral slivy$_i$ spelymi$_i$/ *spelye$_i$.
He plucked plums ripe-INSTR/ *ripe-NOM.

This generalization, however, is not correct. Take examples (2) and (4) at the beginning of this paper, for instance, repeated below as (28) and (29). Notice that both case agreement and instrumental case marking *are* possible on the predicate adjectives *spelyj* 'ripe' and *syroj* 'raw' in these examples.

(28) Ja pokupaju banany$_i$ spelye$_i$/ spelymi$_i$.
I-NOM buy bananas-ACC ripe-ACC/ ripe-INSTR
'I am buying the bananas ripe/I buy (my) bananas ripe'.

(29) Ja zakazala rybu$_i$ syruju$_i$/ syroj$_i$.
I ordered fish-ACC raw-ACC/ raw-INSTR
'I ordered the fish raw'.

Native speakers claim that a predicate adjective with instrumental case marking in examples like (29) entails an implicit comparison between the state denoted by the predicate adjective with an alternative state, while case agreement entails no such comparison. The question that then arises is why case agreement is acceptable in this example, but not in (27), and why case agreement is less preferred in many other examples, like (30) below.

(30) On s"jel mjaso$_i$ syrym$_i$/ ?syroe$_i$.
He ate meat-ACC raw-INSTR/ ?raw-ACC
'He ate the meat raw.'

First, in Hinterhölzl's example (27), the primary predicate is a transition. Transitions favor instrumental case marking on the predicate adjective, since transitions often lend an eventive interpretation to the predicate adjective, and there is a tendency for "likes to occur with likes."[7] More importantly, however, recall Pustejovsky's (1991) definition of a state versus a transition ((9) and (11) above): states are evaluated relative to no other event, while transitions are evaluated relative to an opposition. If the instrumental case is used with transitions, i.e., eventive predicate adjectives, while case agreement is used with non-eventive adjectives, then the association of the adjective with instrumental case marking with a comparison to some other state is predicted by the very definition of transitions: they are evaluated relative to an opposition. With stative morphology—case agreement—as expected, no such comparison will exist, since states are evaluated relative to no other events.

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[7] Hence the grammaticality of psychological states in the instrumental case in examples like:

(i) On prišel grustnym.
He-NOM arrived sad-INSTR

And similarly the possibility for instrumental case marking on psychological states if information is added which specifies that the predicate adjective entails an eventive interpretation. Compare, for instance, (ii) and (iii) below.

(ii) Vadim čitaet grustnyj/*grustnym.
Vadim-NOM reads sad-NOM/*sad-INSTR

(iii) Vadim tol'ko čitaet grustnym/?grustnyj.
Vadim-NOM only reads sad-INSTR/?sad-NOM

The addition of the adverb *tol'ko* 'only' opens the door to an eventive interpretation of the stative adjective.

Pragmatic notions like expectation also play a role in the case marking of the predicate adjective in examples like (27)–(30).[8] If, for instance, there is nothing contrary to expectation about, say, ordering fish in its raw state, agreement will be possible, hence the case agreement on the predicate adjective in (29), i.e., the state of the fish is evaluated relative to no other event or state. If a state is perceived as unexpected, however, the instrumental case will occur on the predicate adjective, hence the preference for the instrumental case in example (30): the raw state of the meat is evaluated relative to its opposition, cooked meat (the expected state in which one eats meat). Often, just the addition of a depictive adjective to a construction entails a degree of unexpectedness. Why state, for instance, that one gathered the plums *ripe* if comparison with some other state is not implied? Why not simply state that one gathered the plums? This degree of unexpectedness favors the instrumental case on the predicate adjective, since it opens the door to a comparison with some other state. This hypothesis is supported by examples like the following in which both case agreement and the instrumental case are possible on the predicate adjective.

(31) Ja voz'mu ego$_i$ živogo$_i$/ živym$_i$.
I-NOM take him-ACC alive-ACC/ alive-INSTR
'I will take him alive'.
(Richardson in press)

There is no broken expectation entailed in the predicate adjective in this example. We expect that someone might be taken alive, thus, non-eventive case marking (case agreement) is possible. As expected, the instrumental case on the predicate adjective in this example entails a comparison between two different states: 'I will take him alive, not dead', or 'I won't kill him in the process of taking him'. Context and pragmatic notions like expectation therefore play a crucial role in whether case agreement is possible on a predicate adjective.

Consider now example (28). First of all, a predicate adjective that occurs with verbs that denote processes (or activities) may exhibit both case agreement with its antecedent or the instrumental case in Russian. As expected, case agreement entails that the event time of the predicate adjective is identical to the event time of the primary predicate. The instrumental case on the adjective entails either that a transition occurred prior to or during the event time of the primary predicate. In example (28), case agreement on the predicate adjective entails that 'I am buying the bananas ripe right now', while the instrumental case entails 'I buy (my) bananas ripe (in general).' That is, the different interpretations that the different case endings manifest lead to a progressive interpretation of an activity or process versus a habitual or generic interpretation. This generalization is also true of example (1) at the beginning of this paper, repeated below as (32).

(32) My tancuem p'janye/ p'janymi.
We-NOM dance drunk-NOM/ drunk-INSTR
'We are dancing drunk/we dance drunk'.

[8] I thank Patricia Chaput for suggesting to me that "expectation" could play a role in the case marking of secondary predicates in Russian.

The progressive interpretation of the primary predicate is entirely in keeping with the generalization that the event time of a predicate adjective with case agreement is identical to the event time of the primary predicate, while the habitual interpretation follows naturally from the interpretation of the predicate adjective with instrumental case marking as a transition, i.e., we + dance (3rd person plural, present tense) + (we are) drunk → 'we are dancing drunk', while we + dance (3rd person plural, present tense) + (we got) drunk → 'we dance drunk' (we dance having become drunk).

That the event structure of the primary predicate plays a role in the different case marking possibilities on the predicate adjective in the secondary predicate is seen most acutely with verbs that denote processes, i.e., activity verbs. This fact is most evident in the case marking possibilities on the predicate adjective in nonfinite clauses. It is generally assumed that case agreement is impossible in nonfinite clauses unless the antecedent for the predicate adjective is a subject in the higher finite clause (Franks 1995, and Richardson in press). This generalization has lead some to posit various subject and object asymmetries in secondary predicates in Russian. Case agreement in nonfinite clauses with object antecedents *is*, however, possible. The event structure of the primary predicate is the crucial factor that affects the choice of one case ending over another: case agreement is possible with activity/process verbs, the instrumental case is preferred (sometimes obligatory) with transitions. The following examples, for instance, all have activity verbs in the nonfinite clause. Notice that case agreement is possible on the secondary predicate in the nonfinite clause, irrespective of the structural location of the overt antecedent.

Nominative subject antecedent[9]

(33)	Ja	prišla	PRO	tancevat'	golaja/ golaj.
	I-NOM	came		to-dance	naked-NOM/ naked-INSTR

Accusative direct internal object antecedent

(34)	Ja	poprosila	ego_i	PRO_i	tancevat'	$gologo_i$/ $golym_i$.
	I-NOM	asked	him-ACC		to-dance	naked-ACC/naked-INSTR

Dative "quirky" case marked direct internal object antecedent

(35)	Ja	velela	emu_i	PRO_i	tancevat'	$golomu_i$/ $golym_i$.
	I-NOM	ordered	him-DAT	to-dance	naked-DAT/	naked-INSTR

Dative indirect internal object antecedent

(36)	Ja	dala	emu_i	den'gi	PRO_i	tancevat' $golomu_i$/ $golym_i$.
	I-NOM	gave	him-DAT	money		to-dance naked-DAT/naked-INSTR

Case agreement in these examples entails that the antecedent is already naked, and the speaker wishes him to dance as he is. The instrumental case entails that the speaker wishes the person in question to get naked and dance.[10]

[9] I assume, following Martin (1996: 176) that PRO gets null Case which, in turn, is a type of "chameleon" Case, in that it has no morpho-phonological properties of its own, but rather exhibits either default or inherited properties.

The case marking possibilities in these examples have escaped notice before due to the types of examples that have attracted attention in the past. These examples have been ones like (37).

(37) Ja poprosil Ivana$_i$ ne PRO$_i$ prixodit' p'janym$_i$/ *p'janogo$_i$.
I asked Ivan-ACC NEG to-come drunk-INSTR/*drunk-ACC
'I asked Ivan not to come drunk'.
(Franks 1995: 222)

The problem with this example lies in the event structure of the verb *prijti* 'to arrive'. *Prijti* 'to arrive' is an achievement in Russian. Achievements are almost instantaneous transitions. The instrumental case on predicate adjectives with achievements is strongly preferred. This preference is consistent with the hypothesis that the instrumental case focuses on the change of one state to another. Thus, the case most similar in aspectual meaning to the verb in the primary predicate is the case of choice.

That the instrumental case is linked to the [+eventive] feature of the secondary predicate finds support in two other phenomena in Russian: (1) the case marking in resultatives; and, (2), the distribution of NP secondary predicates (I use NP as catch all terminology for NPs and DPs). Although the distribution of resultatives is beyond the scope of this paper, it is noteworthy that they obligatorily occur with instrumental case marking on the predicate adjective, as seen in (38) below.

(38) Alya pokrasila stol černym/ *černyj.
Alya painted table-ACC black-INSTR/ *black-ACC
'Alya painted the table black'.

This fact is entirely in keeping with the analysis presented here. That is, resultatives involve the change of one state to another, i.e., they are eventive transitions. My analysis predicts that if a predicate adjective is eventive, it will occur with instrumental case marking. This predication is borne out.

If we posit that predicate adjectives have tense and aspect features, just like other [+verbal] elements, we have an explanation for an otherwise curious phenomenon, namely the fact that only adjectival phrases can occur with both case agreement and instrumental case marking in depictive secondary predicates, noun phrase predicates in Russian obligatorily occur with instrumental case marking, as the following examples show.

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[10] Note that case agreement is no longer possible once the overt complementizer *čtoby* 'in order to' is present, as Franks (1995) noticed.

(i) On prišel, [$_{CP}$ čtoby PRO tancevat' golym/ *golyj]
He arrived in-order to-dance drunk-INSTR/ *drunk-NOM
'He arrived/came in order to dance naked'.

An explanation for this fact could lie in the status of the overt CP as a strong phase (for details, see Chomsky 1998, 1999). The derivation is built to CP and then sent to the interfaces. In the absence of any greater context for the predicate adjective that the higher clause might provide, the default interpretation of the predicate adjective is that it is eventive—since the event structure of the adjective is eventive—and the instrumental case is obligatory.

(39)	Ivan	vernulsja domoj	bednyj/	bednym.
	Ivan-NOM	returned home	poor-NOM/	poor-INSTR
(40)	Ivan	vernulsja domoj	bednjakom/	*bednjak.
	Ivan-NOM	returned home	pauper-INSTR/*pauper-NOM	
	'He returned home a pauper'.			

In example (39) the secondary predicate is an adjective, while in (40) it is a noun phrase. Case agreement is only licensed on the adjective in (39). While it is clear that eventive noun phrases exist in language (noun phrases like 'the destruction (of the city), for instance), it is not so clear that noun phrase predicates have tense features. If only [+verbal] elements are able to manifest the contrast between tense and aspect, we have an explanation for why only adjectives show the case agreement versus instrumental case dichotomy, only adjectives have an interpretable tense feature in secondary predicates.[11]

2.3. The Syntax of Depictives

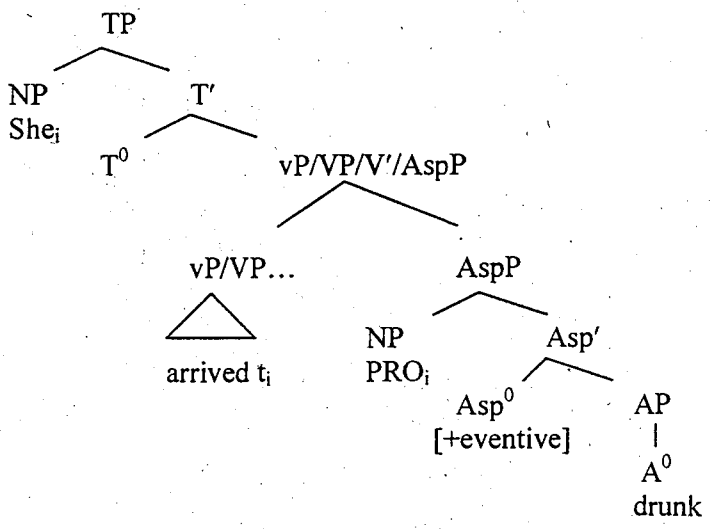
Thus, the syntax of depictive small clauses has to capture the following facts about English and Russian. In English, secondary predicates show two constraints: (1) the predicate adjective must be eventive; (2) both the primary predicate and the secondary predicate must be eventive—both must be transitions—with internal direct object antecedents (see section 3.3 for a discussion of indirect object antecedents). Predicate adjectives with subject antecedents are free to occur with any type of primary predicate. In Russian, predicate adjectives in depictive small clauses are free to occur with any type of primary predicate, regardless of the structural location of the subject or the object. The case marking on the predicate adjective, however, is sensitive to event structure. The syntax of depictive small clauses in Russian must capture the following two constraints: (1) case agreement occurs on the predicate adjective when the event time of the secondary predicate is identical to that of the primary predicate, a predicate adjective with case agreement is thus stative or noneventive; (2) a predicate adjective with instrumental case-marking never entails that the event time of the primary and secondary predicate is identical. Thus, a clause with a secondary predicate with instrumental case marking entails the occurrence of at least two events.

It is commonly thought that depictive small clauses are adjuncts, adjoined to the V-bar, VP or vP level. I will suggest that in English, secondary predicate constructions with subject antecedents are adjunction structures, while secondary predicates with object antecedents are conjunction structures. These structures capture the fact that with object antecedents "likes co-occur with likes" (both the primary and secondary predicate must be eventive transitions), while with subject antecedents the secondary predicate is free to occur with a primary predicate of any event structure. Similarly, in Russian, case agreement occurs in a conjoined tense phrase, since the event time of the primary predicate is identical to that of the secondary predicate ("likes occur with likes"), while

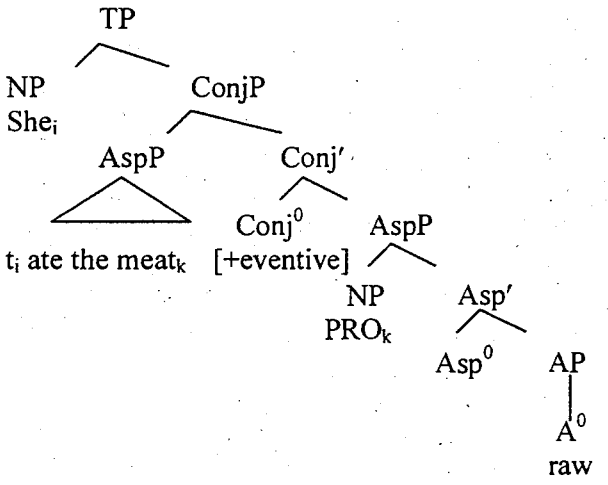
[11] Note that this is a separate issue from whether a NP/DP *arguments* have an uninterpretable tense feature manifested as nominative case (see, for instance, Pesetsky and Torrego 2000). Crucially, there is little evidence that the noun phrase secondary *predicate* has tense features. Instead, the predicate NP is interpreted as eventive—a transition—and instrumental case marking is obligatory.

the instrumental case occurs in an adjunction structure, since a predicate adjective with instrumental case marking entails the existence of a separate event, and it can occur with a primary predicate of any event type. That primary predicate transitions tend to favor secondary predicate transitions in Russian follows from the fact that the higher eventive primary predicate has scope (c-commands) over the secondary predicate. Note that the structures below are greatly simplified and only include relevant information for my analysis. They show movement of the nominative argument into Spec-TP to check its uninterpretable tense feature (see Pesetsky and Torrego 2000 for details). They do not show any other movement operations.

(41) English Subject Antecedents (adjunction structure)



(42) English Object Antecedents (conjunction structure)



I leave open whether the secondary predicate adjoins to the vP/VP, AspP or v/V-bar level in (41). The adjunction site itself is not crucial in my analysis. What is important, is that

predicate adjectives with subject antecedents constitute adjunction structures, while those with object antecedents are conjunction structures. I assume that the small clause is dominated by an aspectual phrase to account for the fact that only eventive predicate adjectives are possible in depictive small clauses. PRO is placed in the Spec of the functional category dominating the predicate adjective for theta reasons. I remain open, however, as to whether we really need PRO in secondary predicates. The (non-)existence of PRO is not crucial for my analysis. I place the (eventive) AspP in the primary predicate immediately below tense, i.e., dominating both vP and VP. This is purely for descriptive purposes and does not affect my analysis. It could alternatively be located between vP and VP (see Travis 2000 for such a suggestion). I take conjunction phrases to be asymmetrical binary-branching structures that obey the format of X-bar theory. Following Babyonyshev (1996), I also assume that ConjPs have the same distribution as the categories they dominate and are able to fulfill the same syntactic functions. The exact mechanism which ensures that the features of a ConjP and the features of the categories dominated by it match is not relevant for my analysis (the features may percolate up to the ConjP, or the ConjP may receive an arbitrary set of features, with some filter-like mechanism ruling out the constructions where its features and the features of the conjoined phrases do not match, as suggested by Babyonyshev 1996: 78). The crucial point here is that depictives constitute both adjunction and conjunction structures, i.e., not all depictive small clauses are the same.

If predicate adjectives with subject antecedents are adjunction structures, while predicate adjectives with object antecedents are conjunction structures, then we predict that movement out of the adjunction phrase should be possible, but movement out of the conjunction phrase should not, since movement is restricted by the Coordinate Structure Constraint (see Ross 1967). This prediction is borne out, as the following examples show.

(43) She arrived drunk.
(44) Drunk she arrived.
(45) She ate the meat raw.
(46) * Raw_i she ate the meat_i.

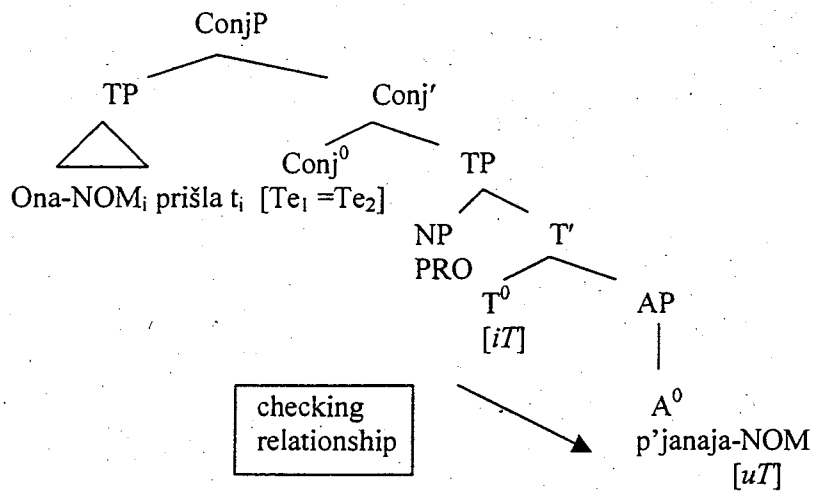
In examples (43) and (44) the secondary predicate has a subject antecedent; it occurs in an adjunction structure and movement is possible. In (45), the predicate adjective has an object antecedent; it occurs in a conjunction structure and movement is not possible.[12] Notice that movement of 'the meat raw' is ungrammatical, which supports the articulation of the noun phrase and predicate adjective as separate constituents.

(47) *The meat raw he ate.

[12] I assume that movement out of the first conjunct sounds considerably better than movement out of the second conjunct in (i) below, since while extracting one of the conjuncts out of a coordinate structure is ungrammatical ((ii) and (iii)) extraction of a subpart of one of the conjuncts is much more acceptable ((i) and (iv)) (see Babyonyshev 1996: 84 for details).

(i) ?The meat he ate raw.
(ii) *Who did he and t Betty.
(iii) *Who did he see Betty and t.
(iv) ?John who I bought a picture of t and a glass of water.

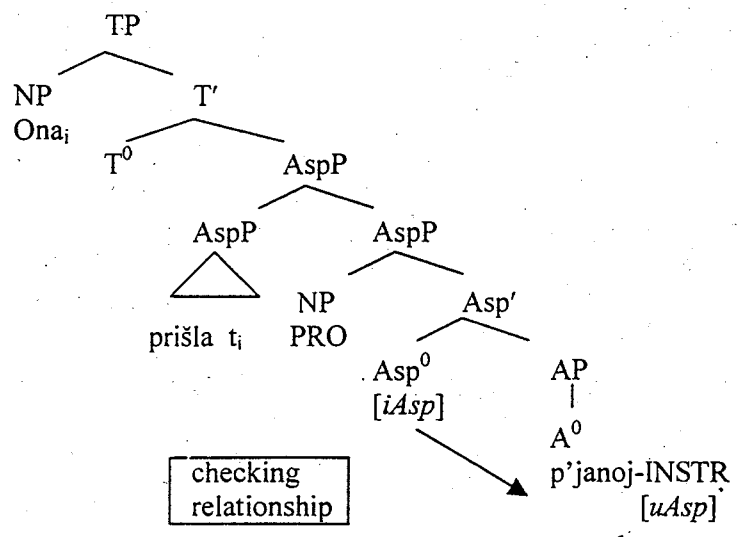
(48) Russian Case Agreement (conjunction structure for both subject and object antecedents)



'She arrived drunk'

In this structure, a checking relationship is established between the T head (with interpretable tense [*iT*]) and the adjectival head of the secondary predicate. The case features of the predicate adjective are valued *in situ.* The predicate adjective's uninterpretable tense feature ([*uT*])—as manifested in agreement morphology—is deleted. The deleted feature disappears from the narrow syntax, allowing convergence at LF. Its morphological remnant, however, remains in the form of nominative case on the predicate adjective (case agreement). (Note [Te$_1$ =Te$_2$] means that the tense of the two events is identical.)

(49) Russian Instrumental Case (adjunction structure for both subject and object antecedents)



The checking relationship between the head of the aspectual phrase and the adjectival head works in the same manner outlined above for the tense head and the adjectival head in conjoined tense phrases in Russian.

These structures predict that movement will be possible in all depictive constructions in Russian. This prediction is borne out, as the following examples show.

(50) P'janye$_i$ my tancevali t_i.
Drunk-NOM we-NOM danced

(51) Jabloko$_i$ ona$_k$ s"jela t_i p'janaja$_k$.
Apple-ACC she-NOM ate drunk-NOM.
'The apple she ate drunk'.

(52) P'janym$_i$ druz'ja priveli ego$_i$ domoj t_i.
Drunk-INSTR friends brought him-ACC home

(53) Ego$_i$ druz'ja priveli t_i domoj p'janym$_i$.
Him-ACC friends brought t home drunk-INSTR

The crucial constraint on depictive conjunction phrases is that movement is not possible outside of the conjunction phrase itself. Thus, that (50) and (51) are possible tell us nothing, since the predicate adjective may have adjoined to the higher tense phrase, and may not have moved out of the conjunction phrase. The conjunction phrase dominates the entire clause in depictives, thus, if movement occurs to the left of the nominative subject, it does not mean that the moved element has moved out of the conjunction phrase, since the nominative subject is contained within the ConjP. As expected, movement out of the adjunction structure is licit, as (52) and (53) show.[13]

That "like TPs" only conjoin with "like TPs" finds support in the verbal system. Notice that if we conjoin two verb phrases with different event structures, the constructions are ungrammatical with identical time reference.

(54) *He arrived and he sang.
(55) *He walked along the shore and remembered the answer.

[13] Note that Bailyn and Rubin (1991: 106–107) claim that predicate adjective with instrumental case marking are not able to move. They provide examples like the following to support this claim.

(i) Golye/*Golymi, my tancevali.
Naked-NOM/*naked-INSTR we danced.

Movement of predicate adjectives with instrumental case marking is possible and depends on a number of intonational, pragmatic and discourse related factors. Examples (52)–(55) are topicalized in the same way as English topicalized equivalents like 'Such behavior we do not tolerate in a civilized society'.

Example (54) has an achievement conjoined with an activity. There is no way in which we can interpret the two conjuncts in this construction as identical in time reference, instead we interpret them as a sequence of events: 'he arrived and then he sang.' A similar state of affairs holds for (55), i.e., we do not interpret this construction as 'for the duration of his walking event along the shore, he remembered the answer.' Thus, secondary predicates in depictives follow the 'Coordination of Likes Constraint (CLC)' (See Chomsky 1957). The CLC in depictives is reminiscent of Schachter's (1977: 90) generalization that coordinate constructions must belong to the same syntactic category and have the same semantic functions, hence the ungrammaticality of (56) below.

(56) *John and a stone broke the window.

It might seem counter-intuitive at first that there is more than one structure for depictive small clauses in languages. Upon closer inspection, however, it becomes clear that this belongs to a larger phenomenon, namely there are many different types of secondary predicate constructions that behave differently in different languages: complement small clauses like 'I consider him stupid', 'be' constructions (see footnote 4), statives with secondary predicates (see footnote 6). Complement small clauses in English, for instance, differ from their Russian counterparts, as the following examples show.

(57) I consider him stupid.
(58) I consider him to be stupid.

(59) Ja sčitaju ego$_i$ glupym$_i$/*glupogo$_i$.
I consider him-ACC stupid-INSTR/*stupid-ACC

(60) * Ja sčitaju ego$_i$ byt' glupym.
I consider him-ACC to-be stupid-INSTR

In English, we can insert the verb 'to be' to get the full clause equivalent of the small clause, while this is impossible in Russian. Furthermore, unlike depictives, instrumental case is obligatory on the predicate adjective in these constructions in Russian. Examples like (61) and (62) below show that depictives differ in various languages.

(61) On prišel ko mne$_i$ p'janomu$_i$/ *p'janym$_i$.
He-NOM came to me-DAT drunk-DAT/ *drunk-INSTR

(62) Ja s nimi$_i$ m'ortvymi$_i$ razgovarival.
I-NOM with them dead-INSTR spoke

In English a secondary predicate cannot adjoin to or conjoin with a prepositional phrase (or have an indirect object antecedent). In Russian, however, adjunction to or conjunction with a prepositional phrase is possible, as examples (61) and (62) show (see also section 3.3 on predicate adjectives with indirect object antecedents in Russian). We know that the predicate adjective is in fact adjoined (or conjoined) to the prepositional phrase and not

the verb phrase in these examples, since under the movement test the adjective moves with its antecedent, unlike secondary predicates with direct internal arguments:

(63) Ko mne$_i$ p'janomu$_i$ on prišel.
To me-DAT drunk-DAT he came.

(64) S nimi$_i$ m'ortvymi$_i$ ja razgovarival.
With them-INSTR dead-DEAD I spoke.

(65) * Mjaso$_i$ syrym$_i$ on s"jel.
Meat-ACC raw-INSTR he ate.

Examples (63) and (64) show that the predicate adjective can move with its antecedent in PPs, while (65) shows that this is not possible with a direct object antecedent.

Thus, the different behavior of secondary predicates with subjects and objects is part and parcel of a larger phenomenon: secondary predicates differ both within a language and across languages.

3. Obligatory Case Agreement in Russian Depictives

Thus far, I have focused on constructions in which both case agreement and instrumental case are possible on predicate adjectives. There are, however, three constructions in which case agreement is obligatory on the predicate adjective in Russian: (1) predicate adjectives with object antecedents with "quirky" dative or genitive case (objects with quirky instrumental case obviously occur with a predicate adjective with instrumental case marking); (2) adjectives with an antecedent contained within a PP; and, (3), adjectives with an indirect object (dative) antecedent. In what follows, I will suggest that case agreement in all three of these constructions is also linked to tense and aspect. Note that the following discussion is speculative and is part of a much larger project (Richardson in progress).

3.1. Quirky Case Marked Objects

The following examples, based on Bailyn and Rubin (1991) and Bailyn (1995), show that case agreement is obligatory with verbs like *pozvonit'sja* 'to phone' and *boit'sja* 'to fear', i.e., verbs that take obligatory dative and genitive case marked objects, respectively.

(66) Ja pozvonila emu$_i$ p'janomu$_i$/ *p'janym$_i$.
I-NOM phoned him-DAT drunk-DAT/ *drunk-INSTR

(67) Polina boitsja Ivana$_i$ p'janogo$_i$/ *p'janym$_i$.
Polina-NOM fears Ivan-GEN drunk-GEN/ *drunk-INSTR

On the basis of examples like these (and the obligatory case agreement on the predicate adjective with internal indirect arguments discussed in section 3.3), Bailyn claims that

true depictive secondary predicate adjective, which for him are adjuncts with instrumental case marking, occur in a null PredP with a PRO subject. He maintains that non-nominative or accusative arguments do not c-command this PRO subject (see Bailyn 2001 for details), and therefore are not the antecedents of adjunct secondary predicate constructions, but rather occur in appositive constructions. Thus, for Bailyn an adjunct predicate adjective with instrumental case marking is only licit when its antecedent c-commands the PRO subject of the secondary predicate.

Case agreement on the predicate adjective, however, appears to belong to a larger phenomenon linked to the role of the event structure of the verb phrase on the case marking of its arguments. Notice that in Russian, like Latin, Greek and Hebrew, quirky case marked objects are *always* so-called "affected patients". These arguments *never* play a role in the event structure of the verb phrase, i.e., they never delimit or "measure out" the event in any way (see Tenny 1994 for a discussion of the role of the direct internal argument in the event structure of the verb phrase). The Latin, Greek and Hebrew examples in the tables below are taken from Arad (1998: 77-78). I have added the Russian equivalents to Arad's table for comparison. Note that Hebrew marks the objects of these verbs with a locative preposition, *be* (at): kick at the ball, use at the knife, drive at a car, or *le* (to), *al* (upon).

(68) *Quirky case marked objects*

English	**Latin**	**Classical Greek**	**Hebrew**	**Russian**
Help+acc	auxilior+dat	boetheo+dat	azar+le	pomogat'+dat
Use+acc	utor+abl	xraomai+dat	hiStameS+be	pol'zovat'sja+instr
Trust+acc	fido+dat	pisteuo+dat	bataz+be	doverjat'+dat
Rule+acc	dominor+abl	arxo+gen	maSal+al	pravit'+instr
Obey+acc	pareo+dat	peithomei+dat	ziyet+le	podčinjat'sja+datv

(69) *Accusative case marked objects*

English	**Latin**	**Classical Greek**	**Hebrew**	**Russian**
Build+acc	construo+acc	oikodomeo+acc	bana+acc	stroit'+acc
Write+acc	scribo+acc	grapho+acc	katav+acc	pisat'+acc
Murder+acc	occido+acc	apokteino+acc	racax+acc	ubivat'+acc
Eat+acc	edo+acc	esthio+acc	axal+acc	est'+acc
Wash+acc	lavo+acc	luo+acc	raxac+acc	myt'+acc

Arad (1998: 78) makes the strong claim that two-place predicates with "measuring objects" universally mark their object with accusative case. Two-place predicates with non-measuring objects may mark their object with either accusative, dative, ablative or genitive case, or by a preposition, depending on the particular morphological properties of the language. As these tables suggest, Russian seems to fit into this generalization. If we apply Dowty's *in x time* (test for accomplishments) versus *for x time* (test for activities), to any of these verbs—with their arguments—in English or Russian, it is clear that they are all activities or processes. This suggests that all of these verbs, even with their internal arguments present, are always processes, as the English examples below show.

(70) She ruled the country for two years/*in two years.
(71) She obeyed him for a day/*in a day.

Unlike other processes or activities discussed thus far in this paper, the direct internal argument of these verbs can never delimit these events. Notice with activities like 'dance' and 'sing' that the direct internal argument *can* play a role in the event structure of the verb.

(72) She danced for an hour/*in an hour.
(73) She danced the jig for five minutes/in five minutes.
(74) She sang for five minutes/*in five minutes.
(75) She sang the song for five minutes/in five minutes.

Unlike (72)–(75), in (70) and (71) there is no possibility for these events, even with their internal arguments present, to be construed as transitions.

While the case marking of arguments is not the focus of this paper, what is interesting for my analysis of the case marking on the predicate adjectives that occurs with these verbs is that the potential ambiguity of other activities or processes to be interpreted as transitions appears to open the door for a secondary predicate to be interpreted as eventive and thus occur with instrumental case marking. Verbs with quirky case marked arguments are *always* pure processes and case agreement on the predicate adjective is *always* obligatory in Russian. Thus, the only possible secondary predicate structure with these verbs is a conjoined tense phrase, with the event time of the predicate adjective the same as that of the verb phrase with which it conjoins. This hypothesis is supported by the interpretation of these examples, i.e., example (66) above, for instance, is interpreted as 'I phoned him and at the time I phoned him, he was drunk'.[14]

3.2. Prepositional Phrases

As mentioned before, case agreement is obligatory in PPs (see examples (61) and (62)). That PPs (and CPs) are able to take care of the Case properties of their arguments, while NPs have to move, apparently for Case reasons, is common knowledge. The reasons for the dichotomy between PPs and CPs versus NPs, however, are still not clear. Recently, Pesetsky (comments in class) suggested that PPs might have some functional structure in them, and that perhaps this functional structure is a TP. If PPs (and CPs) have a TP that is able to enter into a checking relationship with the uninterpretable tense feature on its NP argument, this would explain why NPs contained within PPs do not have to move out of the PP in the narrow syntax in English. If Pesetsky's hypothesis is on the right track, we also have an explanation for why case agreement is obligatory in PPs in Russian: the only functional element in a PP is a TP (AspPs are absent). The secondary predicate conjoins with this TP and, as we know, conjoined TPs result in case agreement on the secondary predicate in Russian.

[14] This is a departure from Richardson (in press).

3.3. Internal Indirect (dative) Antecedents

As mentioned previously, the predicate adjective with an indirect object antecedent exhibits obligatory case agreement in Russian, as (76) shows. As with PPs, secondary predication in English is not possible.

(76) Ja dala emu$_i$ den'gi p'janomu$_i$/ *p'janym$_i$.
I-NOM gave him-DAT money drunk-DAT/ *drunk-INSTR
'I gave him the money (when he was) drunk'.

The structural location of the dative indirect object, and its equivalent in English double object constructions, is highly controversial and far from resolved. The following hypothesis therefore does not claim to be anything but suggestive. If the PP does indeed have functional structure in both English and Russian, it is not unreasonable to consider that the PP "equivalent" in double object constructions (the indirect internal argument) is also dominated by this functional category, i.e., the indirect object occurs in Spec-TP, while the secondary predicate is merged as the complement of a null tense head (with interpretable tense features). If this functional structure is indeed tense, then we have an explanation for why we get case agreement in these constructions in Russian, i.e., the uninterpretable tense feature on the predicate adjective enters into a checking relationship with the interpretable tense feature on the T head. The different movement constraints in the following examples show that the predicate adjective with a dative indirect object antecedent forms a constituent with its antecedent, while the predicate adjective with a direct object antecedent does not.

(77) * Mjaso syrym on s"jel.
Meat-ACC raw-INSTR he ate

(78) Ivanu p'janomu ona dala den'gi.[15]
Ivan-DAT drunk-DAT she gave money

These examples show that only the dative object and the secondary predicate form a constituent. Thus, like PPs the secondary predicate and indirect object form a constituent. As expected, the event time of the primary and secondary predicates is identical in (76) and (78).

4. Conclusion

In sum, this paper provided further support for the hypothesis that pure uninterpretable Case features can be eliminated from syntax. The different case marking possibilities on

[15] This example was not accepted by all my native informants. It is grammatical in what I term the "courtroom setting", i.e., it is the most neutral variant that a Judge could ask a witness or with which a witness could respond. All of my native informants did, however, agree that (77) is considerably worse than (78).

predicate adjectives in depictive small clauses in Russian show that case is intimately linked to interpretable tense and aspect features. Case agreement is the uninterpretable counterpart of interpretable tense, while the instrumental case is the uninterpretable counterpart of interpretable aspect. Case agreement occurs in a conjoined tense phrase, instrumental case occurs in a conjoined aspectual phrase. English depictive secondary predicates with object antecedents also show a sensitivity to aspect, i.e., "transitions occur with transitions". Secondary predicates with subject antecedents do not show this sensitivity. Depictives with subject antecedents thus constitute true adjunction structures, those with object antecedents occur in a conjoined aspectual phrase. Thus, structural differences exist even within the class of depictive small clauses within a language and across languages, not to mention the differences that exist between other types of small clause constructions in a given language.

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Case and Event Structure

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Abstract

I argue in this paper for a novel analysis of case in Icelandic, with implications for case theory in general. I argue that structural case is the manifestation on the noun phrase of features which are semantically interpretable only on verbal projections; thus, Icelandic case does not encode features of noun phrase interpretation, but it is not uninterpretable either; case is properly seen as reflecting (interpretable) tense and aspect features. Accusative case in Icelandic is available when the two subevents introduced in a transitive verb phrase are identified with each other, and dative case is available when the two parts are distinct (thus Icelandic case manifests aktionsart or inner aspect, in partial contrast to Finnish). This analysis bears directly on the theory of feature checking in the Minimalist Program; specifically, it paves the way for a restrictive theory of feature checking in which no features are strictly uninterpretable: all formal features come in interpretable-uninterpretable pairs, and feature checking is the matching of such pairs, driven by legibility conditions at Spell-Out.*

1. Case and meaning

Traditional grammars abound with characterizations of the semantic meanings of various cases; the very name of the dative means (etymologically) the one 'given.' In the sentence in (1), there is a nominative agent ('the birds'), an accusative patient ('the helicopter'), an accusative path ('all the way') and a dative location ('the airport').

(1) Fuglarnir hafa elt þyrluna alla leið af flugvellinum.
the.birds.NOM have followed the.helicopter.ACC all way.ACC of the.airport.DAT
'The birds have followed the helicopter all the way from the airport'

However, it is well known that none of these associations of thematic role with case is very stable; there are nominative patients and dative agents, as in (2).

(2) Þyrlan hefur verið elt af fuglunum.
the.helicopter.NOM has been followed of the.birds.DAT
'The helicopter has been followed by the birds'

Even adverbial cases may be subject to structural factors; consider the durational adverbial in the Finnish sentence in (3a), which appears in the accusative case (the object is partitive); in the passive sentence in (3b), accusative is no longer available and the adverbial is necessarily nominative (see Mitchell 1991, Pereltsvaig 2000).

(3) a. Maria luki kirjaa koko illan.
Maria.NOM read book.PART whole evening.ACC
'Maria read the book all evening'

* The content of this draft was completed on August 20, 2001. Thanks to my audiences in York, Tromsø, Montréal, Reykjavík, Stuttgart, and Niš, where this work was presented in the spring and summer of 2001, for stimulating feedback. I am especially grateful to Halldór Sigurðsson and Gillian Ramchand for discussing this work in progress, and to Þorbjörg Hróarsdóttir for patiently navigating me through the difficult terrain of the data.

b. Kirjaa luettin koko ilta.
book.PART read.PASS whole evening.NOM
'The book was read all evening'

Of course, certain morphological cases can be associated closely with semantic representations (e.g. Finnish abessive, meaning 'without': *puhtai-tta käsi-ttä*, clean-ABE hands-ABE 'without clean hands'; cf. Nikanne 1993). Nevertheless, common cases such as nominative and accusative generally defy any association with semantic meaning, and in generative grammar, they are ordinarily taken to be the manifestation of a purely syntactic licensing requirement on noun phrases (Rouveret and Vergnaud 1980, Chomsky 1980).

This, however, leads to a peculiar state of affairs, in that the other formal features postulated to account for grammatical processes generally have some semantic content. The system of feature checking developed by Chomsky (Chomsky 1998 inter alia) postulates, in core cases, pairs of features in which one member of a pair is semantically interpretable, the other uninterpretable. Chomsky proposes that checking is necessary to eliminate uninterpretable features before the derivation is evaluated at the interfaces (PF and LF); thus, legibility conditions at the interfaces drive feature checking. Feature checking occurs when an uninterpretable feature is matched with an interpretable counterpart within a limited search domain.

For example, the number feature on the subject noun phrase in (1) has a semantic value, indicating the plural nature of that noun phrase; hence, it is interpretable. The number feature on the finite verb (*hafa* 'have.PL'), as manifested in agreement morphology, is uninterpretable, because there is no sense in which plurality or singularity of the agreement morphology bears on the semantic value of the verb, independently of the semantic value of the subject. Therefore, number on the verb is uninterpretable. When the uninterpretable and interpretable number features match, the uninterpretable one is formally deleted (though its morphological manifestation remains; compare *hefur* 'have.SG' in (2)).

The picture is complicated by the putative existence of purely uninterpretable features. Chomsky 1999 suggests that structural Case is the paradigmatic uninterpretable feature, as it does not contribute to the interpretation of the noun phrase. However, Pesetsky and Torrego 2000 argue that nominative Case is the uninterpretable counterpart of interpretable verbal tense; hence nominative Case is only uninterpretable on the noun phrase, the way nominal number features are uninterpretable on the finite verb. Sigurðsson 2000 points out cases in which nominative is sometimes available at some remove from the tense head of a clause; however, I will take there to be something essentially correct in the Pesetsky and Torrego account. In the sections to follow, I argue on the basis of the distribution of the Icelandic dative that non-nominative structural Case is the morphological manifestation of uninterpretable aspect or aktionsart. For alternations such as those in (1) vs. (2) and (3a) vs. (3b), what this means is that the thematic role for the element in question may remain the same, but the different case reflects the different aspectual makeup of the phrase in which that element is licensed.

Krifka 1992 and Kiparsky 1998 have shown that the distribution of partitive case in Finnish interacts crucially with aspectual interpretation. There, many verbs allow an alternation between partitive and accusative. Ramchand 1997 (see also Ramchand 2001) has also shown a connection between aspect and object case in Bengali and in Scottish Gaelic, where object case and aspectual morphology covary.

In Icelandic, there are some instances where one and the same verb appears variably with dative or some other case; Sigurðsson (1989) gives the nominative-dative

examples in (4a), and Barðdal points out that verbs like 'dry' and 'comb,' which ordinarily take accusative, can (optionally) take dative objects when the object is human or a familiar animal such as a cat, as in the examples here ((4b-e) from Barðdal 1993, (4f) from Maling 2001).

(4) a. Hlýnaði ofninn ekki flótt? Hlýnaði þér ekki fljótt?
warmed the.oven.NOM not soon warmed you.DAT not soon
'Didn't the oven get warmer soon?' 'Didn't you get warmer soon?'

b. Kristín greiddi hárið. Kristín greiddi Jóni.
Kristin combed the.hair.ACC Kristin combed Jon.DAT

c. Kristín þvoði handklæðið. Kristín þvoði barninu.
Kristin washed the.towel.ACC Kristin washed the.child.DAT

d. Kristín þurrkaði handklæðið. Kristín þurrkaði barninu.
Kristin dried the.towel.ACC Kristin dried the.child.DAT

e. Kristín strauk handlegginn á sér. Kristín strauk kettinum.
Kristin stroked the.arm.ACC on RFX Kristin stroked the.cat.DAT

f. Kötturinn klóraði mig. Ég klóraði kettinum.
the.cat scratched me.ACC I scratched the.cat.DAT

Sigurðsson and Barðdal suggest that animate arguments in such cases are goals or benefactives, rather than themes, and the dative is used for goals or benefactives more generally in Icelandic; a variant on this intuition is to characterize these objects as experiencers, as Maling does.

Nevertheless, the usual situation in Icelandic (as with German) is that monotransitive verbs govern either only dative or only accusative case (there are genitive-taking verbs, but they are rather few), and this is usually taken to be listed as part of the dictionary entry.

(5) a. Ég keyri mótorhjól/*mótorhjóli.
I drive motorcycle.ACC/motorcycle.DAT
'I drive a motorcycle'

b. Ég ek mótorhjóli/*mótorhjól.
I drive motorcycle.DAT/motorcycle.ACC
'I drive a motorcycle'

Thus the Icelandic dative is more closely tied to lexical semantics than the Finnish partitive, a difference which can be thought of as being determined by the difference between inner and outer aspect. However, since there is little evidence for a structural difference between dative and accusative objects (see Maling to appear), I assume that case features are checked not in Spec-head configurations, but under Agree (Chomsky 1999), perhaps limited only by the extent of the strong phase (see Svenonius 2001).

2. Ballistic motion

In Icelandic, objects which undergo certain types of motion appear in the dative case. Barðdal 1999 has demonstrated that this generalization is productive, listing dozens of instances of dative case with neologisms and novel uses of verbs to describe objects being propelled through space after initial impartation of kinetic force (sportscasters are particularly helpful in demonstrating this phenomenon).

(6) a. negla 'kick or smash' (< *negla* 'nail')
d. þrykkja 'kick or smash' (< *þrykkja* 'print'?)
b. þrusa 'kick or smash' (< English *thrust*?)
c. dúndra 'kick or smash' (< ? note 'thunder' is *þruma* or *druna*)

The data from neologisms, like the data from Dative Sickness (Svavarsdóttir 1982, Halldórsson 1982) is extremely important in that it establishes that the patterns of dative in Içelandic are not simply remnants of some moribund historical system. Surely, the historical patterns provide information about the origins of the modern pattern, and there may remain verbs with idiosyncratic lexical specifications which are simply learned, like idiomatic expressions, by each new generation. But if the patterns revealed by close examination of the extensive and detailed lists compiled by Joan Maling (Maling 1998 lists about 800 verbs which are attested with dative objects) and Jóhannes Gísli Jónsson (Jónsson 2000 is a list of over 300 constructions with non-nominative subjects) suggest a system, the neologisms and reclassifications documented by Jóhanna Barðdal, Ásta Svavarsdóttir, and others are definite proof that a system exists.

This can also be seen with verbs referring to the launching of projectiles. The target of the action may be accusative, but the projectile itself is dative ((7a-d) from Maling 2001).

(7) a. skjóta fuglinn 'shoot the bird' (acc)
b. skjóta kúlunni 'shoot the bullet' (dat)
c. skutla hvalinn 'harpoon the whale' (acc)
d. skutla skutlinum 'throw the harpoon' (dat)
e. stinga sig 'stick oneself' (acc)
f. stinga hnífnum í tréð 'stick the knife (dat) in the tree'

The last example is not strictly ballistic, as the knife need not leave the hand. The same is true of (8a-b) below (from Maling 2001). Such examples are sometimes reminiscent of the Proto-Germanic instrumental dative (cf. (8c), also from Maling 2001).

(8) a. Hann sló köttinn.
he hit the.cat.ACC
'He hit the cat'
b. Hann sló kettinum í vegginn.
he hit the.cat.DAT in the.wall
'He hit the cat against the wall'
c. Þeir tóku henni opnum örmum.
they took her open arms.DAT
'They greeted her with open arms'

Whatever the historical source of the construction, it is clear that modern Icelandic uses dative on objects which undergo (certain kinds of) motion. Note, however, that elements which undergo motion are ordinarily nominative with intransitive verbs, whether the motion is self-directed or not (cf. Zaenen and Maling 1984) (the same subjects would be accusative in ECM contexts, cf. Thráinsson 1979).

(9) a. Skipið sökk.
the.ship.NOM sank

b. Oddlaug stökk.
Oddlaug.NOM jumped

Thus, it seems that dative is only licensed in verb phrases which have two parts, an initiation of an event, and some result of that initiation; compare Burzio's Generalization, which states that accusative case is only available from verbs which have an external argument. I will return in section 5 to the question of monovalent verbs with dative and accusative subjects; first I will continue to investigate the difference between dative and accusative with transitive verbs.

3. Other manners of motion

When an event involves assisted motion then the object is accusative, not dative.

(10) a. draga 'pull, drag, draw'

b. flytja 'move, transport, carry'

c. færa 'move'; 'bring'

This includes some instances where the verb lexically specifies the direction of motion; each of the verbs in (11) takes an accusative object.

(11) a. hækka 'raise'

b. lækka 'lower'

However, verbs which specify manner of motion in the sense of Levin and Rappaport Hovav 1995 have a strong tendency to take dative objects, when transitive.

(12) a. dreypa vatninu 'sprinkle water'

b. fleyta bátnum 'float the boat'

c. velta tunnu 'roll a barrel'

d. venda skipi 'turn a ship around'

Similarly for verbs meaning 'overturn,' 'wag,' 'dangle,' 'droop,' 'dive,' 'blow,' 'pour,' 'glide,' 'swing,' 'splash,' and so on. Here, as in the examples given in the previous section, there is a sense in which the movement of the object may be initiated by some action on the part of the subject, but the subject's influence need not persist throughout the event.

This characterization is less clearly apt when the object is reflexive, as in (13).

(13) a. snúa sér
turn RFX.DAT
'turn around'

b. demba sér
pour RFX.DAT
'dive'

It may be true that a turning or diving event conducted by a sentient subject involves continuous application of control over the event. However, this need not mean that it is conceived of that way. Barðdal 1999 documents a great number of neologisms in which verbs with various meanings have been coopted as verbs of manners of movement by the addition of a dative reflexive object. Just a few examples are given here; the last two are

apparently based on English words (which are not ordinarily used with reflexives in English).

(14) a. *blaka sér* flap RFX 'get lost'
b. *dilla sér* wiggle RFX 'get lost'
c. *dingla sér* dangle RFX 'get lost'
d. *drulla sér* shit RFX 'hurry'
e. *koma sér* come RFX 'move'
f. *sippa sér* zip RFX 'move'
g. *skvísa sér* squeeze RFX 'squeeze by'

Examples of this type show that verbs of manner of motion take dative case productively, not simply as a matter of arbitrary lexical specification. I will assume that they are distinct from the accusative-taking verbs in (10-11) in that the sense of continuous action on the object is lacking from (13-14), even though there is no such difference in the real world events they describe. Notice that *snúa* can take an accusative reflexive, with a kind of affected object meaning.

(15) snúa sig
turn RFX.ACC
'twist one's elbow/ankle'

I return to the link between accusative and affected objects in section 5.

The split-v hypothesis is often taken to encode Burzio's Generalization, if accusative case is assigned by v, the same head that is responsible for the agent theta role. With verbs of motion, accusative seems to signal that the object is affected or acted upon throughout the event, in a way that is absent from the dative objects. This indicates an integration of the activity performed by the agent or originator (the argument introduced by v) and whatever it is that happens to the patient or undergoer. In the dative examples, the dative argument is more insulated from v and the upper layer of the event, almost as if there were a null preposition assigning the dative case; however, dative objects in Icelandic show no signs of behaving like prepositional phrases, for example they undergo Object Shift while prepositional complements do not (cf. Jónsson 1996).

(16) a. Böðullinn bjargaði stelpunni ekki.
the.executioner rescued the.girl.DAT not
b. * Böðullinn dansaði skipinu ekki á.
the.executioner danced the.ship not on

Also unlike prepositional complements, dative objects are promoted under passive (see Maling and Zaenen 1985). Importantly, the promoted object remains dative under passivization.

(17) a. Skipinu var sökkt af skipstjóranum.
the.ship.DAT was sunk by the.captain
b. Honum var oft hjálpað af foreldrum sínum.
him.DAT was often helped by parents RFX.POSS

Another important indication that the syntax of accusative and dative complements is basically the same is that particle shift in the verb particle construction applies equally with objects of any case (generally, a verb controls the same case with or without a particle, cf. Thráinsson 1979, Svenonius 1994).

(18) a. láta aftur hurðina – láta hurðina aftur
put back the.door.ACC put the.door.ACC back
'close the door'

b. halla aftur hurðinni – halla hurðinni aftur
lean back the.door.DAT lean the.door.DAT back
'close the door, leaving it just slightly ajar'

I have argued that these constructions involve small clauses in Icelandic (Svenonius 1996a, Svenonius 1996b). If that is correct, then the analysis of dative certainly cannot make reference to direct objects or theta assignment in the old sense. In any case, the similarity of the patterns here do not support any attempt to locate the dative-accusative contrast in a particular licensing position, as by a null preposition.

At this point it is possible to begin to formalize the characterization made in the previous section for the environment of the dative. Assume that all transitive verb phrases consist of at least two parts, v and a lower part (see e.g. Kratzer 1994, Harley 1995). The head v bears an event variable, and introduces the external argument, and may carry information about the manner in which an activity is carried out (cf. Hale and Keyser 1993, Hale and Keyser 1999 and Krifka 1995). The complement of v may be a root (cf. Marantz 1997) which introduces the internal argument and may specify information about what happens to the internal argument. If the initiator (the external argument) is continuously involved in the situation introduced by the root, then the v event and the root situation are cotemporaneous. This can be represented (mixing terminologies slightly) as $t(e_v) = t(s_{\sqrt{}})$ (compare the event identification of Kratzer 1994, which is stronger; my reason for this weaker formulation will become apparent in section 4). This would seem to be consistent with the intuition that, for example, a dragging event involves continuous impartation of force. For a throwing event, on the other hand, only the initial part of e_v is cotemporaneous with $s_{\sqrt{}}$. Possibly, this happens when the root introduces its own event (cf. Harley 1999 for a relevant investigation).

For simplicity, assume that whether $t(e_v) = t(s_{\sqrt{}})$ or not is determined by properties of v. Then v that binds its complement in such a way that $t(e_v) = t(s_{\sqrt{}})$ is just the kind of v that licenses accusative case. Accusative case will not be available in unaccusatives, on the reasonable assumption that there are not two separate subevents with an unaccusative. Passives plausibly do contain both subevents (since they carry the implication of an external argument), but they do not assign accusative case. I take the absence of accusative case in Icelandic passives to indicate that passive v does not bind its complement in the same way as active v; this may be connected to the ready availability of a stative reading for passives, but it is not immediately clear here that it follows from anything deep. Perhaps that is as it should be; the properties of passives vary a great deal cross-linguistically.

In the dative examples I have shown so far, there is an initiating event and so there must be an initiator v. However, I have suggested that it is not cotemporaneous with the event introduced by the root. Dative case is not available in true unaccusatives, as noted above, so it, like accusative, requires reference to the complex event structure made possible by the split-v analysis. Thus, I will provisionally assume that dative is available when an initiator v is chosen which binds only the initial time of the root (ultimately, I will suggest that properties of the root are crucial in determining whether the events are identified in the relevant way or not). Note that such binding will be unchanged in the passive, cf. (17). In fact, ditransitives suggest that a single root can have two v's, so a dative passive presumably has two v's as well (see Davis and Demirdache 2000 and

Travis 2000 on the inventories of v in Salish and Austronesian languages; cf. also Harley 1995).

In Icelandic, there are some overt morphological candidates for v, such as the inchoative deadjectival suffix *-ka* (Sigurðsson calls it 'progressive') in *dýpka* 'deepen,' *mjókka* 'narrow,' or *minnka* 'shrink' (cf. also the verbs in (11)). All of these take accusative objects and belong to the same declension paradigm (*bakka* 'back up' takes dative, but seems to only accidentally end in *-ka*; it is not inchoative, not deadjectival, and doesn't show umlaut).

If v determines the declension paradigm, then causatives which are productively formed from unaccusatives by the addition of a particular kind of v should belong to the same declension paradigm. The systematic correlation between weak verbs like those in (19) and strong ones like those in (20) is discussed in Sigurðsson 1989 (for the weak transitive verbs in (19), the infinitive, third person singular past, and past participle forms are given—the alternation *ð–t–d* is phonologically predictable; for the strong unaccusative verbs in (20), the infinitive is followed by the third person singular present, third person singular past, third person plural past, and the past participle).

(19) a. dreypa (dreypti, dreypt) 'sprinkle'
b. feykja (feykti, feykt) 'blow'
c. fleygja (fleygði, fleygt) 'throw (away)'
d. fleyta (fleyti, fleyt) 'float'
e. renna (renndi, rennt) 'pour, let flow'
f. sleppa (sleppti, sleppt) 'let go, release, drop'
g. stökkva (stökkti, stökkt) 'chase'
h. velta (velti, velt) 'roll'

(20) a. drjúpa (drýpur; draup, drupu, dropið) 'drip, fall in drops'
b. fjúka (fýkur; fauk, fuku, fokið) 'be blown away, blow away'
c. fljúga (flýgur; flaug, flugu, flogið) 'fly'
d. fljóta (flýtur; flaut, flutu, flotið) 'float'; 'run, stream'
e. renna (rann, runnu, runnið) 'slide, slip'; 'flow, stream, run'
f. sleppa (slapp, sluppu, sloppið) 'get away, escape'
g. stökkva (stekkur; stökk, stukku, stokkið) 'jump, leap, gallop'
h. velta (valt, ultu, oltið) 'roll'

It is striking that all of the verbs in (19) take dative complements. Sigurðsson 1989 also gives similar (transitive weak–unaccusative strong) pairs in which the transitive verb takes the accusative (*setja* 'set,' *reisa* 'raise,' *færa* 'move,' corresponding to *sitja* 'sit,' *rísa* 'rise,' *fara* 'move'), but they do not specify manner of motion, but rather accompanied motion (cf. (10-11)). This suggests that there is a weak paradigm transitive v head which attaches to roots indicating motion and which, if a manner is specified for that motion, do not bind the event in the way necessary for accusative case.

There are strong verbs taking dative complements (e.g. *ljúka* 'finish,' *slíta* 'wear down'), but not nearly as many as those taking accusative. In fact, strong accusative-taking verbs often seem to correspond to weak unaccusatives, in a reversal of the pattern shown above.

(21) a. brjóta (brýtur; braut, brutu, brotið) 'break, crack'
b. kljúfa (klýfur; klauf, klufu, klofið) 'split, cleave'
c. rífa (reif, rifu, rifið) 'tear, rip'; 'tear down'
d. slíta (sleit, slitu, slitið) 'snap, break'

(22) a. brotna (brotnaði, brotnað) 'break, crack'
b. klofna (klofnaði, klofnað) 'split, crack'
c. rifna (rifnaði, rifnað) 'tear, rip open'
d. slitna (slitnaði, slitnað) 'snap, tear'

However, *-na* is denominal (apparently: cf. *brot* 'fracture,' *klof* 'crotch,' *rifa* 'rip, tear, crack, gap, slit,' *slit* 'wear and tear'; but Sigurðsson (1989:242) notes that *-na* is also frequently deadjectival; (22) might be formed on the past participles of (21)), so the pattern here does not necessarily suggest that the unaccusatives are derived directly from the transitives (furthermore the strong paradigms are regular, so they could themselves be derived). Most class 3 verbs ending in *-ja* take accusative (e.g. *flytja* 'move,' *dylja* 'hide,' *dvelja* 'delay'), but there are exceptions (*vefja* 'wind' enters a dat-acc alternation). Some of the exceptional dative-taking verbs might actually be seen as involving a distinct, instrumental dative (e.g. *aka* 'drive,' *fljúga* 'fly (a plane),'). It is clear that the apparent correlations bear further investigation (see Sigurðsson 1989: 242 for references to previous work, especially on the *–st* suffix).

In the next section I look at one construction in detail, the spray-load alternation, to determine the syntactic structures involved.

4. The spray-load alternation

In Icelandic, the familiar spray-load alternation is productive with verbs with the appropriate semantics. When the direct object is the location or target of movement, it appears in the accusative case, as in (23a, c, e). When the direct object is the element or substance being moved, it appears in the dative case, as in (23b, d, f).

(23) a. Við hlóðum vagninn með heyi.
we loaded the.wagon.ACC with hay.DAT
b. Við hlóðum heyinu á vagninn.
we loaded the.hay.DAT on the.wagon.ACC
c. Hann spreyjar bílinn með málningu.
he sprays the.car.ACC with paint.DAT
d. Hann spreyjar málningu á bílinn.
he sprays paint.DAT on the.car.ACC
e Hann smyr brauðið með hnetusmjöri.
he smears the.bread.ACC with peanutbutter.DAT
f. Hann smyr hnetusmjörinu á brauðið.
he smears the.peanutbutter.DAT on the.bread.ACC

It seems clear that this is part of the more general pattern already revealed. Given what I have said about the dative not being involved in the upper part of the event, this implies that the relationship between the verb and the accusative should be tighter and more intimate, in a way, than the relationship between the verb and the dative. This is not obvious syntactically; object shift may apply in either structure.

(24) a. Við hlóðum ekki vagninn með heyi.
b. Við hlóðum vagninn ekki með heyi.
we loaded the.wagon not the.wagon with hay
'We didn't load the wagon with hay'

(25) a. Við hlóðum ekki heyinu á vagninn.
b. Við hlóðum heyinu ekki á vagninn.
we loaded the.hay not the.hay on the.wagon
'We didn't load the hay onto the wagon'

However, semantically, there is a difference. The accusative direct object is conceived of as an incremental theme, and the event is mapped onto the object in the sense formalized by Krifka 1992. In contrast, the dative object is not, and is treated more as if it were an indivisible unit undergoing movement. This is not a fact about the world; in the real world, it is just as possible for hay to be moved bit by bit into the wagon as it is for the wagon to be filled bit by bit with hay. But there is evidence that this is not the way the Icelandic language structures such events. Either, as in (24), the event is thought of as a gradual process of wagon filling, or else, as in (25), it is thought of as an atomic act of hay relocation. This becomes clear when we attempt to modify the two structures with a degree adverb.

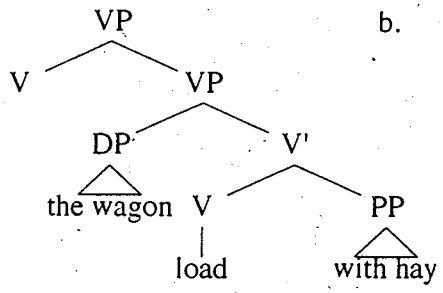
(26) a. Við hlóðum vagninn næstum því með heyi.
we loaded the.wagon.ACC nearly so with hay.DAT
'We nearly loaded the wagon with hay' (ambiguous)
b. ? Við hlóðum heyinu næstum því á vagninn.
we loaded the.hay.DAT nearly so on the.wagon.ACC

(26a) is ambiguous. It can either mean that we nearly performed the activity that would have led to wagon-filling (the wide scope reading), or else it can mean that we performed some activity, and, as a result, the wagon nearly became filled (the narrow scope reading). (26b), in contrast, can only have the wide scope reading. (26b) is also somewhat degraded. A better sentence than (26b) is the one below, in which the object follows the adverbial.

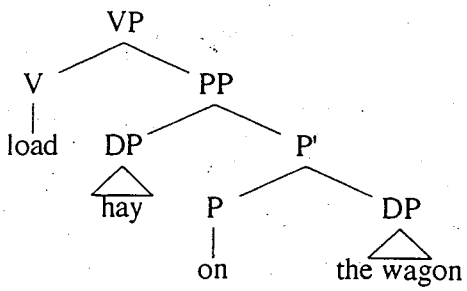
(27) Við hlóðum næstum því heyinu á vagninn.
we loaded nearly so the. hay.DAT on the.wagon.ACC
'We nearly got around to loading the hay onto the wagon'

Here again only the wide scope reading is possible. The degree adverbial cannot modify the subportion of the event having to do with the changing of location of the hay. Consider the structures proposed by Hale and Keyser (Hale and Keyser 1993, Hale and Keyser 2000) for spray-load constructions. They argue that the location-as-object variant involves a complex VP structure, as in (28a), providing specifiers for the agent and the location (the external argument is not shown here), while the locatum-as-object version has a small clause complement to a causative V (here the small clause is labeled PP). Thus, in (28a) the location is an argument of the verb, but in (28b) the locatum is properly an argument of P. Recall the intuition I floated above that the accusative is more directly involved in the higher verbal structure, while the dative is more removed from it.

(28) a.



b.



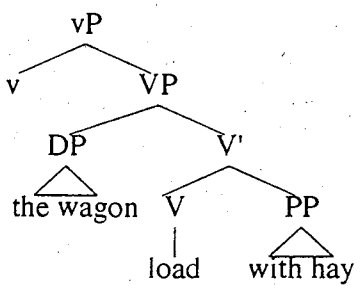
Assuming Icelandic to have structures like these, the tree on the left would be the accusative structure, and the higher V in each structure would be the one that introduces the external argument; that is, it is the head that I have been referring to as v. Alternatively, there is always a distinct v, in which case the tree on the right must have an additional layer. I will return to this possibility.

Assuming the trees in (28), the two readings for (26a) correspond to the two possible points of attachment for the adverbial, above and below the causative v at the top of the structure (optional object shift allows the object to appear to the left or right of both attachment sites, so that word order is unilluminating). If attachment is high, then the act of causation was 'nearly' performed. If attachment is low, then the loading event was 'nearly' complete.

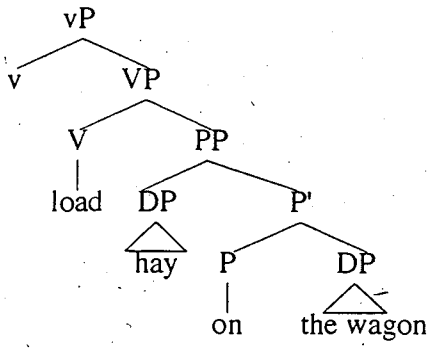
In the dative structure to the right, there is only one V projection, and only one reading. One might expect a second reading in which the adverb attaches to the small clause [*hay onto the wagon*]. Possibly, the relevant difference between V and P is that V introduces an event, while P does not . If the adverbial must bind an event, then it will not have anything to bind in case it attaches to the non-verbal projection. This means that the required higher attachment of the adverbial is forced, and only the wide-scope reading is available. The only part which is unexplained is why (26b) is degraded, since object shift should allow the dative object to leave the VP in any event. I will assume that this has to do with the information structural properties of object shift and is not syntactically blocked.

The account just sketched relies on specific details of the structures in (28), independently motivated by Hale and Keyser. But recall the idea that every transitive verb actually consists of two parts (as would be suggested by the morphological evidence discussed above). This gives trees like those in (29).

(29) a.



b.



Assume for the moment that the root √*load*, which I label V, can ambiguously be used as a way of affecting a location, in which case v will bind its event, and the tree in (29a) will result, or a way of making something move, in which case v will only bind the initial part of the event, and the tree will be as in (29b). Now, if the trees in (29) are more accurate,

then it looks as if there should be an ambiguity in (29b), since there are two locations for the attachment of the adverbial. However, the attachment of the adverbial below the causative head would still be above the small clause [*hay on the wagon*], and so the scope would not be different in any relevant way. The wagon is more integrated into the verbal event in (29a) than in (29b), and will be subject to its modification. See section 5 on mapping to events.

A similar effect can be observed in Serbian (as pointed out to me by Tanja Milićev), with verbs like *pomóci* 'help' which optionally take dative or accusative (with accusative this verb tends to refer to financial assistance).

(29) a. On ga je skoro pomogao.
he him.ACC is almost helped
'He helped him, to a degree that was insufficient'

b. On mu je skoro pomogao.
he him.DAT is almost helped
'He almost helped him' (help was never provided)

In English, the partial reading of the sentence *he helped him* is unavailable—hence the clumsy paraphrase in (29a)—as if 'help' took the dative in English. That English has something like a covert dative structure is also suggested by examples like those in (30).

(30) a. This forge partly burns coal.

b. This forge partly burns on coal.

(30a) is ambiguous, meaning either that the coal placed in the forge becomes partly burnt, or that the forge uses two types of fuel, one of which is coal. (30b) only has the latter meaning. In Icelandic, when the coal is the type of fuel that the forge runs on, then it appears in the dative case, as noted by Maling 2001.

(31) a. *brenna kolum* burn coal.DAT 'run on coal'

b. *brenna kol* burn coal.ACC 'consume coal by burning' or 'make charcoal'

Further evidence that the dative has to do with event stucture comes from cognate object constructions. Maling 2001 points out that cognate objects tend to be dative.

(32) a. Hún grét sárum gráti.
she cried bitter tears.DAT

b. Hann svaf djúpum svefni.
he slept deep sleep.DAT

c. Hún hlær alltaf svo innilegum hlátri.
she laughs always so inward laugh.DAT

d. Hún lifir góðu lífi.
she lives good life.DAT

e. Hún brosti til hans tindrandi brosi.
she smiled to him sparkling smile.DAT

She also notes a number of apparent exceptions.

(33) a. syngja sönginn
sing song.ACC

b. þvo þvottinn
wash wash.ACC

c. þylja þuluna
recite poem.ACC

d. dreyma draum
dream dream.ACC

e. róa róður
row row.ACC

It turns out that the exceptions are not actually cognate objects, in the formal sense; they are simply direct objects which happen to be cognate with the verbs they appear with (cf. the 'hyponymic objects' of Hale and Keyser 2001). Thus, 'sing,' 'wash,' etc. are ordinary transitive verbs, while 'cry' and 'sleep' and so on are not.

This can be seen by the fact that the true cognate objects require adjectival modification, while the accusative arguments do not. It can be further demonstrated by using a modifier which makes explicit reference to the physical properties of the object, as in (34); you cannot have a half of a cognate object (except with poetic license), whereas it is quite natural to quantify over ordinary objects.

(34) a. Hann dreymdi hálfan draum.
he dreamt half dream.ACC

b. Hann reri hálfan róður.
he rowed half row.ACC
'He made half of an intended rowing trip'

(35) a. * Hann brosti hálfu brosi.
he smiled half smile.DAT

b. * Hann grét hálfum gráti.
he cried half cry.DAT

Thus, 'dream' in Icelandic is an activity, like reading or writing, which involves the agent and the patient intimately over the course of the event; the verb consists of a v of initiation which is contemporaneous with a V of the unfolding of a dream. The Icelandic equivalent of 'smile,' on the other hand, is different; it presumably also involves an act of initiation, but there is no independent event of smiling, only the smile itself.

What appears to be exactly the same contrast is demonstrated for Russian by Pereltsvaig 1999, where the true cognate objects appear in the instrumental case, while incidentally cognate objects are accusative, just like noncognate objects.

Assuming Hale and Keyser's analysis of intransitive verbs as covertly transitive, a verb like *smile* underlyingly involves an N complement to v. (Following Marantz (1997) or Borer 2000, the complement might not have any syntactic category before combining with v.) According to Hale and Keyser 2001, the cognate object construction arises when that underlying complement to v contains modification (e.g. an adjective) or other material that requires the support of functional material; the functional material, in turn, makes the null N impossible (alternatively, it prevents incorporation, or forces the category N). The cognate object solution is to allow both the the higher and the lower head to contain lexical material; but plausibly N, like P, does not introduce an event, so it is not possible for v to bind it. Hence accusative is not licensed.

5. Measuring out

Tenny 1994 proposes that if a verb carries the entailment that its direct object undergoes an internal change, then that direct object measures out the event introduced by the verb;

furthermore, she argues that other arguments (subjects, indirect objects, and prepositional arguments) cannot measure out the event. The clearest examples of this are verbs with incremental themes, such as verbs of creation and consumption, and the formal expression of the measure of the event is sharpest in Krifka's (1992) mappings of objects to events and events to objects.

In Icelandic, verbs which entail that their direct objects undergo internal change almost always take the accusative case. This is true of incremental theme verbs like 'eat,' 'drink,' 'build,' 'make,' 'paint,' and so on, typical affected object verbs like 'shoot' (cf. (7)), verbs of breaking, cutting, and so on (cf. (21)), and verbs of change of state like 'enlarge,' 'reduce,' 'bend,' 'twist,' 'melt,' 'burn,' 'dry,' 'heat,' and so on. In fact, many verbs which take affected objects in the accusative take dative objects instead when they are combined with a particle that indicates that the object is moved to a different location ((36a-d) from Barðdal 1993, (36e-f) from Maling 2001).

(36) a. Hann mokar snjó.
he shovels snow.ACC

b. Hann mokar snjónum burt.
he shovels the.snow.DAT away

c. Hann sópar gólfið.
he sweeps the.floor.ACC

d. Hann sópar ruslinu saman.
he sweeps the.garbage.DAT together

e Hann þeytir rjómann.
he whips the.cream.ACC

f. Hann þeytir laufunum burt.
he flings the.leaves.DAT away

g. Hann stappaði kartöflur.
he mashed potatoes.ACC

h. Hann stappaði niður fótunum.
he stamped down the.feet.DAT

Here, the particle signals a difference in the way the event involves the object, and a different case is used; but recall from (18) in section 3 that particles do not generally affect case assignment. It is only when the Aktionsart is changed in precisely this way that the particle matters.

With the possible exceptions of some problematic cases discussed immediately below, the generalization is robust that measuring-out objects in Tenny's sense are accusative. This falls out from the theory of accusative case presented in the previous sections. Take Krifka's mapping of events to objects to be the formal statement of measuring out ($\forall e, e', x[R(e,x) \wedge e' \leq e \rightarrow \exists x'[x' \leq x \wedge R(e',x')]]$); it states that for a certain class of predicates, for every subpart of the event, there is some corresponding subpart of the object, such that the relation between the event and the object (say, eating) also holds between the subpart of the event and the subpart of the object. Thus, for a five minute slice of a half-hour event of eating a chicken, there is a subpart of the chicken which is eaten. The event that the object is mapped onto is quite intuitively the event introduced by V. If the event introduced by V occupies the same timespan as the event introduced by v, then mapping to objects will give the right results for the event denoted by vP. However, if the V event and the v event have distinct extensions in time, as with the dative objects, then the object will not map to vP, even if it maps to VP.

There are some exceptions to the generalization that dative objects do not undergo internal change, which I enumerate here (i-iv).

(i) As noted in section 1 above (see example (4)), Barðdal has pointed out that verbs meaning 'wash' and 'scratch' take dative when the object is an experiencer. My claim is then that although the towel in 'wash the towel' may measure out the event, the baby in 'wash the baby' is not seen as doing so.

(ii) Verbs meaning 'kill' usually take the dative, though the very common *drepa* takes accusative. Possibly, the object of verbs of killing is seen as an experiencer, in the same sense as in (i); alternatively, verbs of killing are conceptualized as involving the initiation of a dying event in which the influence of the agent does not persist. In any case, it seems reasonable that the patient does not measure out the event in the way formalized in mapping to objects. Maling (2001) points out that accusative-taking *drepa* is a more general term which can be used for stopping an engine, a piece of music, and so on.

(iii) As Maling (2001) notes, verbs referring to destruction often take the dative.

(37) a. eyða 'destroy, exterminate, delete'
b. granda 'damage, destroy'
c. spilla 'spoil, harm,'
d. tortíma 'destroy, annihilate'

Again, these might be thought of as involving the initiation of a termination event, with the patient then terminating independently of the subject. There are also many verbs with similar meanings that govern accusative.

(38) a. eyðileggja ACC 'destroy'
b. skaða ACC 'damage, harm'
c. skemma ACC 'damage, spoil'
d. gereyða ACC 'annihilate, liquidate'

My claim would be that these verbs are conceptualized as involving event identification, in contrast to those above. However, I have not uncovered any independent evidence that this is the case. At worst, the cases can be lexically stipulated, as on other accounts. Nonetheless, it is possible to pursue the idea that such stipulation always carries additional entailments.

(iv) A final category of verbs with affected objects that appear in the dative is a set of various verbs with *saman* 'together,' noted by Barðdal (1993) (whence (39a-b)) and Maling (2001) (whence (39c-d)).

(39) a. Hann blandar djús.
he mixes juice.ACC
b. Hann blandar vatninu saman við djúsið.
he mixes the.water.DAT together with the.juice
c. hræra deigið 'mix the dough' (acc)
d. hræra þurrefnunum saman 'mix the dry ingredients together' (dat)

Maling notes that many such verbs allow the accusative even in the presence of *saman*, and that other verbs require accusative regardless of the presence of *saman* (e.g. 'glue,' 'nail,' 'sew,' 'put'). She finds that there is a tendency to use dative when things such as ingredients are mixed, while items which are simply joined remain dative. This situation

is problematic, but does not constitute a clear counterexample to the claim that dative objects cannot measure out an event.

Previous accounts of Icelandic case have always, in the end, relied on stipulated lexical entries. I claim here, among other things, that there are limits to what can be stipulated. Datives cannot measure out, because the only v head available to license dative fails to bind V in the way necessary for measuring out. Accusatives cannot be involved in disjointed subevents, because the accusative v necessarily binds V in a way that makes them coextensive.

An interesting illustration of this can be drawn from Maling's (2001) 'verbs of heavenly emissions.' The effluence in meteorological phenomena appears in the dative case in Icelandic, giving examples like those in (40).

(40) a. Eldfjöllin spúa eldi og eimyrju yfir landið.
the.volcano spewed fire.DAT and embers.DAT over the.land

b. Það ringdi blómum yfir líkkistu Díönu prinsessu.
it rained flowers.DAT over casket Diana princess

Here it is reasonable to think that the subject does not remain continuously involved in the event, but simply launches (to the extent that there even is a subject in (40b)). Maling includes verbs of 'bodily emission' under the same rubric.

(41) a. Heldurðu að ég skíti peningum?
think.you that I shit money.DAT

b. Ranúr hafði slefað mörgum lítrum af munnvatni á gólfteppi.
Ranúr had drooled many liters.DAT of drool on the.carpet

If these examples are part of the same semantic frame as the ballistic motion cases discussed in section 2 above, then it must be that there is a subevent of movement of money or drool which is set in motion by some initiating event, without the initiating event and the movement event being too intimately linked. This may not be a necessary fact about human language, but rather a convention adopted in Icelandic.

Another factor that is surely subject to language-specific lexical convention is the possibility of monovalent verbs with dative or accusative case, amply documented by Jónsson (Jónsson 1997-1998, Jónsson 2000, Jónsson 2001). Yet even here, my claim is that learning that a given verb takes dative or accusative cannot be separated from learning that it has certain aspectual properties; specifically, the dative and accusative should not be possible without there being two subevents, unlike the true unaccusatives in section 2 (cf. example (9)).

Dative subjects are possible with verbs denoting such emotional experiences such as anger, boredom, or liking (as in (42a)), gradual changes like growing weaker or colder (as in (42b)), and certain verbs of movement (42c). Weather verbs may also appear with dative subjects, as in (42d). (All examples from Jónsson 2000)

(42) a. Henni kennir til í fætinum
'Her legs ache'

b. Félaginu hefur hnignað
'The club has declined'

c. Bátnum hvolfdi á miðju vatninu
'The boat capsized in the middle of the lake'

d. Spurningunum rigndi yfir kennarann
'The teacher was showered with questions'

It is instructive to compare these with typical accusative-subject constructions, also catalogued by Jónsson. Accusative subjects are possible with certain verbs denoting physical sensations like ticklishness (43a), changes of state like breakage or freezing (43b), and certain kinds of movement (43c-d). (Again, all examples from Jónsson 2000.)

(43) a. Mig kitlar í nefið
'My nose tickles'

b. Tjörnina lagði.
'The lake froze over'

c. Manninn tók út
'The sea seized the man'

d. Bátinn hóf fyrir straumi.
'The boat was carried by the current'

These examples are systematically different from the kinds of examples found with dative subjects. In the dative examples, it is easy to imagine an initiating event which caused the legs to ache, the club to decline, the boat to capsize, or the teacher to be showered, without that initiating force being active throughout the aching, the decline, and so on. In contrast, in the accusative examples, the cause of the tickling, freezing, or being swept away is constantly present throughout the tickling, freezing, or being swept away. Furthermore, in the case of (43b), the accusative is the measure of the event, whereas this is not a possible interpretation for any dative subject.

These remarks are not sufficiently precise to predict the case on all non-nominative subjects; it is possible that separate statements must be made to the effect that experiencers tend to be dative under certain conditions; see Jónsson 2001 for extensive discussion. The pattern here is suggestive, however. When some event has been initiated by some external force, and some change of state or location for some theme then occurs, then the theme appears in the dative. When the initiator of the event remains involved in what happens to the theme, then the theme is accusative. When there is no initiator, or when the theme is the initiator, then the theme is licensed at the clause level, and in a finite clause, will appear in the nominative; this is what happens with true unaccusatives, and is the usual case for intransitive verbs in Icelandic.

6. Conclusion

Icelandic case has been the subject of much fine work, and the account developed here would not have been possible without it. It will have been clear from my references to it above that I have drawn especially heavily on Maling's (2001) organization of dozens of dative-taking verbs into semantic categories.

However, the account developed here departs from previous accounts in significant ways. It distinguishes itself from those which postulate a connection between case and thematic roles, as those accounts make direct reference to entailments about the case-marked noun phrase. Here, the entailments having to do with the noun phrase are indirect, and are the result only of facts about the event structure in a larger way. This account also distinguishes itself from those which postulate lexical specification of case; such accounts typically aknowledge regularities but then place no constraints on what can be lexically stipulated, rendering them incapable of making predictions. I predict strongly that datives cannot be measures of events, and that accusatives cannot be dissociated temporally from events.

As I have mentioned above, Marantz (2001) has argued that verbs consist of a functional part, v, which contains syntactically relevant information, and a lexical part, which does not (his √, here V). On his view, it is not possible to stipulate in a lexical entry that a verb will appear with a particular case. Such syntactic information can only come from the functional head, v. The account I have developed here is fully compatible with such a view, as the information necessary to determine whether object case is accusative or dative is entirely located in v (in the manner of the binding of the lower event); which roots can be combined with in the 'dative' fashion (or, seen a different way, by the 'dative' v) is determined by the event structure offered for binding by the root. Certainly, many challenges for this account remain. Not least among them, the dative-taking v must be prevented from combining with roots like *keyra* 'drive' (cf. (5a)), while the accusative-taking v must not combine with *aka* 'drive' (cf. (5b)). Ultimately, this account may be brought down by such apparent minimal pairs. However, in every case I have been able to examine closely, it has turned out that differences of can be discerned, often in Aktionsart (in the pair in (5), *aka* in this use is regarded as old-fashioned, and so its event structure might simply be learned, partly on the basis of its case).

If accusative and dative are consistently associated with particular Aktionsarten, then the learner can use evidence from case to infer something about lexical semantics (and vice versa). The learning endeavor is even more greatly facilitated if prepositional cases, which are very high in frequency, can be included as well, and it seems that they can.

There is a regular alternation with prepositions in Icelandic, familiar from many Indo-European languages, whereby prepositions appear with the dative when they have a locative meaning, and the accusative when they have a directional meaning.

(44) a. Hann synti undir brúnni.
he swam under the bridge.DAT
'He swam (around) under the bridge' (the location was under the bridge)

b. Hann synti undir brúna.
he swam under the bridge.ACC
'He swam (to) under the bridge' (the endpoint was under the bridge)

Prepositions being simpler than verbs, this situation might represent a purer instance of the same contrast noted above for verbal complements. I suggested in section 4 that P does not introduce an event, but possibly it introduces an analogous spatial variable. In the accusative example, there is a mapping of the event of swimming onto the path between the initiation of the event and the bridge. In the dative example, there is no such mapping. Thus it seems that the accusative-assigning element of the prepositional phrase determines a mapping, like its verbal counterpart. Note that the mapping is not to the bridge, but to a salient path (cf. Ramchand 1997). This is perfectly consonant with the account here; the accusative assigner demands a mapping, but not necessarily to the noun phrase which gets the accusative case.

As a final remark, note that the account laid out here, combined with that of Pesetsky and Torrego (2001), eliminates one of the strongest cases for a purely uninterpretable feature, that is, a formal feature with no semantic content. This raises the hope that the theory of features can be simplified by eliminating uninterpretable features altogether (the last bastion will be grammatical gender).

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On Nonprimary Selectional Restrictions

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Abstract
This paper argues for non-primary c- and s-selectional restrictions of verbs in computing nonprimary predicatives such as resultatives, depictives, and manners. Our discussion is based both on the selection violations in the presence of nonprimary predicates and on the cross-linguistic and language-internal variations of categorial and semantic constraints on nonprimary predicates. We claim that all types of thematic predication are represented by an extended projection, and that the merger of lexical heads with another element, regardless of the type of the element, consistently has c- and s-selectional restrictions.

1. Introduction

Nonprimary predication includes resultative, depictive, manner, and path predication. This paper argues for non-primary c-selection and s-selection of verbs in integrating nonprimary-predication-denoting expressions into the clause structure.

C-selection and s-selection are merger constraints on the complement of lexical head elements. The former is a categorial constraint, whereas the latter is a semantic constraint. Pesetsky (1982: 191, 1995) suggests that the former can be derived form the latter. However, as argued by Odijk (1997) and Speas (2000), c-selection is independent of s-selection. Language-internally, we find apparent synonyms that differ in what category their object can be. For example, *ask* can have a nominal or clausal object, while *inquire* can only have a clausal one.

(1) a. We asked {the time/what time it was}.
b. We inquired {what time it was/ *the time}.

Cross-linguistically, we find apparent differences in the syntactic categories of objects of the same semantic type of verbs. For example, in English, the verbs that can have infinitive objects include *hope, expect, need* and *want*, but in French none of the counterparts of these takes an infinitive except that of *want* (*Je voudrais partir*).

Importantly, the observed c-selection of complement by lexical heads is not seen in non-complement elements. As shown in the following data (cited from Svenonius 1995), verbs have a strong influence over the finiteness of their clausal complement (2); however, they have no influence over the finiteness of their clausal subject (3).

(2) a. Jack {wished/*wanted} that he had never seen those magic beans.
b. Jack {wanted/*believed} for his mother to be proud of him.
c. Jack {regretted/*wished} trading the cow.

(3) a. That Pippi defeated the pirates {defied comment/bothered the captain/sufficed to impress Mr. Nelson}.
b. For Pippi to defeat the pirates would {defy comment/bother the captain/suffice to impress Mr. Nelson}.
c. Pippi's defeating the pirates {defied comment/bothered the captain/sufficed to impress Mr. Nelson}.

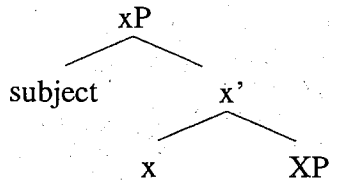
Selection is merger of lexical elements with their complement. We call the standard selection primary selection, and c- and s-selectional restrictions of verbs primary selectional restrictions.

We will show that cross-linguistically and language-internally, nonprimary predicates are hosted by either complements or adjuncts, and the verbs are sensitive to the complement-type of nonprimary predicates. The sensibility is exhibited in, on the one hand, whether certain semantic or syntactic type of nonprimary predicates are allowed, and on the other hand, when they are allowed, whether the s- and c- selection of the verbs change in the presence of a nonprimary predicate.

If a nonprimary predicate is hosted in the complement of verbs, we call the merger of the verbs with this type of complement nonprimary selection, and the relevant categorial and semantic constraints on the merger non-primary selectional restrictions.

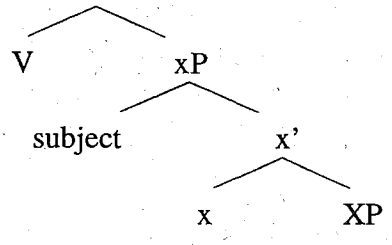
We make the following proposal. Unlike in the primary selection, the selected category of nonprimary selection is generally a semi-functional xP, which is projected above a (lexical) XP (4), and the semantic types of the selected element in this case can be resultative, depictive, manner, path, etc. In addition, like v, the functional a, n, and p assign a theta-role to their subject at Spec. Moreover, like v, the functional a, n, and p do not Case-license the subject, and thus the subject has to be Case-licensed in the structure of the primary predicate, unless the language allows it to get a default case (Jang & Kim, this volume, Schütze 2001).[1]

(4)

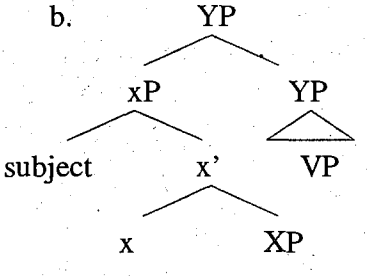


In our analysis, the xP for the complement-type of nonprimary predicates is merged with the verb of the primary predicate (5a), whereas the xP for the adjunct nonprimary predicates is an adjunct of the structure of the primary predicate (5b). As in primary selection, nonprimary selection occurs only in the complement-relation (5a).

(5) a.



b.



Note that our claim that verbs have both primary and nonprimary selectional restrictions does not imply that verbs can have two sisters (as in Carrier & Randall 1992. See Bowers 1997 for arguments against Carrier & Randall's approach). In (5a), xP is merged with the verb in V, and then the newly-formed term is merged with another element. It is in this

[1] If v can case-license objects, which is in its complement, as assumed in Chomsky (1995), x in (4) should be able to license the case of XP. For instance, the Instrument and other cases of depictives in Russian may be licensed by x. Following the general idea of Richardson (this volume), we can further claim that the different cases may be related to different event-structure features of x.

derivational binary sense that nonprimary selection can bend primary one, but not the other way around (see section 6 and section 7).

Our xP hypothesis is different from Bowers' (1993, 2001) PrP theory in the following way. Although we not only adopt but also provide evidence for the occurrence of a functional projection in encoding a predication relation, we claim that the label of PrP is wrong. Theoretically, PrP is redundant, since its relation to vP is unclear in primary predication. Empirically, the category of PrP does not capture the interactions and variations observed in the literature and presented in this paper.

The paper is organized as follows. In section 2 we provide evidence to support the claim made by the PrP Theory that a thematic predication relation must be encoded by a functional projection, and adopt the unified analysis of the theta-role assignment to subjects proposed by the PrP Theory. In section 3, we present Chinese evidence to show that the assumed xP can be either complement of the verb or an adjunct. In section 4 we present cross-linguistic and language-internal variations of the category of complement-type nonprimary predicates, and argue that an extended projection rather than PrP can capture the facts. In section 5 we present cross-linguistic and language-internal semantic constraints on complement-type nonprimary predicates. We then discuss the violation of c- and s-selection of verbs in the presence of complement-type nonprimary predicates in section 6. In section 7, we argue for a syntactic account for the "Direct Object Restriction" on nonprimary predication, and account for one more instance of c-selection violation in the presence of nonprimary predicates. The paper is concluded in section 8.

2. A Thematic Predication Relation is Represented by xP

In this section we discuss the projection of (4).

First of all, we need to distinguish thematic predication from non-thematic predication. In the former case, the theta-role of the subject is licensed after the subject is merged with a term which contains the predicate. Both primary and nonprimary predication belong to this case. Accordingly, we assume that event can be a subject, bearing an e-role. So predication of an event is a thematic predication. Non-thematic predication, however, is a derived predication relation, as in the relation between a topic and its comment, between a relative pronoun and the relative clause (Quine 1960, see Heim & Kratzer 1998: 86), between the extra-nominative nominals and their sister clause (Heycock 1993, Heycock & Doren 2001), etc. In the non-thematic predication relation, the theta-role of the subject is satisfied independent of the predication. Since non-thematic predication is computed later than a thematic predication, and thus is a derived rather than a basic predication relation, it is not discussed in this paper.

We argue that a thematic predication relation, regardless of whether it is a primary or non-primary predication relation, is represented by the extended projection xP.

Our notion of extended projection is different from Grimshaw's (1991). In Grimshaw's theory, "[A]n extended projection consists of a lexical head and its X' projection plus all the functional projections above it." (Grimshaw 1994: 76) The notion of extended projection used here means the projection of a functional head which is merged with a lexical phrase, and the category features of the functional head and that of the lexical head are the same. An example of this extended projection is vP, which takes VP as complement. Both vP and VP are verbal, and thus they have the same category features.[2]

Three claims will be made: a functional projection is projected in nonprimary predication, an external argument is always merged at the Spec of this projection, and finally,

[2] If we adopt the theory of the Distributed Morphology, the so-called lexical phrases used generally and here may all be projections headed by "f-morphemes," which decide the category of the "l-morphemes." (cf. Marantz 1997)

this projection shares its category features with its complement, and thus it is called "extended." In this section, we argue for the first two claims. The last claim will be argued for in section 4.

2.1 The Projection of a Functional Category

PrP Theory is right in claiming that a predication relation must be encoded by a functional projection. A direct argument for this is the obligatory alternation between the *de*-construction, where the functional word *de* occurs, and the V-V construction, where the lexical heads of the two predicates are adjacent, in the integration of a nonprimary predicate (resultative/depictive/manner) in Chinese. In the following data, those in (6) are resultative constructions, those in (7) are depictive constructions, and those in (8) are manner constructions.[3] The de-construction is seen in (6a/7a/8a/8c), whereas the V-V construction is seen in (6b/7b/8b). The nonprimary predicate follows the verb of the primary predicate (Vpri hence) in (6), (8b), (9b), and (9c), and it precedes Vpri in (7), (8a), (8c), and (9a). We will discuss the two orders in section 3.

(6) a. Wusong da **de** laohu liuxue le.
Wusong beat DE tiger bleed PRT
'Wusong beat the tiger so that it bled.'

b. Wusong da-si-le laohu.
Wusong beat-die-PRF tiger
'Wusong beat the tiger to death.'

(7) a. Wusong ruanruan **de** pu-le yi ge dianzi.
Wusong soft DE lay-PRF one CL mattress
'Wusong laid a mattress soft.'

b. Wusong huo-zhuo-le laohu.
Wusong alive-catch-PRF tiger
'Wusong caught the tiger alive.'

(8) a. Akiu hen man **de** pao-le yi xiaoshi.
Akiu very slow DE run-PRF one hour
'Akiu ran very slowly for an hour.'

b. Akiu pao **de** hen man.
Akiu run DE very slow
'Akiu ran very slowly.'

c. Akiu man-pao-le yi xiaoshi.
Akiu slow-run-PRF one hour
'Akiu ran slowly for an hour.'

(9) a. Akiu hen zhengque **de** huida-le na ge wenti.
Akiu very correct DE answer-PRF that CL question
'Akiu answered that question very correctly.'

b. na ge wenti, Akiu huida **de** hen zhengque.
that CL question Akiu answer DE very correct
'That question, Akiu answered very correctly.'

[3] The abbreviations used in the Chinese examples are: EXP: experience aspect, PRF: perfect aspect, PROG: progressive aspect, PRT: sentence-final aspect particle, CL: classifier.
Pre-Vpri *de* and post-Vpri *de* are graphically different in Mandarin Chinese and phonologically different in some Chinese dialects. However, the different phonological or written forms do not mean that they are syntactically different. The different forms can be viewed as positional variants of the same category, as we often see in phonology. Crucially, the two forms of *de* occur in non-primary predication only, and they themselves do not have any semantic features to distinguish each other.

c. na ge wenti, Akiu da-dui-le.
that CL question, Akiu answer-correct-PRF
'That question, Akiu answered correctly.'

The alternation between the de-construction and the V-V construction of nonprimary predication is further shown by the unacceptability of (10) below. (10a) is neither a V-V construction nor a *de*-construction, whereas (10b) has both de and a V-V form. Both sentences are intended to encode a resultative meaning.

(10) a. *Baoyu da laohu liuxue.
Baoyu beat tiger bleed
b. *Baoyu da si de laohu
Baoyu beat die DE tiger
Intended: 'Akiu beat the tiger to death.'

In our analysis, the head of xP in (4) is realized either by *de* or a head raising from the nonprimary predicate (XP).[4] *De* always attaches to the right of the leftmost verbal element at PF, as argued in Zhang (2001a).

2.2 The Position where External Arguments are Merged

PrP Theory is right in the following unification: the theta-role of subjects is assigned to the Spec of a functional head in both primary (Hale & Keyser, Marantz, Kratzer, Harley, etc.) and nonprimary predication. Not all functional heads can have a theta-relation with another element: the semi-functional head v can whereas the pure functional ones such as I, C, D, etc., cannot.

An argument for the independent structural position for the external argument of nonprimary predicate is that in both resultative and depictive constructions, there are cases where argument-sharing is absent. In the following data, the underlined part, which is the subject of the nonprimary predicate, does not share with any argument of the primary predication.

(11) a. John$_i$ [t$_i$ ran [the pavement thin]].
b. Akiu$_i$ [t$_i$ ku de [shoujuan dou shi le]].
Akiu cry DE handkerchief also wet PRT
'Akiu cried so that the handkerchief became wet.'

(12) a. Baoyu$_i$ [t$_i$ da de Daiyu [shou dou teng le]]. (resultative)[5]
Baoyu beat DE Daiyu hand also painful PRT
'Baoyu beat Daiyu so that his$_{Baoyu}$ own hand was painful.'
b. Akiu$_i$ [xue linlin de] [t$_i$ chi-le na tiao yu]. (obj-related depictive)
Akiu blood drip DE eat-PRF that CL fish
'Akiu ate that fish, the blood of which dripped.'
c. Akiu$_i$ [yanlei wangwang de] [t$_i$ ku-le yi shangwu]. (subj-related depictive)
Akiu tear full DE cry-PRF one morning
'Akiu cried for one morning, (in a way that) his tears were full (in his eyes).'

Data like (12), however, have the constraint that the overt subject of the secondary predicate must have a part-whole relation with an argument of the Vpri. In (12a), the subject

[4] Sybesma (1999) makes a similar proposal for resultative constructions.
[5] I thank Zo Xiu-Zhi Wu for helping me with the Chinese example (12a). Korean data similar to (12) can be found in Kim & Maling (1997).

of Vpri, *Baoyu*, is an inalienable possessor of *shou* 'hand', which is the subject of the secondary predicate *teng* 'painful'. (13a) is unacceptable because no such relation occurs between the subject of the secondary predicate, *caidao* 'knife', and any argument of the Vpri. In (12b), *xue* 'blood' is the subject of the depictive *linlin* 'drip', and it has a part-whole relation with the object of the Vpri, *na tiao yu* 'that cl fish'. (13b) is not acceptable, because there is no part-whole relation between the overt subject of the depictive, *tian* 'sky', and any argument of the Vpri.

(13) a. *Akiu qie de rou caidao dou dun le.
Akiu cut de meat knife even blunt prf
b. *na zhi laohu tian hei de chi le yi kuai rou.
that cl tiger sky dark de eat prf one cl meat

The independent overt subjects of the nonprimary predicates require an independent structural position, and theta-role. We thus assume that the theta-role assigner of subjects is consistently a semi-functional head (v/a/n/p). The subject of a secondary predicate is a PRO if argument sharing occurs (Hornstein & Lightfoot 1987, Bowers 1993, 2001), assuming that each nominal has only one θ–role.[6] Manners are predicates of events (e).

3. Adjunct xP & Complement xP

In this section we discuss the contrast between (5a) and (5b). Cross-linguistically and language internally, nonprimary predicates are hosted by either complements of verbs or adjuncts of the primary predicate. It is generally assumed that subject-oriented depictives are hosted by adjuncts, whereas resultatives are hosted in complement of verbs in English (Bowers 1993, 2001, Hornstein & Lightfoot 1987, Larson 1991, etc.).

In Chinese, postverbal nonprimary predicates are complements of verbs (Huang 1988, Li 1998, also cf. Ernst 1996), whereas preverbal ones are hosted by an adjunct, regardless of the semantic type of the relevant nonprimary predicate (manner or resultatives). One argument for the contrast is seen in extraction (also Li 1998). Extraction from a nonprimary predicate which follows the Vpri is possible, as shown in (14), whereas extraction from a nonprimary predicate which precedes the Vpri is not possible, as shown in our topicalization and relativization data in (15) and (16).

(14) a. Daiyu chaoxiao de Baoyu zhongyu fangqi-le na ge niantou.
Daiyu mock DE Baoyu finally give.up-PRF that CL idea
'Daiyu mocked Baoyu so that finally Baoyu gave up that idea.'
b. na ge niantou, Daiyu chaoxiao de Boauy zhongyu fangqi-le. (topicalization)
'That idea, Daiyu mocked Baoyu so that finally Baoyu gave up.'
c. na ge [RC Daiyu chaoxiao de Baoyu zhongyu fangqi-le de] niantou (relativization)
'the idea that Daiyu mocked Baoyu so that finally Baoyu gave up'

(15) a. Akiu$_i$ [xue linlin de] [t$_i$ chi-le na tiao yu]. (obj-related depictive)
Akiu blood drip DE eat-PRF that CL fish
'Akiu ate that fish, the blood of which dripped.'
b. *xue, Akiu linlin de chi-le na tiao yu. (topicalization)
c. *[RC Akiu linlin de chi-le na tiao yu de] xue (relativization)

[6] Hornstein (1999) claims that control is movement and a nominal can have more than one theta role, a change of the Theta-Criterion. Kayne (2001) also claims that control is derived by movement. However, Kayne's analysis does not require the change of the Theta-Criterion. We are open to any analysis of control, so long as both the subject of a nonprimary predicate and that of a primary predicate need a theta-role.

(16) a. Akiu$_i$ [yanlei wangwang de] [t$_i$ ku-le yi shangwu]. (subj-related depictive)
Akiu tear full DE cry-PRF one morning
'Akiu cried for one morning, (in a way that) his tears were full.'
b. *yanlei, Akiu wangwang de ku-le yi shangwu. (topicalization)
c. *[RC Akiu wangwang de ku-le yi shangwu de] yanlei (relativization)

Another argument for the contrast between preverbal and postverbal nonprimary predicates is that different types of preverbal nonprimary predicates are structurally ordered in the hierarchy which is also seen in adverbials.

First, multiple nonprimary predicates are ordered. When multiple preverbal depictives co-occur, we see mirror images of the orders in English and Chinese: In English, the order is object-oriented depictive - subject-oriented depictive (Carrier and Randall 1992), while in Chinese the order is just opposite; however, in both languages, object-oriented depictives are closer to Vpri than subject-oriented ones, as shown in the following:

(17) a. V depictive$_{obj}$ depictive$_{sbj}$ (English)
b. depictive$_{sbj}$ depictive$_{obj}$ V (Chinese)

(18) a. John$_i$ sketched the model$_j$ nude$_j$ [drunk as a skunk]$_i$.
b. *John$_i$ sketched the model$_j$ nude$_i$ [drunk as a skunk]$_j$.

(19) a. Akiu$_i$ yukuai$_i$ de rere$_j$ de he le [na wan cha]$_j$.
Akiu happy DE hot DE drink PRF that bowl tea
'Akiu drank that bowl of tea hot happy.'
b. *Akiu$_i$ rere$_j$ de yukuai$_i$ de he le [na wan cha]$_j$.
Akiu hot DE happy DE drink PRF that bowl tea

In (18), the depictive *nude* is closer to the Vpri *sketched* than the depictive *drunk as a skunk*. In the acceptable (18a), the subject of *nude* is co-referential with *the model*, which is the object of the Vpri, and the subject of *drunk as a skunk* is co-referential with *John*, which is the subject of the Vpri. (18b), with the opposite co-indexing, is unacceptable. Thus the object-oriented depictive is closer to the Vpri than the subject-oriented one. In (19), there are also two depictive predicates, *rere* 'hot' and *yukuai* 'happy'. In both sentences the subject of *rere* is co-referential with *na wan cha* 'that bowl of tea', which is the object of the Vpri *he* 'drink', and the subject of *yukuai* is co-referential with *Akiu*, which is the subject of *he*. *Rere* is closer to *he* 'drink' than *yukuai* in the acceptable (19a), whereas it is the other way around in the unacceptable (19b). Like (18), (19) also shows that the object-oriented depictive is closer to the Vpri than the subject-oriented one.

The pattern of the orders is similar to that of adverbials. In the following data ((21) is from Hornstein 2001: 116) the adjunct which has a dependency relation with the object of the matrix verb must be ordered closer to the matrix verb than the adjunct which has a dependency relation with the subject of the matrix verb.

(20)a. John$_i$ arrested Bill$_j$ [for PRO$_j$ driving his car too fast] [after PRO$_i$ leaving the party]
b. ??John$_i$ arrested Bill$_j$ [after PRO$_i$ leaving the party] [for PRO$_j$ driving his car too fast]
(21)a. John$_i$ bought Moby Dick$_j$ [for Mary to review e$_j$][PRO$_i$ to annoy Sam]
b. *John$_i$ bought Moby Dick$_j$ [PRO$_i$ to annoy Sam][for Mary to review e$_j$]

There is no doubt that the non-finite clauses above are adverbials. Hornstein (2001: 97) claims that the adjunct which has a dependency relation with the object of the matrix verb is adjoined lower than the adjunct which has a dependency relation with the subject of the

matrix verb. This difference in height indicates that the former has a closer structural relation to the matrix verb than the latter. In the linear order, the former is also closer to the matrix verb than the latter. The order restriction in (18) and (19) indicates that like the adverbials in (20)/(21), object-oriented and subject-oriented pr-Vpri nonprimary predicates are ordered in a certain structural hierarchy. In Hornstein & Lightfoot (1987: 27), the functional phrase hosting a subject-oriented depictive is a VP-adjunct, whereas the functional phrase hosting an object-oriented depictive is a V'-adjunct. The Chinese data in (18) and (19) are compatible with this distinction.

Second, the interactions with adverbs show the structural order of different types of depictives. For instance, subject-oriented pre-Vpri nonprimary predicates can occur to the left of the adverb *like* 'immediately,' while object-oriented ones cannot, as shown in (22):

(22) a. Akiu (like) gaoxing de (like) chang le yi shou ge.
Akiu immediately glad DE immediately sing PRF one CL song
'Akiu sang a song glad (immediately).'

b. Akiu (like) rere de (*like) he le yi bei cha.
Akiu immediately hot DE immediately drink PRF one cup tea
'Akiu drank a cup of tea hot (immediately).'

This restriction shows that the xP hosting the object-oriented depictive is ordered lower than both the adverb and the xP hosting the subject-oriented depictive on the adverbial hierarchy, and thus has a closer structural relation with the Vpri.

The similarity of the order-patterns of depictives to the order-patterns of adverbials, and the interactions with other adverbs suggest that the xP hosting pre-Vpri nonprimary predicates has properties of adverbials. This order fact supports our claim that xPs which host pre-Vpri nonprimary predicates have an adjunct status in their integration into the structure of primary predication.

A remaining issue is what syntactic operation enables co-reference between the null subject of a pre-Vpri nonprimary predicate and an argument of Vpri. In other words, what are the syntactic representations of the so-called subject-orientation or object-orientation of a pre-Vpri nonprimary predication. Following Hornstein & Lightfoot's (1987) analysis of depictives, I assume that the pre-Vpri nonprimary predication constructions have a control-into-adjunct structure. In other words, the null subject of a pre-Vpri nonprimary predicate is a PRO, controlled by an argument of the relevant Vpri.

4. The Category Constraints on the Complement-Type Nonprimary Predicates

In this section we argue that x in (4)/(5) shares the same categorial features with their complement and when the verb in V is merged with the xP in (5a), it shows c-selectional restrictions. We have three arguments:

4.1 Cross-Linguistic Variations

Category constraints on nonprimary predicates are language-specific. For instance, non-motion verbs allow complement-type nonprimary predicates to be PPs in English but not in Chinese. Recall that resultatives in English and post-verbal nonprimary predicates in Chinese are of complement-type. The resultative in (23), regardless of whether the Vpri is motion verb or not, are all PPs. In (24), however, the preposition *xiang* 'to' can occur with a motion verb, such as *kai* 'run' in (24a) and *zou* 'walk' in (24b), but not other verbs (24c).

(23) a. The children ran into the woods.
b. Peter cut the meat into slices.

c. The vase broke into several pieces.
d. Bill beat John to death.

(24) a. zhe liang huozhe zheng kai xiang Monggu.
this CL train PROG run to Mongolia
'This train is running to Mongolia.'
b. tamen zhengzai zou-xiang siwang.
they PROG walk-to death
'They are walking towards death.'
c. *Wusong da de laohu xiang siwang.
Wusong beat DE tiger to death

In addition, VP resultatives are allowed in Chinese (6), Japanese (Washio 1997), and Saramaccan (Veenstra 1996), but not English (25a) (Larson 1991, Dechaine 1993).

(25) a. *John shot Mary die.
b. John shot Mary dead.

Furthermore, postverbal manners are consistently APs (or DegPs) in Chinese, whereas they are AdvPs and PPs in English.

(26) a. Bill checked that room with a great care.
b. Bill checked that room carefully.
(27) a. na jian fangzi, Akiu jiancha de hen zixi.
that CL room Akiu check DE very careful
'That room, Akiu checked carefully.'
b. *na jian fangzi, Akiu jiancha de yong xixin.
that CL room Akiu check DE with carefulness

In certain cases, manners can be either AP or AdvP in English (Washio 1997: 17):

(28) a. He tied his shoelaces tight/tightly.
b. He tied his shoelaces loose/loosely.
(29) a. He spread the butter thick/thickly.
b. He spread the butter thin/thinly.

Finally, in the Chinese *de* construction, resultatives can be a full clause (Li 1998). In our following data, the post-Vpri resultative (the underlined part) is a full clause. In (30b), the focused embedded object, *fan* 'meal,' is preposed within the resultative clause.

(30) a. Baoyu qi-de Daiyu dou bu xiang chi fan le.
Baoyu anger- DE Daiyu even not want eat meal PRT
'Baoyu angered Daiyu so that Daiyu even did not want to eat meals.'
b. Baoyu qi-de Daiyu lian fan dou bu xiang chi le.
Baoyu anger- DE Daiyu even meal even not want eat PRT
'Baoyu angered Daiyu so that Daiyu even did not want to eat meals.'

When resultatives are in a full clause, we claim that the verb in V is merged with a clause, although the predication relation internal to this resultative clause is still encoded by an xP, an agentive vP in (30).

4.2 Language-Internal Variations

Language internally, different semantic types of verbs have different category constraints on their secondary predicates. In Chinese, while verbs of beating allow their resultatives to be a VP (6), verbs of creation require their resultatives to be an AP (or DegP) only. In the unacceptable (31c), the postverbal resultative is headed by the verb *ji* 'cram'. This cannot be accounted for semantically.

(31) a. Naxie zi, Baoyu xie de hen da.
those character Baoyu write DE very big
'Those characters, Baoyu wrote very big.'

b. Baoyu xie-da-le haojige zi.
Baoyu write-big-PRF several characters
'Baoyu wrote several characters big.'

c. *Naxie zi, Baoyu xie de ji zai yiqi le.
those character Baoyu write DE cram at together PRT

The contrast that PP-nonprimary predicates can occur with motion verbs but not other verbs in Chinese, shown in the previous subsection, is another instance of language-internal category-constraint on nonprimary predicates.

4.3 The Correlation between Shared Category Constraints and Shared Syntactic Properties

Like in primary c-selection, verbs which have the same category constraint on their nonprimary predicates share syntactic properties. In Chinese, certain types of verbs require their complement-type nonprimary predicates to be APs. For these verbs, their objects must be preposed in the construction where a nonprimary predicate occurs to the right of *de*. This is seen in verbs of change of state (32a vs. 32b), transference (33a vs. 33b), and creation (34a vs. 34b), in contrast to other types (35). (Those in (32b), (33b), and (34b) are acceptable in a relative clause reading, irrelevantly) Relevantly, postverbal manners must be APs, and objects must also be preposed in the *de*-construction (36). The c-sentences show that the preposing can also land to the right of the subject, preceded by the functional word *ba*.

(32) a. na zhi qianbi, Akiu xue de hen jian.
that CL pencil Akiu cut DE very sharp
'That pencil, Akiu cut sharp.'

b. *Akiu xue de na zhi qianbi hen jian.

c. Akiu ba na zhi qianbi xue de hen jian.

(33) a. na jian chenshan, Baoyu mai de youdianr da.
that CL shirt Baoyu buy DE somehow big
'That shirt, Baoyu bought somehow over-sized.'

b. *Baoyu mai de na jian chenshan youdainr da.

(34) a. Naxie zi, Baoyu xie de hen da. (= 31a)
those character Baoyu write DE very big
'Those characters, Baoyu wrote very big.'

b. *Baoyu xie de naxie zi hen da.

(35) Baoyu da de na ge xiaohai hen shangxin. (cf. 6a; *da* allows VP-resultative)
Baoyu beat DE that CL child very sad
'Baoyu beat that child so that the child became very sad.'

(36) a. na shou shi, Akiu nian de feikuai.
that CL poem Akiu read DE fast
'That poem, Akiu read fast.'

b. *Akiu nian de na shou shi feikuai.
c. Akiu ba na shou shi nian de feikuai.

See Appendix for more discussion of this obligatory object-preposing.

4.4 Accounting for the Category Sensitivity of V to X

PrP Theory cannot explain why verbs are sensitive to the category of their complement-type secondary predicate. Our (5a) is repeated here as (37a), and its counterpart in PrP Theory is (37b):

(37) a. $[_{VP}$ V $[_{xP}$ **x** $[_{XP}$ X]]]]
b. $[_{VP}$ V $[_{PrP}$ **Pr** $[_{XP}$ X]]]]

In (37b), PrP either has no category feature or is like a Small Clause, the category of which is unrelated to the complement XP. If the features of a projection must be that of the head exclusively (Lóbez 2001), the dependency between V and X, as shown in the previous three subsections, is unexpected. The sensibility indicates that the predication-encoding projection is an extended projection and thus shares the category features with the complement. In (37a /5a), the verb in V nonprimarily c-selects xP, and xP and XP have the same category features.

The only argument for the absence of a category feature of Pr seen in the PrP Theory is that predicates in different categories can be coordinated, as shown in (38).

(38) I consider Fred crazy and a fool.

However, single-conjunct agreement (Aoun, Benmamoun & Sportiche 1994, 1999, Munn 1999), independent phi-feature of a conjunction construction for binding (Borsley 2001), and the categorial-sensitivity of Chinese conjunctions (Lü et al. 1980), as well as the unlike-category coordination discussed in the PrP Theory, all suggest that a conjunction itself may have formal features. Thus the coordination issue can have an alternative account.

5. The Semantic Constraints on the Complement-Type Nonprimary Predicates

In this section we argue that the verb in V in (5a) nonprimarily s-selects xP.

PrP Theory provides no account for the following semantic facts. Our nonprimary s-selection, however, can cover them.

5.1 Cross-Linguistic Variations

Semantic constraints of certain semantic types of verbs on their nonprimary predicates are language-specific. For instance, verbs of change of state allow object-oriented depictives in English (Rapoport, To appear), but not in Chinese. Object-oriented secondary predicates with such verbs must be resultative in Chinese, regardless of whether they are pre- (40) or post-verbal (41):

(39) a. Jones cut [the bread]$_i$ hot$_i$.
b. Jones fried [the potatoes]$_i$ raw$_i$.
c. Jones froze [the juice]$_i$ fresh$_i$.
d. Jones boiled [the lobsters]$_i$ alive$_i$.

(40) a. Akiu {*xixi/lanlan} de zhu-le yi guo miantiao.
Akiu thin/pasty DE cook-PRF one pot noodle
'Akiu cooked a pot of noodle pasty.'

b. Akiu {*honghong/jianjian} de xue-le yi zhi qianbi.
Akiu red/sharp DE cut-PRF one CL pencil
'Akiu cut the pencil sharp.'

(41) a. na guo miantiao, Akiu zhu de hen {*xi/lan}.
that pot noodle Akiu cook DE very thin/pasty
'That pot of noodles, Akiu cooked very pasty.'

b. na zhi qianbi, Akiu xue de hen {*hong/jian}
that CL pencil Akiu cut DE very red/sharp
'That pencil, Akiu cut sharp.'

In Larson (1991), object-oriented depictives are hosted in the complements of verbs in English. We claim that verbs of change of state in the two languages have different non-primary s-selections.

On the other hand, in neither English nor Chinese activity primary predicates allow object-oriented depictives, whereas in Russian they do (see section 2.2 of Richardson, this volume). In (42), the subject of *drunk* must take the matrix subject *John* as antecedent. In the Chinese examples in (43), the pre-Vpri *man-tou da-han* 'in a sweat' must be a subject-oriented depictive (43a) and the post-Vpri *man-tou da-han* must be resultative (43b). Thus as in English, the nonprimary predicate occurring with the activity primary predicate does not have an object-oriented depictive reading. In contrast, in the Russian example (44), the depictive *p'janogo* 'drunk' can be object-oriented in the presence of the activity verb *tolknula* 'pushed.'

(42) a. $John_k$ pushed $Bill_i$ $drunk_{*i/k}$.

b. $John_k$ chased $Betty_i$ $drunk_{*i/k}$.

(43) a. Baoyu man-tou da-han de zhui Daiyu.
Baoyu whole-head big-sweat de chase Daiyu
'Baoyu chased Daiyu in a $sweat_{Baoyu}$.'

b. Baoyu zhui de Daiyu man-tou da-han.
'Baoyu chased Daiyu so that Daiyu was in a sweat.'

(44) Ja tolknula $Ivana_i$ $p'janogo_i$. (= Richardson, this volume (24))
I pushed Ivan-ACC drunk-ACC

The above contrast shows that the semantic constraints of activity primary predicates on nonprimary predicates are different in English/Chinese and Russian.

5.2 Language-Internal Variations

Language internally, different semantic types of verbs have different semantic constraints on their secondary predicates. In Chinese, unlike verbs of change of state (41), verbs of transference allow postverbal depictives rather than resultatives. This is shown in both (45) and the above (33a).

(45) Na liang che, Baoyu zhu de tai jiu le.
that CL car Baoyu rent DE too old PRT
OK: 'That car, Baoyu rented when it was too old.'
Not: 'That car, Baoyu rented and thus it became too old.'

5.3 A Cross-Linguistic Semantic Constraint

In primary s-selection, certain semantic types of verbs resist certain semantic type of complements. For instance, verbs such as *eat, devour, drink, sip, taste* do not s-select a

question. Similarly, telic verbs/verbal-complexes, which intrinsically encode a measure possibility, in the sense of Vanden Wangaerd (2001), resist resultatives. This generalization can cover the following five facts.

First, unaccussatives generally do not take resultatives.

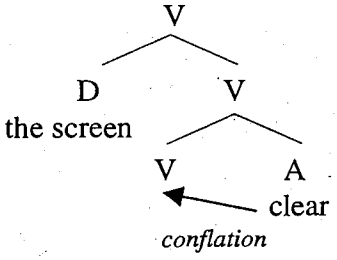
(46) a. *The river froze the fish dead.
b. *The ice melted the floor clean.

The same constraint on Chinese is noted by Gu (1992). Our de-construction in (47a) and the corresponding V-V construction in (47b) show this constraint:

(47) a. *Hu-shui dong de yu dou si le.
lake-water froze DE fish even die PRT
b. *Hu-shui dong-si-le yu.
lake-water froze-die-PRF fish

According to Pustejovsky (1991: 76), such verbs already encode a change-of-state meaning. In Hale & Keyser's (1993, and their later works) analysis, such verbs are derived by a conflation of a null verb with a result-denoting Adjective, as illustrated in (48).

(48) a. The screen cleared.
b.



Second, unlike depictives, resultatives cannot stack. Resultatives do not co-occur with resultatives, while depictives can co-occur with depictives, as shown in (49). The restriction in English is discussed in Simpson (1983) and Rothstein (1985). The same contrast is observed in Chinese, as shown in (50).

(49) a. *John kicked the door open to pieces. (resultative)
b. They ate the meat raw tender. (depictive)
(50) a. *Akiu da de Baoyu haotaodaku shou le shang. (resultative)
Akiu hit DE Baoyu cry.loudly suffer PRF wound
b. Akiu huoshengsheng de xinglixingqi de chi le na tiao yu. (depictive)
Akiu alive DE stinky DE eat PRF that CL fish
'Akiu ate that fish alive stinky.'

If an event can be delimited only once and a resultative delimits the event encoded by the primary predication, the ban of the multiple resultatives is explained.

Third, Romance verbs do not allow resultatives in general. The following Catalan examples are cited from Mateu (this volume, section 4):

(51) a. Joe kicked the door open.
b. *El Joe colpejà la porta oberta.
the Joe kick.PST.3.SG the door open

(52) a. Joe kicked the dog into the bathroom.
b. *El Joe colpejà el gos a dins el bany.
the Joe kick.PST.3.SG the dog inside the bathroom

In order to account for Talmy's (1991) typological distinction between 'satellite-framed languages' such as English and German and 'verb-framed languages' such as Catalan and Spanish, Mateu argues that in verbs of the latter group, a telic path has been conflated, and thus semantically like in the case of unaccusatives, a telic information has been encoded. The following contrast between English and Catalan (Mateu's (52)) shows that there is a conflation of Motion and Manner in the English verb *dance* (53a), whereas there is conflation of Motion and Path in the Catalan verb *entrà* (53b):

(53) a. The boy danced into the room.
b. El noi entrà a l'habitació ballan.
the boy went-into LOC.PRP the room dancing

Unlike manners and like resultatives, paths delimit events. Since an event cannot be delimited more than once, verbs such as *entrà*, which contain information of a path, cannot occur with a resultative.

Fourth, Chinese V-V compounds where the second V is a telic directional verb do not allow resultatives.

(54) a. *Akiu zou-jin de na jian maocao-peng dou ta le.
Akiu walk-enter DE that CL straw-hut even collapse PRT
b. *Akiu yun-lai de na ge xiangzi dou po le.
Akiu transport-come DE that CL box even broken PRT

The Chinese V-V compounds can be viewed as an analytic case of Romance *entrà* in (53b), where a path is implicitly conflated. In neither case, a resultative is allowed.

Finally, Russian verbs generally do not allow resultatives (exceptions are seen in Richardson, this volume (38)). Vanden Wangaerd (2001) convincingly argues that a resultative is more adequately seen as a measure than an "ending up-with" state. Specifically, resultatives function like classifiers of nominals in their ability to measure a mass-like activity.[7] Strigin (2001), on the other hand, shows that the Russian perfect aspect, which marks bounded events and is required in the presence of a quantized internal argument, has intrinsically encoded telicity. However, this telicity differs from what has generally been claimed in English in that no end-point is necessarily reached with respect to the quantized internal argument. Both Strigin and Van Wangared conclude that telicity is not related to end point. Strigin further argues that the absence of resultatives in Russion is accounted for by the presence of this telicity in the aspect of Russian verbs.

Our nonprimary s-selection accounts for all of the five observations in a unified way.

6. The Violation of S-/C-Section of Verbs in the Presence of Nonprimary Predicates

The c- and s-selection of the verb in primary predicate can be changed in the presence of a complement-type nonprimary predicate, as in (55b).

(55) a. Freddy cried.

[7] The distinctions among "measure out," "delimit," and "measurable to the event" are discussed in a different context in Zhang (1997 section 5.2.1). The notion "measurable" is similar to the notion "decomposable" suggested by a reviewer of Van Wangared (2001) (p. 76).

b. Freddy cried the handkerchief wet.

In this section we argue that this is the result of the interaction between two types of selection: a primary one and a nonprimary one. Specifically, it is the result of the early merge of xP with the verb. We propose our analysis of the violation in 6.1 and point out the inadequacies of some other approaches in section 6.2.

6.1 A Selection Approach to Selection Violations

On the one hand, it has been argued that English resultatives are hosted in complement of verbs (Hoekstra 1988, Roberts 1988:705, Larson 1991, Bowers 1993, 1997, 2001, Levin & Rappaport Hovav 1995:49, etc.). On the other hand, unergatives such as *ran* neither c-select a clause nor s-select a proposition. In (56a), the resultative *himself tired* as a nonselected element occurs as complement, a violation of the selection of the verb. Similarly, *cry* neither c-select a clause nor s-select a proposition. In (55b), the resultative *the handkerchief wet* as a nonselected element occurs as complement, a violation of the selection of the verb. The selection violation is also seen in transitives, such as *wipe* in (56b), if *wipe* selects neither a clause nor an AP. Selection violation is also seen in data like (56c), where the transitive verb *drank* cannot have an internal argument.

(56) a. He ran himself tired.
b. John wiped the table clean.
c. John drank (*the wine) his guests under the table.

Hoekstra (1988, 1992) makes a generalization that any activity verb may be turned into an accomplishment by adding a resultative small clause to it. What Hoekstra's generalization tells us is that selectional restrictions of verbs can be systematically violated, in the presence of resultatives. Considering a broader range of data shown in the previous sections, we see that selection of verbs can be systematically violated in the presence of a nonprimary predicate of the complement-type. As we know, the theory of selection has been argued for without considering of nonprimary predication. On the other hand, the complement analysis of English resultatives and Chinese post-verbal nonprimary predicates in general, ignores the selectional restrictions of the Vpri. In order to keep the empirical force of both considerations, i.e., selection and the analysis of the nonprimary predicates, we claim that verbs have nonprimary s- and c-selection, in addition to their hitherto recognized s- and c-selection.

Independent arguments for the hypothesis of nonprimary selection have been shown in the previous sections, i.e., verbs are categorially and semantically sensitive to their nonprimary predicates, cross-linguistically and language-internally.

As expected, the two types of selection interact. The interaction accounts for the selection violation. Importantly, if a nonprimary predicate is not hosted by the complement of a verb, there is no nonprimary selection and thus the c- and s-selection of the verb cannot be violated, as shown in (57) and (58). In (57b), the manner *quickly* is not hosted by the complement of *devoured*, the c-selection of a nominal remains obligatory. Similarly, in (58b), the subject-oriented depictive *naked* is not hosted by the complement of *inquired*. The c-selection is violated in (58a), so is in (58b) (cf. (1b)).

(57) a. We devoured *(the cake).
b. We devoured *(the cake) quickly.
(58) a. *John inquired the time.
b. *John inquired the time naked.

The interaction between the two types of selection can be analyzed as follows. In our (5a), a verb in V merges with xP before an internal argument is merged. We claim that since nonprimary c- and s-selections are satisfied earlier, they may interact with primary c- and s-selections: an internal argument of Vpri can be absorbed (56c), and the case of the overt subject of the nonprimary predicate gets licensed (56a). Specifically, in the presence of xP at a certain derivational step, a verb is merged with the xP directly. If both the c- and s-nonprimary selectional restrictions are satisfied in this merger, the new term is then able to merge with another element. If the subject of the xP is a PRO, as in (56b), its overt controller will be integrated, following the Minimal Distance Principle (Rosenbaum 1970) (this analysis is compatible with any treatment to the Case of PRO). If there is no PRO, as in (56a) and (56c), the overt subject in xP needs to be Case-licensed in the same way as in the ECM structure (Bowers 1993, 2001). The x in this case, like v in primary predicate, cannot Case-license its theta-related subject. The nearest Case-licensor for the nonprimary subject is the v of the primary predicate. As generally assumed, v can only license Accusative Case in English. Thus the subject of the nonprimary predicate can only have Accusative Case, as in (56a).

On the other hand, since the primary predicate can only license one Accusative Case, if it Case-licenses the overt subject of the nonprimary predicate, it cannot license another overt internal argument of its own. This explains the absence of an object in (56c).[8]

One remaining issue is how to explain (12a), repeated here as (59), where both the object of Vpri and the overt subject of the resultative occur.

(59) Baoyu$_i$ [t$_i$ da de Daiyu [shou dou teng le]].
Baoyu beat DE Daiyu hand also painful PRT
'Baoyu beat Daiyu so that his$_{Baoyu}$ own hand was painful.'

Recall that an inalienable possession relation between the subject of the nonprimary predicate and an argument of the primary predicate is required in such construction (section 2.2). We claim that the construction in (59) is derived by raising of the possessor out of the subject of the resultative, stranding the possessee. The stranding occurs independent of nonprimary predication constructions, as seen in (60b) and (61b).

(60) a. Lao Wang de fuqin si-le.
Lao Wang MOD father die-PRF
'Lao Wang's father died.'
b. Lao Wang si-le fuqin.
c. *Lao Wang si-le xiao gou.
Lao Wang die-PRF small dog

(61) a. Akiu de yi tiao tui duan-le.
Akiu MOD one CL leg broken-PRF
'One of Akiu's legs was broken.'
b. Akiu duan-le yi tiao tui.

[8] If case is related to event structure (Svenonius, this volume), and if the presence of a resultative has an effect on the event structure, the change of case in the following Icelandic data (see Svenonius, this volume, section 5) is accounted for. In these data, the verbs which take affected objects in the accusative take dative objects instead when they are combined with a resultative particle that indicates the object is moved to a different location:

(i) a. Hann mokar snjó.
he shovels snow.ACC
a'. Hann mokar snjónum burt.
he shovels the.snow.DAT away
b. Hann sópar gólfið.
he sweeps the.floor.ACC
b'. Hann sópar ruslinu saman.
he sweeps the.gabage.DAT together

c. *Akiu duan-le yi tiao zhuozi-tui.
Akiu broken-PRF one cl table-leg

As shown in the c-forms, if there is no inalienable possession relation, the splitting between possessor and possesee is impossible. We leave the exact computation of the construction such sentences as an open issue. The possible analysis of the b-sentences of (60) and (61), especially the additional case-licensing of the possessee, should be extended to (59). Among possible choices are lexical case and default case. The special case-licensing should also be applied to the independent subject of the depictives in (12b) and (12c), and *man-tou* 'whole head' in (43). We thus do not consider data like (59)/(12) as a challenge to our hypothesis of nonprimary selection.

6.2 Comments on the "Strong-Weak Resultative" Approach

It needs to point out that the PrP Theory provides no account for the violation of the c-/s-selection of verbs in the presence of a complement-type nonprimary predicate.

Following Washio (1997), Wunderich (2000) claims that cross-linguistically, resultatives are divided into weak resultatives, in which a result sate already implied by the verb is specified more narrowly; and strong resultatives, in which some result state predicating of one of the involved participants of a process is added.

These two types of resultative construction are illustrated in (62) and (63).

(62) Weak resultatives
a. The children ran into the woods.
b. Peter cut the meat into slices.
c. The vase broke into several pieces.

(63) Strong resultatives
a. The children ran the lawn flat.
b. John drank the guests under the table.
c. The guests drank the wine cellar empty.
d. He ran himself tired.

The assumed contrasts between strong and weak resultatives are listed in (64) in Wunderich (2000):

(64)		strong	weak
I	A new individual argument is introduced	yes	no
II	AP result predicates are possible	yes	no
III	The result predicate can specify a change which is not inherent to the meaning of the base verb	yes	no
IV	An independent subevent is added	yes	no

Our first comment on this classification is that if verbs of creation are considered, the division is not so clear-cut.

(65) He drew her face square.

In (65), the resultative is an AP, so it patterns with the strong type (II). However, patterning with the weak type, no new individual argument is introduced (I), and no

independent subevent is added (IV). Moreover, it is not clear whether the result predicate specifies a change which is not inherent to the meaning of the base verb (III).

Our second comment on this classification is that it is not true that cross-linguistically the negative value of both III and IV is corespondent to the negative value of II. In Chinese, the object-oriented resultatives which occur with verbs of change of state and creation not only can, but also must, be AP (the positive value of II). Such resultatives pattern with the weak type in not adding an independent subevent (IV). For those occurring with verbs of change of state, clearly no change which is not inherent to the meaning of the base verb is specified (III). We have introduced the AP-data in (32a) and (34a). PP-resultatives are not allowed here because of the language-specific nonprimary c-selection.

The contrast between the resultative reading of AP nonprimary predicate with verbs of change of state in Chinese and the depictive reading of AP nonprimary predicate with the same type of verbs in English, as shown in (39) through (41), is an s-selection contrast of the type of verbs between the two languages, as we claimed before.

We conclude that the syntax-semantics mapping claimed by this Strong-Weak Resultative Approach is not accurate. Our hypothesis of nonprimary selectional restrictions can better capture both cross-linguistic and language-internal variations.

7. C-Selection Violation and the So-Called "Direct Object Restriction"

In this section we argue that the orientation of nonprimary predicate, i.e., the interpretation of the subject of the xP in (4), is syntactically decided, and our analysis in turn explains the following type of obligatory c-selection violation in the presence of a resultative:

(66) a. The lion gnawed *(on) the bone.
b. The lion gnawed (*on) the bone raw.

7.1 A Syntactic Account for the "Direct Object Restriction"

It has long been claimed that resultatives must be object-oriented. The constraint is called Direct Object Restriction (DOR) in Leven and Rappaport-Hovav (1995:34). We argue that DOR is an economy effect of syntax, rather than a semantic constraint on resultatives (contra Rothstein 2001 and many others).

First, there are two constructions where resultatives are hosted by complement of the verb in Chinese: the de-construction and the V-V construction. DOR is present only in the former, not the latter, as extensively discussed in the literature (Li 1990, 1998, Huang 1992, etc.). The contrast is shown in (67) and (68). In the second reading of (67a), the resultative is subject-oriented, a violation of DOR:[9]

(67) a. Baoyu zhui lei le Daiyu.
Baoyu chase tired PRF Daiyu
'Baoyu chased Daiyu and as a result Daiyu got tired.'
'Baoyu chased Daiyu and as a result Baoyu got tired.'
b. Baoyu zhui de Daiyu qichuanxuxu.
Baoyu chase DE Daiyu gasp
'Baoyu chased Daiyu and as a result Daiyu gasped.'

(68) a. Baoyu kan ni le na pan luxiang.
Baoyu watch fed.up PRF that CL video
'Baoyu watched that video and as a result he got fed up with it.'

[9] The subject of the primary predicate of (67a) can also be a theme causer. In that case, the reading of the sentence is 'Chasing Baoyu, Daiyu got tired.' See Zhang (2001a) for a discussion.

b. *Baoyu kan de na pan luxiang dou ni le.
Baoyu watch DE that CL video even fed.up PRF

In the V-V construction (67a), the subject of the resultative predicate is co-referential with either the subject or the object of Vpri, i.e., either Baoyu or Daiyu got tired. However, in the *de* construction (67b), the subject of the resultative predicate can only be co-referential with the object of Vpri, i.e., only Daiyu gasped, not Baoyu. In the V-V construction (68a), the subject of the resultative predicate is co-referential with the subject of Vpri, i.e., Baoyu got fed up. It cannot be co-referential with the object of Vpri, since semantically, *na pan luxiang* 'that video' cannot be the subject of the predicate *ni* 'get fed up'. In the *de* construction (68b), the subject of the resultative predicate cannot co-referential with the subject of Vpri. It can only be co-referential with the object of Vpri. However, since the semantic clash mentioned above rules out the co-indexing, the secondary predication fails and the sentence is unacceptable.

Second, resultatives which occur in an adjunct position, i.e., pre-Vpri, do not have DOR. In (69), *baobao* 'full' is a subject-oriented resultative.

(69) Akiu baobao de chi-le yi dun nian-ye-fan.
Akiu full DE eat-PRF one CL year-night-meal
'Akiu ate a New-Year-eve-meal so that he became full.'

Third, depictives also have DOR, if they occur to the right of *de*, the same position where resultatives occur and DOR applies (cf. (67b))

(70) a. Lao Wang hen xingfen de mai-le na jian chenshan.
Lao Wang very excited DE buy- PRF that CL shirt
'Lao Wang bought that shirt very excited.'
b. Na jian chenshan, Lao Wang mai de {*hen xingfen/tai da le}.
that CL shirt Lao Wang buy DE very excited/too big PRT
'That shirt, Lao Wang bought, and it is too big.'

In (70a) the subject-oriented depictive *hen xingfen* 'very excited' can occur in the adjunct position (i.e., pre-Vpri), but not the complement position (i.e., post-Vpri). The object-oriented depictive *tai da le* 'too big', however, can occur in the complement position. The contrast between *hen xingfen* and *tai da le* in (70b) is the effect of DOR, although the nonprimary predicates are depictives rather than resultatives.

What we have shown so far is that DOR applies only when the nonprimary predicate occurs to the right of *de*. Syntactically, the relevant condition for the presence of DOR is the following: either there is no head movement from the nonprimary predicate to the primary one, if the former belongs to the complement-type, or the nonprimary predicate belongs to the adjunct type (the subject-oriented depictives in English and preverbal resultatives/depictives in Chinese).

Based on this observation, we make the following generalization: only in the complement-type, and only when no head movement occurs, regardless of whether the nonprimary predicate is resultative or depictive, DOR occurs.

We claim that the head movement in the V-V construction has the effect of restructuring, and DOR is an effect of the syntactic locality constraint on the constructions where there is no restructuring. Specifically, in the absence of a restructuring, as in the Chinese de-construction and other chain-type constructions, including the resultative constructions in English, the PRO subject of the resultatives is controlled by the nearest overt

c-commanding argument of the primary predicate, i.e., the direct object, rather than the subject. The Chinese V-V constructions, however, have undergone restructuring and thus the control domain is changed. Consequently, either the overt direct object or the subject of the primary predicate can control the PRO subject of the nonprimary predicate. As for nonprimary predicates which are hosted by adjuncts, their control patterns are the same as that of adverbials (Hornstein & Lightfoot 1987, Hornstein 2001), i.e., the PRO can be either subject-controlled or object-controlled, depending on the merger position of the xP. Therefore, such predicates can be either subject-oriented or object-oriented.

7.2 One More Instance of Obligatory C-Selection Violation

Our syntactic analysis of DOR accounts for one more case of c-selection violation in the presence of nonprimary predicate. Kim and Maling (1997) present the following contrast:

(71) a. The lion gnawed *(on) the bone.
b. The lion gnawed (*on) the bone raw.
(72) a. The winemakers stomped *(on) the grapes.
b. The winemakers stomped (*on) the grapes flat.
(73) a. The professor lectured *(to) the class.
b. The professor lectured (*to) the class into a stupor.

In the a-sentences above, the verb c-selects the PP rather than the DP. The c-selection, however, is not seen in the b-sentences, where a resultative occurs. Crucially, in the b-sentences, the theme of the verb is the antecedent of the subject of the resultative. This effect is achieved by DOR. Specifically, the theme is the nearest overt c-commanding nominal, and is able to control the PRO subject of the resultative. If the preposition shows up, the theme becomes the object of the preposition, and thus does not c-command the PRO. In that case, the control fails. This is covered by the observation that the subject of a secondary predicate cannot be co-referential with the object of a preposition (Williams 1980: 204). For instance, the subject of the resultative predicate *full* is co-referential with the object of the Vpri, *wagon*, in (23a); however, the subject of *full* cannot be co-referential with *wagon*, which is the object of the preposition *into*, in (23b). Similarly, the subject of the depictive predicate *green* cannot be co-referential with *hay*, which is the object of the preposition *with*, in (23d).

(74) a. John loaded the wagon full [with hay].
b. *John loaded the hay [into the wagon] full.
c. John loaded the hay [into the wagon] green.
d. *John loaded the wagon [with hay] green.

The contrast in (71) through (73) is explained: the PRO in xP forces the selecting verb to bend its c-selection. Why is the nonprimary predication so powerful? The reason is that in the presence of the xP which encodes the nonprimary predication in the working site, the verb is merged with the xP first, and has to accommodate itself to the required syntactic conditions. In this sense, our nonprimary selectional restrictions can be regarded as selectional restrictions on preliminary merge of lexical heads with a predication-denoting element.

8. Conclusions

All of the above syntactic/semantic variations, constraints, and the "selection-violations" in the presence of nonprimary predicates are simply the effects of the nonprimary selectional restrictions on the merge of verbs with a functional projection which denotes a predication relation. It is doubtful whether pure semantic and constructional approaches can

capture the interactions and variations. We conclude that all types of thematic predication are represented by an extended projection, and that the merger of lexical heads with another element, regardless of the type of the element, consistently has c- and s-selectional restrictions.

Appendix: the Obligatory Object-Preposing

In Chinese, certain types of verbs require their complement-type nonprimary predicates to be APs, and for these verbs, their objects must be preposed in the *de*-construction. We call this obligatory object-preposing OOP. OOP is seen in verbs of change of state (32a vs. 32b), transference (33a vs. 33b), and creation (34a vs. 34b), in contrast to other types (35). Relevantly, postverbal manners must be APs, and objects must also be preposed in the *de*-construction (36).

However, for the same range of verbs (creation, change of state, transference verbs for non-manner predicates and all verbs for manner predicates), OOP is absent in two cases. First, adjunct-type (i.e., preverbal ones) of nonprimary predicates which are integrated with the same types of verbs do not require OOP:

(75) a. Akiu hen jian de xue-le {yi/*na} zhi qianbi.
Akiu very sharp DE cut-PRF one/that CL pencil
'Akiu cut a pencil sharp.'

b. Baoyu chendiandian de linlai-le {yi/*na} bao lipin.
Baoyu heavy DE bring-PRF one/that package gift
'Baoyu brought a package of gift heavy.'

c. Baoyu dada de xie-le {jige/*naxie} zi.
Baoyu big DE write several/those character
'Baoyu wrote several characters big.'

d. Akiu feikuai de nian-le {yi/na} shou shi.
Akiu fast DE read-PRF one/that CL poem
'Akiu read {a/that} poem fast.'

One important property of this construction is that the shared argument, which is the post-verbal object in the non-manner constructions, must be nonspecific. We will discuss this property soon.

Second, OOP is not see in the V-V construction, as shown in (76).

(76) a. Akiu xue-jian-le yi zhi qianbi.
Akiu cut-sharp-PRF one CL pencil
'Akiu cut a pencil sharp.'

b. Baoyu mai-da-le yi jian chenshan.
Baoyu buy-big-PRF one CL shirt
'Baoyu bought a shirt over-sized.'

c. Baoyu xie-da-le yi ge zi.
Baoyu write-big-PRF one CL character
'Baoyu wrote a character over-sized.'

d. Akiu kou-yi-le {yi/na} tiao xiaoxi.
Akiu oral-translate-PRF one/that CL news
'Akiu translated {a /that} piece of news orally.'

One contrast between the data where OOP is present and those where OOP is absent is that the event denoted by the primary predication is presupposed in the former, but not in the

latter. In both types of data where OOP is absent ((75) and (76)), the event denoted by the primary predication is not presupposed, whereas in the cases where OOP is present (32, 33, 34, 36), the event denoted by the primary predication is presupposed. In the former case, the nonprimary predicates "restrict" the range of events referred to, whereas in the latter case, the nonprimary predicates take verbal reference for granted and say something about the event (if the nonprimary predicate is a manner expression), or the object (if the nonprimary predicate is not a manner expression) designed by the primary predicate.

This claim of the presupposition contrast is supported by our observation of both the de-construction and the V-V construction. In the de-construction where the nonprimary predicate is hosted by an adjunct, as in (75), the shared argument cannot be specific. We have already seen that in (75), the shared argument cannot be definite. In (77), we show that the shared argument cannot be in the order of "Modifier-Numeral-Classifier-N," which is argued to be exclusively presupposed specific in Zhang (2001b):

(77) a. Akiu hen jian de xue-le {san zhi hongse de/*hongse de san zhi} qianbi.
Akiu very sharp DE cut-PRF {three CL red de/red DE three CL} pencil
'Akiu cut three red pencils sharp.'

b. Akiu feikuai de nian-le {liang shou hen chang de/hen chang de liang shou} shi.
Akiu fast DE read-PRF {two CL very long DE/very long DE two CL poem
'Akiu read two long poem fast.'

In (77a) the shared argument is 'three red pencils.' The internal order of the indefinite nominal causes the acceptability difference. In (77b), however, there is no shared argument between the two predication, since the manner expression takes the event denoted by the primary predication as subject. In this case, both orders of the object are fine.

In the V-V construction in (76), the shared argument can be specific or definite only when the whole sentence is followed by another sentence, as in (78).

(78) a. Akiu xue-jian-le na zhi qianbi, #(jiu kaishi xie xin).
Akiu cut-sharp-PRF that CL pencil then start write letter
'Akiu cut that pencil sharp and then started to write a letter.'

b. Akiu mai-da-le na jian chenshan, #(lai wen wo zemeban).
Akiu buy-big-PRF that CL shirt then ask I how.do
'Akiu bought that shirt oversized and then asked me what to do.'

In (78), when the V-V sentence is followed by another sentence, it occurs as a background rather than a foreground sentence.

OOP thus seems to be related to a presupposition of the event denoted by the primary predication. At this moment, we have no syntactic account for the OOP effect.

Data of verbs of change of state, like (75a) and (76a), are analyzed as manners, rather than regular resultatives, in Washio (1997: 19). We have shown that they share syntactic properties with not only manners but also the object-oriented nonprimary predicates which occur with verbs of creation and transference. It is very counter-intuitive to view the latter group of nonprimary predicates as manners. For instance, in (76b), the nonprimary predicate *da* 'big, oversized' is hardly considered as a manner of buying. We thus need a different approach to such data, in order to explain OOP

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