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Inner Island Effects and NegP

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1. Introduction

Rizzi (1990) derives "Inner Island" effects in a phrasal configuration where negation (Neg) occupies SPEC(TP). Within Rizzi's framework, adjunct extraction past Neg triggers a violation of requirements on chains headed by elements not bearing referential theta roles. However, Rizzi's proposal is inconsistent with empirical restrictions on X\(^o\) movement and appears unable to support a general account of the role of A' SPEC's in constraining X\(^o\) movement. We suggest an alternative theory in which Neg heads the phrasal projection NegP, as argued in Chomsky (1991), Iatridou (1990), and Pollock (1989). Within a structure of this type, Inner Island effects derive from Neg's inability to properly govern a VP adjunct trace\(^1\).

2. Neg and Proper Government

Following Ross (1983), Rizzi (1990) observes that Neg blocks extraction of adjuncts:

(1) a. How\(_i\) did Bill fix the universal translator t\(_i\)?
   b *How\(_i\) didn't Bill fix the universal translator t\(_i\)?

Adjunct raising is permitted in (1a), but is blocked by Neg in (1b). Arguments may extract past negation:
(2) a. Bill is here, which they (don't) know  
b. *Bill is here, as they (*don't) know

In (2a), the argument phrase headed by which may raise past negation. Like the adjunct in (1b), the adverbial phrase headed by as in (2b) may not.

We derive the Inner Island phenomena in (1-2) from the same mechanisms employed by Rizzi to predict contrasts like (3):

(3) a. Who₁ do you think [t₁ bought the car]  
b. *Who₁ do you think [t₁' that t₁ bought the car]

Rizzi rules out the *that-t violation (3b) by excluding that from the set of proper head governors in English. As a result, t₁ cannot satisfy the requirements of the ECP formulated as in (4):

(4) A nonpronominal empty category must be properly head-governed.

where:

(5) 8 properly head-governs α <--> 8 head governs and c-commands α ≡

Head government in (5) is defined in terms of m-command (see: Rizzi 1990:25). Thus, t₁ in (3b) cannot be properly governed by Neg, nor can it be governed by the embedded I since I fails to c-command the subject position. The trace t₁ in (3a) is governed by Agr features in the c-commanding C (see: Rizzi 1990:51-60).

A similar account may be given of the ungrammaticality of structures like (1b) and (2b). Following Pollock (1989), we
characterize Neg as inert for government. Consider the phrasal configuration in (6) from Iatridou (1990):

(6) $[\text{Neg not} \ [\text{VP} \text{Adj} \ [\text{VP} \text{V}]])$

A trace left by extraction of the adjunct (Adj) in (7) cannot be properly head-governed by Neg. In addition, V cannot head govern the adjunct trace since it cannot m-command the trace across an intervening VP. As a result, adjunct extraction across Neg inevitably leaves a trace beneath VP which cannot be properly head governed in accordance with (5). Note that argument extraction in (2a) is permitted since the initial trace will be properly head governed by V.

3. Rizzi (1990)

In contrast to section 2, Rizzi (1990) derives Inner Island effects within a structure in which Neg occupies SPEC(TP). Rizzi provides a general account of contrasts like those in (1-2). However, his proposal fails to support an adequate account of properties of $X^\circ$ movement introduced in section 4. Section 3 provides a brief outline of Rizzi (1990) as a foundation for the comparison of alternative theories which follows.

Recall that Rizzi (1990) reduces the ECP to the condition on proper head government in (4). The antecedent-government requirement of the ECP in, for example, Chomsky (1986), is a condition on chains. Elements bearing a referential theta role can form a binding relationship; elements that do not bear a
referential theta role must form a chain. Traces within a chain require antecedent government, where:

(7) $\emptyset$ antecedent-governs $\alpha$ iff $\emptyset$ and $\alpha$ are nondistinct, $\emptyset$ c-commands $\alpha$, and relativized minimality is satisfied.

and:

(8) Relativized Minimality:
X $\alpha$-governs Y if there is no such Z that
a. Z is a typical potential $\alpha$-governor for Y,
   b. Z c-commands Y and does not c-command X.$^4$

Further:

(9) a. Z is a typical potential antecedent governor for Y, Y in an A-chain, iff Z is an A-specifier c-commanding Y.
   b. Z is a typical potential antecedent governor for Y, Y in an A'-chain, iff Z is an A'-specifier c-commanding Y.
   c. Z is a typical potential antecedent governor for Y, Y in an X$^o$-chain iff Z is a head c-commanding Y.

Thus, for a given trace, minimality effects are triggered only by potential governors of like types in base generated positions.

Given the preceding outline, consider (10a-b):

(10) a. What$_i$ do you wonder [how$_j$ to fix t$_i$ t$_j$]
    b. *How$_j$ do you wonder [what$_i$ to fix t$_i$ t$_j$]

In (10a), the trace t$_i$ bears a referential theta role and may enter a binding relationship. As required by the ECP (4), t$_i$ is head governed by the embedded V. The adjunct trace t$_j$ may form a chain with how since no A' SPEC intervenes. In (10b), what in
the embedded SPEC(CP) interrupts the chain containing how and t_j, and the resultant structure is ungrammatical.

Rizzi's account of (10a-b) suggests an alternative to the theory of Inner Island effects in section 2. Reconsider (11a-b):

(11) a. *How did Bill fix the universal translator t_j?  
b. *Bill is here, as they (*don't) know.

The ungrammaticality of (11a-b) follows if Neg, like what in (10b), occupies an A' specifier. In fact, Rizzi suggests a phrasal configuration like (12):

(12) [CP how_j did [TP Bill [TP not [VP fix the universal translator t_j]]]]

Neg (not) in (12) occupies the A' SPEC(TP), interrupting the chain containing the adjunct how and its trace t_j. Thus, like (10b), (12) is ungrammatical.

Rizzi defends his analysis of Neg as an A' SPEC on the grounds that negation (13c), like wh-elements (13a) and adverbial QP's (13b), licenses a null SPEC(NP):

(13) a. Combien a-t-il lu [e de livres]  
   "How many did he read of books"

   b. Il a beaucoup lu [e de livres]  
   "He has many read of books"

   c. Il n'a pas lu [e de livres]  
   "He has not read of books"

Thus, Neg patterns with the A' binders in (13a-b). In addition, Rizzi notes that pas/not appear in the SPEC position of categories other than TP: SPEC(QP) (pas beaucoup, pas tout = not)
much, not all); SPEC(AP) (Je croyais Marie pas capable de faire cela = I consider Marie not capable of doing this); and in French, SPEC(CP) (Pour pas qu'il le fasse,... "In order not that he do it").

In contrast to section 2, Rizzi (1990) derives Inner Island effects from the assumption that Neg occupies SPEC(TP). As a result, Neg interrupts A' chains formed by adjunct raising. While Rizzi draws support for his structural analysis from the distributional properties of negation, section 4 derives these properties from constituent negation within a phrasal configuration of the type in section 2, where Neg heads the phrasal projection NegP. Section 4 evaluates these competing structures within an expanded range of empirical data.

4. Evaluating Alternative Theories

Both configurations in sections 2-3 derive Inner Island effects in a manner consistent with the theoretical framework of Rizzi (1990). The structures advocated in section 2 (from Iatridou (1990)) and Rizzi (1990) re-appear below as (14a) and (14b) respectively:

(14) a. TP
    / \
   /    \\
  T'   I'
   /      \\
  T (NegP) I TP
   /      \\
 Neg VP   Neg T'
   /      \\
 V       T VP
  /      \\
 V       V...
Section 4 provides a more detailed consideration of the predictions made by both structures in (14). We argue that only (14a) provides a general account of the surface syntactic distribution of Neg and its role in constraining $X^\circ$ movement.

4.1. Head Movement and Neg as SPEC(TP)

Section 4.1 considers the implications of the structure proposed by Rizzi (14b) for a general theory of $X^\circ$ movement. We argue that (14b) fails to predict contrasts in incorporability of Neg and the heads of other SPEC’s: while the former may incorporate within the head of a dominating category, members of the latter set may not. In addition, (14b) cannot predict Neg’s ability to block $X^\circ$ raising, given the inability of other intervening A’ SPEC’s to do so. As a result, we reject the structure proposed in Rizzi (1990).

Consider first, structures formed by incorporation of Neg with the head of a dominating category. Examples of Neg incorporation are particularly clear in a language like Tamil, a Dravidian language of southern India. Tamil negation is expressed by a negative verbal suffix -aa or negative lexical or auxiliary verb. The negative verbal suffix and auxiliary il appear in (15a) and (15b), respectively:

(15) a. pook-aa-tu  
    go(inf)-Neg-3sn  
    "(X) will not go."

b. pooka.v-ill-ai  
    go(inf)-Neg-ai  
    "(X) did not go."
Based the work of Steever (1983) and Lehmann (1989), Roper (1992b) derives the verbal complexes in (15a-b) via X° raising. In a structure like (14b), V may raise to Neg in SPEC(TP) and the resultant X° complex may then raise to I. A similar account seems to be required by English constructions like (16):

(16) Can't John fix the universal translator?

In (16), Neg (n't) appears to raise to pre-subject position along with the auxiliary.

If Rizzi's analysis of Neg as SPEC(TP) is correct, Neg's ability to incorporate in structures like (15-16) is unique; cross-linguistically, SPEC's of other categories do not share this ability. For example, consider the Mohawk noun incorporation structures in (17a-b) from Postal (1962):

(17) a. Hrao-nuhs-rakv ne sawatis 3M-house-white John "John's house is white." b. Ka-nuhs-rakv thikv 3N-house-white that "That house is white."

Following Baker (1988), the head noun of the noun phrase John's house in (17a) incorporates with V, stranding its possessor. In (17b), the determiner that is stranded. However, neither possessors nor determiners may incorporate (Baker 1988; Baker and Hale 1990). Neg's unique behavior follows naturally if, contra Rizzi (1990), Neg does not occupy a SPEC position. This claim is, of course, consistent with the alternative structure in (14a).
Now consider opacity effects created by Neg in structures like (18b) from Rizzi (1990):

(18) a. John [e₁] [smoke+s₁]
    b. *John [e₁] not [smoke+s₁]

Given the unavailability of S-structure lexical V-raising in English (Emonds 1976; Pollock 1989; Chomsky 1991), (18a-b) are formed via affix hopping of Infl to V (Chomsky 1957). Following Chomsky (1991), lowering in (18a-b) is reconstructed at LF in order to meet antecedent government requirements of traces in the resultant X° chains. The ungrammaticality of (18b) follows provided that Neg blocks X° raising at LF. However, recall that Relativized Minimality (8) requires minimality effects to be triggered by potential governors of like types. Why should Neg in SPEC(VP) interrupt an X° chain at LF?

In order to derive phenomena like (18b), Rizzi suggests that tense specification assigned to V permits operator movement at LF°. At LF, V adjoins to a projection of I. The resultant A'-chain is well formed provided that it is not interrupted by Neg in the A' SPEC(TP). Thus (18a) is grammatical; (18b) is not. While this account predicts (18a-b), it cannot predict the failure of other A' SPEC's to block LF reconstruction.

Following Zagona (1988), obligatorily preverbal adverbs (just, simply, merely, really, hardly, barely, scarcely, nearly) occupy SPEC(VP)°. Contreras (1990) notes that these adverbs block adjunct extraction like other A' SPEC's:
(19) a. *How will Bill [vp-just fix the universal translator \( t_1 \)]?
   b. How does Bill [vp-usually fix the universal translator \( t_1 \)]?

As expected, just in SPEC(VP) interrupts the A' chain in (19a); other adverbs like usually in (19b) do not. Now consider (20):

(20) Mary [\( e_1 \)] merely [smoke+s_1]

In contrast to Neg in (18b), merely in SPEC(VP) fails to block LF reconstruction. The grammaticality of (20) is inexplicable if A' SPEC's block LF reconstruction. However, if this is not the case, the ungrammaticality of (18b) cannot be derived. No such problem is presented by (14a), where Neg heads a phrasal projection dominating VP. In (14a), Neg interrupts \( X^\circ \) chains formed by LF reconstruction since it constitutes an intervening potential \( X^\circ \) governor; an adverb in SPEC(VP) does not.

On the basis of the data in section 4.1, we reject the phrasal configuration in (14b) where Neg occupies SPEC(VP). A structure of this type fails to support an explanatory account of Neg's unique ability to incorporate and the failure of other A' SPEC's to block \( X^\circ \) reconstruction at LF. As noted above, neither of these phenomena pose a problem for the configuration in (14a). However, (14a) poses some apparent problems of its own.

4.2. Constituent Negation, V-Raising, and NegP

Section 4.2 considers problems posed by the distribution of Neg and V-raising for a structure in which Neg heads a phrasal
configuration dominating VP. We conclude that these problems are neither unresolvable, nor unique to a structure of this type. As a result, we adopt a phrasal configuration like (14a).

First consider Rizzi's claim, outlined in section 3, that Neg appears as an A' element within a broad range of categories. In fact, this claim is not inconsistent with a phrasal configuration like (14a). Following Iatridou (1990), negation may be generated within the head of NegP or as constituent negation with either or both of the structures in (21):

(21) a. \[ \text{XP} \]  
   \[ \text{not XP} \]  
   \[ \text{X'} \]  
   \[ \text{X'} \]  
   \[ \text{X'} \]  
   \[ \text{not X'} \]  
   \[ \text{XP} \]  
   \[ \text{not X'} \]  
   \[ \text{XP} \]  
   \[ \text{not X'} \]  
   \[ \text{XP} \]  
   \[ \text{not X'} \]  

Crucially, constituent negation is generated within the constituent it negates.

Iatridou's intent is to derive contrasts between [-Finite] clauses like (22a-b) via constituent negation rather than by movement (Pollock 1989; Chomsky 1991):

(22) a. To not have played football for many years is a disadvantage in a major game.
   b. To have not played football for many years is a disadvantage in a major game.

While (22a) is produced by phrasal negation, (22b) is produced by constituent negation of the VP headed by *play*. Her analysis draws support from structures like (23):
(23) To willingly/allegedly have not played football...

Intervention of adverbs between to and have suggests that have has not raised to tense past negation despite the fact that have precedes negation.

In addition, Iatridou's proposal is supported by the effect of surface order of negation on its scope, defined in terms c-command (May 1977) or m-command domain (May 1985) at LF. Thus, (24) may have either reading in (25a-b):

(24) John has not been playing football for many years

(25) a. John used to play football and he hasn't played in the last fifteen years. (many has scope over not)
b. John started playing football only one year ago. (not has scope over many)

Reading (25a) is produced by adjunction of the quantifier outside the scope of negation at LF. Reading (25b) follows provided that the quantifier remains within the scope of phrasal negation. However, reading (25b) disappears when negation follows be:

(26) John has been not playing football for many years.

This contrast is predicted since (26) is produced by constituent negation whose scope is constrained to elements within VP.

Clearly, Iatridou's theory of constituent negation may extend to structures in which Neg appears as an A' element in categories other than VP. Thus, the broad distribution of Neg noted by Rizzi is, at worst, simply consistent with a structure
like (14a), where Neg heads its own phrasal projection. In fact, this kind of configuration may support a more constrained account of the distribution of Neg than its competitor in (14b). Note that iteration of Neg must be constrained to prevent structures like (27)\(^{10}\):

(27) *not to not have not been...

Based on the analysis of the scope of negation in Cinque (1990), Roper (1992b) suggests that iteration of negation be limited by requiring a unique indexation relation between Neg in NegP and constituent negation. A theory of structure in which Neg may simply appear within the SPEC of any category offer no apparent alternative account of the absence of structures like (27).

Finally, consider the broad consequences of our proposal for a theory of V-raising. In section 2, we derive Inner Island phenomena like (1-2) under the assumption that Neg heads a phrasal projection dominating VP and further, that Neg is inert for government. As a result, Neg fails to properly head govern the trace of a raised adjunct. However, Neg should also fail to head govern a trace left by V-raising to T. This poses a problem since, for example, English AUX V may raise past negation and VP-peripheral adverbs in tensed clauses (Emonds 1976; Pollock 1989; Chomsky 1991; Iatrídou 1990). How can this conflict be resolved?

While the availability of V movement past Neg poses a problem, it should be noted that this problem is neither unique
to our analysis nor clearly unresolvable. Proposals for its resolution appear within the theoretical frameworks of Pollock (1989) and Chomsky (1991). We tentatively adopt an approach of the type advocated in Roper (1991,1992a) and Atterberry and Roper (in progress). We follow Abney (1987) and Di Sciullo and Williams (1987) in assuming that functional categories inherit the index of the lexical categories they dominate. As a consequence, functional categories may be insufficiently "distinct" from the lexical category they dominate to block government by the raised head of that category. In addition to allowing V to raise past the head of a dominating functional category like NegP, Roper (1991) notes that this theory allows N incorporation past a stranded determiner in theories which assign constructions like (17b) the structure below:

(28) ka-ňuhs₁-rakv [dp[dth1kv][np[nt₁]]]
    3N-house-white that
  "That house is white."

That is, if determiners head their own phrasal projection (Brame 1981; Abney 1985,1987; Fukui 1986; Baker and Hale 1990; etc.) N must raise past D in (28). This is allowed if the functional head D is "indistinct" from the head of the lexical category NP.

In contrast to the configuration advocated in Rizzi (1990), the problems posed by a structure in which Neg heads a phrasal projection dominating VP may simply be apparent. The broad distribution of Neg noted by Rizzi still follows from the theory of constituent negation in Iatridou (1990). English AUX V
raising past Neg may follow from a theory in which functional heads are insufficiently distinct from the heads of the lexical categories they dominate to block government by the head of a lexical complement. Thus, we adopt a structure like (14a) over the competing configuration in (14b). In addition, since the account of Inner Island effects proposed in Rizzi (1990) and outlined in section 3 depends crucially on the structure in (14b), we adopt the alternate theory of Inner Island phenomena developed in section 1.

5. Conclusion

In conclusion, we argue that Inner Island effects derive from the failure of Neg to properly head govern the trace of a raised adjunct. As noted in section 1, this account is similar to the account of *that-t effects in Rizzi (1990). In contrast, Rizzi (1990) derives Inner Island effects under the assumption that phrasal negation occupies SPEC(TP). Adjunct raising past Neg then violates antecedent government requirement of elements within a chain headed by an element not bearing a referential theta role. In section 4.1, we show that the structure advocated by Rizzi simply cannot provide a general, explanatory account of the syntactic properties of negation and the interaction of A' SPEC's and X0 movement. While the alternate configuration adopted here poses its own problems, section 4.2 argues that these problems are by no means unresolvable.
References


Ross, J. (1983) "Inner Islands," ms., MIT.


**Notes**

1. Acknowledgements

2. See also Contreras (1989) for a discussion of parametrization of functional heads with regard to proper government.


4. Perry's note.

5. Examples (15a) and (15b) are the negative neuter future and past/present finite forms of the verb *poo* "go", respectively. The verb *il* bears the idiosyncratic agreement marker -ai, historically a second person singular marker (Rajam 1992:642), regardless of its subject. Like other negated verbal constructions in Tamil, neither form bears (overt) tense.
Infinitival forms are glossed in parentheses as combining forms triggered by Neg (see: Roper 1992b).

6. Note, however, that (17b) is relevant only within theories of structure which place determiners in SPEC(NP). For an alternative structure, see (28) of section 4.2.

7. For a characterization of tense as an operator see, for example, Pollock (1989).

8. These correspond to the scarcely class of adverbs in Emonds (1976).

9. Neither constituent negation structure in (21a-b) permits negation scope over a quantifier within an adjunct (Adj):

   (i) [VP Adj [VP (Neg) V]]

Constituent negation fails to c-command the adjunct in (i) regardless of whether Neg adjoins to VP (21a) or appears beneath Vo (21b). Negation cannot m-command the adjunct across the intervening maximal projection VP.

10. This observation is due to K. Zagona (p.c.).
The Relative Order of Quantifiers and Determiners in French

Janice Crimmins

0.0 Introduction

Quantifiers have been the subject of many studies in the recent past. Until recently, it was thought that quantifiers were either a projection of DP or NP. In 1981, Belletti and Rizzi argued that Q is a determiner of sorts. It has also been suggested by Kayne (1975), Belletti (1982), Klein (1976) and Sportiche (1988) that Q has adverbial properties because it can appear between I and VP in French, like adverbs can. However, in 1990 Cardinaletti and Giusti proposed that QP was a functional category separate from DP.

In Giusti's article, "The Categorial Status of Quantified Nominals", she proposes a syntactic account of quantified nominals to explain the distribution of determiners in QP. She argues that a certain group of quantifiers, many, few, and numerals, can act as adjectives in adnominal and predicative positions, while in other positions they act as quantifiers. Her hypothesis is that Q is a functional head (Fukui and Speas, 1986)\(^1\), that can select a DP or an NP according to the semantic properties of the quantifier, such that a definite quantifier selects a DP and the rest select a bare NP.

The aim of this paper is two-fold. First, to determine if many, few and numerals, in French, pattern like adjectives or quantifiers. It will be shown that these are two separate and distinct categories and should remain so. This paper will also show that quantifiers subcategorize for a unique complement, DP, unlike Giusti's proposal. The second purpose is to discover the underlying relative order of QP's and DP's in French by showing the

\(^1\)Fukui and Speas' (1986) proposal to account for the differences between Functional and Lexical categories is:

1. Functional heads have one and only one Specifier, while the Specifier of Lexical heads may be iterable ones.

2. The Specifier of Functional heads are often moved from within their complement.

3. All Functional heads have Specifier positions; it is not at all clear that all Lexical heads have SPEC positions.

4. Functional heads always select a unique complement.
many shortcomings of Giusti's claims and conclusions. A more motivated proposal will be given using case assignment to explain all alternations that are found between quantified phrases and their relationship with determiners. This paper will support Giusti's proposal that QP is a functional category and that quantifiers are projected higher in the structure than determiners:

(1)

Section one of this paper will argue that it is counterintuitive to claim, as Giusti has, that quantifiers can act as adjectives and show why quantifiers are always quantifiers. It will be argued in section two that QP is a Functional category, thus subcategorizes for a unique complement, DP.

Section three will put forth a new proposal to account for quantifier alternations using case assignment or lack thereof to effectively explain all constructions, such as partitive versus bare NP or QP. This section will also provide list of how quantifiers pattern in certain groups, allowing specific constructions but not others. The remainder of the paper will explain each construction and how the new proposal will easily explain and account for each one unlike other proposals. Section five will propose that head Incorporation can occur as a default for when case is not discharged and the determiner precedes the quantifier. The final section will discuss the differences between two pairs of alternating but similar quantifiers, chacun / chacun and quelles / quelques-uns. It will be shown that chacun is underlying and depending upon the clause which follows the quantifier either it or its alternate will occur on the surface.

As previously stated, it is assumed that QP and DP are Functional categories as proposed by Giusti and defined by Fukui and Speas. It will also be assumed that all levels of representation exist and that QP and DP contain Functional heads that can be potential governors and case assigners. The traditional definitions of Government, C-command and Head-to-head movement (now reduced to the ECP) will be accepted. When Case is an issue, movement is obligatory. In this paper, partitive refers to the construction 'of + definite determiner, according to Giusti and others, partitive is not representative of a definite structure. Arguing for or against this proposal is not within the scope of this paper, so it will be accepted for convention.

---

2 This structure holds cross-linguistically; however, the scope of this paper is only French. There is variation in the type of agreement that quantifiers require in French (that of singular versus plural). For the purpose of this paper, it will be accepted that each quantifier has an agreement feature that is specific to it - beyond this, agreement of verbs and / or nouns is not at issue here.
1.0 Adjectives versus quantifiers

In her paper, Giusti argues that quantifiers such as *many, few,* and numerals can pattern either as adjectives or quantifiers, depending upon the sentence. This section will show, for French quantifiers, this is not a correct assumption and that quantifiers cannot be anything but quantifiers.

She argues that the difference between quantifiers and adjectives is four-fold, however only three of these are relevant for this paper. The first difference is that quantifiers never appear in predicative positions while adjectives can:

(2a) The nice / intelligent boys I know are athletes.
(2b) The many / several / twenty boys I know are athletes.
(2c) Les gentils garcons que je connais sont athletes.
(2d) *Les beaucoup / plusieurs garcons que je connais sont braves.
(3a) The boys I know are intelligent.
(3b) The boys I know are many / several / twenty.
(3c) Les garcons que je connais sont intelligents.
(3d) Les garcons que je connais sont beaucoup / plusieurs / vingt.

Giusti argues that the difference between the quantifiers is that the (b) and (d) type can function as adjectives in these positions while other quantifiers cannot. Sentences like (2d) show that this is not true for French, only numerals permit this structure. Therefore, it seems more logical to state that the (b) and (d) type allow, or don't allow for a determiner to precede or for gap constructions while other quantifiers have different patterns.

It should be noted, Giusti argues that quantifiers in (2) are in adnominal AP positions, while those in (3) are predicative AP's. This paper will conclude that these are not adjectives nor are these solely adjectival positions, but that example (2) is an Incorporated structure, of which French only allows for numerals. Example (3) is a type of gap. The differences between the quantifiers and how they pattern will effectively be explained in the new proposal.

Her second argument is that when used as an adjective, *beaucoup / peu* and numerals cannot be preceded by a determiner and followed by an empty category (4). However, in example (5), when used as a quantifier and not preceded by a determiner they can govern the empty category. In French, the adjective can govern an empty category, in English it cannot:

(4a) *I had already met the many [e] you introduced me to.
(4b) *I had already met the nice [e] you introduced me to.
(4c) J'ai deja rencontre les huits / les sympathiques [e] que tu m'avais presentes.
(4d) *J'ai deja rencontre les plusieurs / beaucoup [e] que tu m'avais presentes.
(5a) I have already met many [e].
(5b) *I have already met nice [e].
( 5c) J'ai deja rencontre beaucoup / peu / *huit [e].
(5d) J'en ai deja rencontre de sympathiques [e].
These examples again show that quantifiers pattern differently than adjectives. In French, numerals more closely pattern adjectives than *plusieurs, beaucoup and peu* do; however, it is entirely counterintuitive to state that numerals are adjectives. This again shows that the quantifiers in question could not possibly be adjectives since they pattern entirely opposite to adjectives.

For her third argument, Giusti states that "if a quantifier appears to have selectional properties over its complement we have good reasons to believe that it is a head." (Giusti, 445)

(6a) Many of the boys I know are tall.
(6b) *Nice of the boys I know are tall.
(6c) Huit / plusieurs des chats sont nourris.
(7a) *The many of the boys I know are tall.
(7b) *The nice of the boys I know are tall.
(7c) *Les huit / plusieurs / peu des garçons que je connais sont grands.

She argues that in (7a) the quantifier is behaving like the adjective in (7b) where neither allows this type of construction. From examples (6) it is obvious that quantifiers, but not adjectives permit partitive constructions.

A better explanation is in order for examples (7a & c). Fukui and Speas have proposed that Functional categories have a unique complement while Lexical categories do not have this restriction. Adjectives are thought to be Lexical while quantifiers are Functional. If this is true, QP's have a unique complement. It will be shown below that DP is always the complement of quantifiers and *de* in partitive constructions is case marking, which is realized at PF. If case assignment fails to occur, then certain quantifiers will allow Incorporation to occur as a default, however, both case assignment and Incorporation cannot co-occur as in example (7).

It has been shown above that *beaucoup / peu* and numerals can govern empty categories and potentially allow for Incorporation and gapping, other quantifiers also allow these constructions. Adjectives, never permit these, but can govern empty categories in French. It is much more convincing to say that the quantifiers and adjectives are different syntactic categories even though they pattern alike in some constructions because other categories, such as adverbs, can also be in the same positions, but are not thought to be adjectives or quantifiers. Therefore, it should be concluded that *many, few, numerals and their French counterparts are always quantifiers and not adjectives as Giusti argues.

2.0 DP or NP complement?

Giusti argues that based on the semantic properties of quantifiers they will either subcategorize for a DP or an NP complement. Three arguments will be given showing that quantifiers always subcategorize for a DP.

The first argument uses mass noun examples:

(8a) The water went over the falls.
(8b) Some water went over the falls.
(9a) Je bois du thé ce matin.
(9b) Quelques-uns de la classe partent pour le cinéma.
In these examples, the mass nouns are preceded by a determiner unless a quantifier (8 & 9b) precedes the noun and then the determiner is empty. The semantics of sentences such as (8a) and (9a) is not all of the water or tea in the world, but that a part, or more specifically for this paper, a partitive quantity went over the falls was ingested.

In partitive constructions the determiner head is overtly filled, while in bare NP and mass noun constructions the determiner is covertly filled. In bare NP constructions (8b), the quantifier is followed directly by a noun, and the determiner is covert. The difference in mass noun sentences (8 & 9 a) is that the determiner is overt, and there is no quantifier, which results in a general or "mass" interpretation which is different semantically and structurally from bare NP's.

For many years it has been argued for French that the determiner is always filled by an indefinite determiner, which is eliminated at PF due to de insertion, for case assignment. In certain instances the case marker is be realized alone, such as following beaucoup and peu or clitic gap constructions: or realized as compounded with a definite determiner in partitives. However, there are other instances when de is not realized, but is covert, as in bare NP or bare QP constructions. Therefore, because D is assumed to be filled, albeit overt or covert, it should be accepted that quantifiers always subcategorize for a DP not an NP complement.

A second argument for DP subcategorization concerns stranding, nouns cannot be stranded, but determiners can. If something can be removed from a construction (stranded) and the sentence is still grammatical, for quantifiers the removed item must be a DP not an NP. In bare NP constructions the determiner head is covert and the sentence is fine; however, an empty NP with an overt determiner would be odd. Based on this, quantifiers must subcategorize for DP not NP complements.

(10) Je chante plusieurs [ e ] chansons.
(11) *Je chante plusieurs les [ e ].

The final and strongest argument for DP subcategorization turns us again to Fukui and Speas' definition of Functional categories. One characteristic of Functional versus Lexical categories is that Functional categories have a unique complement. This complement may be overt, covert or empty, but it is the only one that can occur, unlike Lexical categories which may have different complements. QP's are thought to be a Functional category, thus they must have a unique complement.

Based upon the above arguments it should be concluded that quantifiers are a functional category and thus, subcategorize for a unique complement DP.

3.0 New proposal

The above examples and arguments have shown Giusti's proposal not to be convincing nor to hold cross-linguistically. In this next section a new proposal will be given, using case assignment to account for all alternations, patterns and constructions allowed (or disallowed) by quantifiers in both English and French.
In a previous paper, I have proposed the following structure to account for quantifier/determiner orders in English. This section will show that this structure holds cross-linguistically to French.

\begin{equation}
\begin{array}{c}
\text{Q} \\
\text{Plusieurs} \\
\text{les} \\
\text{garçons}
\end{array}
\begin{array}{c}
\text{DP} \\
\text{OP}
\end{array}
\end{equation}

This is also Giusti's proposed construction, however Specifier positions have been omitted because they are never filled.

In this structure, the determiner begins in the head of D and the quantifier is in the head of Q. The quantifier has the ability to assign case to the determiner, for English I have proposed that it is genitive case. Because genitive is a "generic" case and French is not well case marked, it will be proposed that genitive is also assigned in French. Sportiche (1988), Vergnaud (1974) and Chomsky (1986) have proposed that in French quantifier constructions de is the spelling out of case. This will be accepted, so when de is inserted preceding the determiner it is to phonologically realize case, which occurs at PF, so it is not necessary to posit a position for it in the tree.

According to the Case Filter, case is assigned to the maximal projection of an argument of a governing category. The DP, not the NP, receives case which percolates down to the determiner head and to the NP. The NP is the predicate, not the argument of the DP (and QP) therefore it does not need its own case.

3.1 Quantifier Patterns

At this point, a new proposal has been put forth to account for quantifier alternations. A major fault with Giusti's proposal is that she does not recognize the steady and conforming patterns that quantifiers have. One of the aims of this paper is to concisely account for all alternations of quantifiers relative to their order with determiners. This next section will show the previously unnoticed, but extremely important patterns of quantifiers. In following sections, each construction will be detailed in how the new versus previous proposals have accounted for them:

Group 1: tous
Group 2: beaucoup (de), aucun, plusieurs, peu (de) and numbers (douze, huit...)
Group 3: chacun, quelques-uns
Group 4: chaque, quelque / quelques
The universal quantifier allows floating, Incorporation, gaps, bare quantifiers and partitives. Group 2 allows partitives, bare NP and quantifiers and gaps. Some of these gap better than others, but that is probably due to the situation in which the sentences are given. it will be assumed for this paper. that different situations allow or disallow this type of sentence. As previously noted, numbers are the only quantifier that allow for a determiner to head Incorporate. This difference should be noted, however, because numbers pattern with the other members of group two they will be left in this group.

Group three allows partitives, bare quantifiers and all gaps. Also, as previously noted. chacun can float. Group four allows for bare NP, and all gaps. The last two groups could be said to be the same group because they are alternates of the same words. The alternates are in complementary distribution; however, they should be in different groups because a clearer and more convincing conclusion can be made concerning their patterns relative to the other quantifiers.

It is possible to state that in all constructions with chaque, chacun and quelque / quelques-uns the underlying structure is chaque, quelque and depending upon what follows either the underlying structure will appear on the surface or there will be a type of transformation that will occur, resulting in group three. The differences will be discussed in detail later.

Based on the above, the relative order of quantifiers and determiners is the quantifier preceding, so it can be stated that quantifiers all pattern alike, contrary to Giustis' claim.

4.0 Partitives. Bare NP and QP DP

This section will discuss how both the old and new proposals account for three different constructions. The following examples are the author's, however, they elucidate both proposals.

The first sentence of each pair is a partitive construction, while the second is a bare NP:

(13a) Quelques-uns des enfants sont arrivés. 'A few of the children arrived.'
(13b) Quelques garçons sont partis. 'Some / a few boys left.'
(14a) Beaucoup de chats sont nourris. 'Many cats are fed.'
(14b) Beaucoup de garçons jouent au match. 'Many boys play in the game.'
(15a) Douze des chats sont nourris. 'Twelve of the cats are fed.'
(15b) Douze garçons jouent au match. 'Twelve boys play in the game.'

However 'tous' does not allow the partitive nor bare NP structures:

(16a) *Tous des chats sont nourris. '*All of the cats were fed.'
(16b) *Tous garçons jouent au match. '*All boys played in the game.'

Problems occur when the quantifier is placed directly adjacent to the determiner:

(17). *Quelque les livres sont lus. '*Some the books were read.'
(18) *Aucun le livre n'est vendu. "*None the books were sold."
(19) *Plusieurs les livres sont lus. "*Several the books were read."

The universal quantifier is the only one which can occur in this position with no adverse effects:

(20) Tous les livres sont lus. (All the books were read.)

Giusti notes that partitive is incompatible with definiteness, thus the universal quantifier should not appear in these sentences, which holds for French, but not for English. Giusti's proposal, though could not account for the alternations with the universal quantifier and for quantifiers not allowing a determiner to directly follow. For the new proposal, when the structure is ungrammatical, the quantifier is directly followed by a determiner and Case was not discharged, which is not an allowable structure in French. For these and other examples to be grammatical either the case marker de must intervene, or the determiner must not be phonologically realized.

When the quantifier is directly followed by a noun in examples (13-16 b), case has been discharged, but is not overtly realized. (20) shows that case must have been discharged, however, the universal quantifier does not require it to be phonologically realized. Again, Giusti could not explain these differences.

In conclusion, it appears that most French quantifiers allow the structure proposed by Giusti, that of partitive or bare NP. However, the new proposal more convincingly explains the alternations and why they occur.

5.0 Incorporation and Quantifiers

When the case is not discharged then Incorporation, as proposed by Mark Baker, occurs as a default. Incorporation is a process through which one semantically independent word comes to be "inside another", thus allowing the determiner to adjoin to Q as a head, not a Specifier, as proposed in the Head-to-head movement.

According to Baker, "Incorporated nouns do not need case" (pg. 105). He gives evidence for this from different languages such that NP's with incorporated heads are allowed as object of verbs which do not assign Case. Also, when the head of the object of a verb that does assign Case is incorporated, the verb's case-assigning potential is not exhausted by that object so that the verb will be free to assign its Case to some other NP. He states the above must be true for VP's and NP's, this should also hold to QP's and DP's:

(21) Les douze [ t ] hommes de la classe ont joue au match.

This example is on par with Baker's proposal - the first determiner is incorporated into the head of Q, and there still is Case to be given to the lower determiner so that its Case is realized. Therefore, Incorporation must hold for quantifiers.

The post- Incorporation movement structure is as below:
If Incorporation does not occur, then the sentence is ungrammatical and is not allowed. This explains why partitive and [DP QP] sentences are found, but a determiner directly following a quantifier is not. The following example show that both Case assignment and Incorporation cannot occur in the same phrase:

(23) *Les douze de t garcons partent.

Incorporation has been used to account for sentences such as:

(a) The destruction of the city.
(b) *City the destruction
(c) The city's destruction.

Baker states that Incorporation moves words, not entire phrases as most transformational rules do, thus when case is not discharged in the DS of (b), the NP moves to receive Case in (c) which is realized as the genitive, apostrophe 's'

6.0 Obligatory versus optional Case assignment

In French, Incorporation is only possible with numerals. When this is not available as a rescue feature it seems that Case should obligatorily be discharged, however, optional Case assignment is a more preferable solution.

Most quantifiers allow for bare NP and QP constructions, floating and gaps, in which Case is not discharged because there is no place for it to land, either the DP is covert or has been moved out of the clause. If Case was obligatorily discharged and phonologically realized, these constructions would be strange. Thus, for the quantifiers that do not allow the determiner to precede them, it is more preferable to say that they do not permit Incorporation than to say Case is obligatorily discharged.

Unlike other quantifiers, tous allows for the Case marking to be phonologically realized or not. It appears that tous does not assign genitive case like the others, however, because French is not an overtly Case marked language it is unclear what is assigned, but it is not genitive. When case is discharged with any quantifier other than tous it must be phonologically realized.
It should be concluded that only numerals permit Incorporation in French. Also, Case assignment should not be obligatory, but is assigned when necessary to produce good results.

It was previously stated and shown that *de is the spelling out of Case, which explains partitives, and ungrammatical QP + DP constructions where Case was not discharged and Incorporation did not occur. This also explains the limited use of the determiner preceding numbers, where again Case was not discharged, but Incorporation did occur:

(24) J'ai fait quelques-uns de (de - les) problemes. (I did some of the problems.)
(25) *Aucun le livre n'est lu. (None the books is read.)
(26) Les douze filles dansent dans le parc. (The twelve girls are dancing in the park.)
(27) Chaque chat dort. (Each cat sleeps.)

Previously it was proposed that quantifiers pattern alike. A list of the quantifiers that pattern together and the structures they allow was given. The above examples and arguments show how Case assignment works in determining partitive, Incorporated and bare NP constructions. The new proposal so far has effectively and economically explained all constructions that occur except for gaps and floating Q's which will be discussed below. It should be concluded thus far that this proposal is far superior and more far reaching than previous proposals in accounting for the alternations and patterns of quantifiers.

7.0 Other Constructions

This next section will discuss constructions that Giusti does not try to explain, however, the new proposal again effectively and accurately accounts these more unusual constructions.

7.1 Floating Quantifiers

French, along with English allows two quantifiers, *tous and chacun, to float with good results. Sportiche (1988) was one of the first to detail this structure in French.

According to Sportiche, chacun floats because it can occur in a partitive construction while chaque does not appear in either construction. Sportiche argues that *tous and chacun float because they can appear in both of the following constructions, while other quantifiers cannot:

(28a) Les livres sont tous vendus. 'The books were all sold.'
(28b) Tous les livres sont vendus. 'All the books were sold.'
(29a) Les livres sont chacun vendu. 'The books are each sold.'
(29b) Chacun les livres sont vendu. 'Each (one) of the books are sold.'
(30a) *Les livres sont quelques-uns vendus. 'The books were some sold.'
(30b) *Quelques des livres sont vendus. 'Some the books were sold'

Sportiche's analysis treats examples (28 & 29 b) as partitive structures without the 'de' insertion. In floating constructions, the quantifier is projected between I and V where the I is an auxiliary or modal verb. Two of Sportiche's examples are:

(31a) Tous les enfants ont vu ce film
(31b) Les enfants ont tous vu ce film.

He believes that "the two sentences are closely related or identical at some level of syntactic representation precisely because Q universally quantifies over the set denoted by NP: in both of the sentences, the Q is of the same logical type in both. The truth conditions of the members of pairs related as in (31b) are in most instances identical, but it could be claimed that their semantic representations are nevertheless different. This is the view put forth by Dowty and Brodie (1984), for example, who propose that determiner Q's are NP quantifiers, whereas floating Q's are VP quantifiers, a different logical type." (pg. 426)

Sportiche goes on to suggest that floating structures in French correspond to partitives, where (31a) would be a partitive without Case (overly) realized and (31b) would be a floating quantifier.

This paper concurs with this, except for the statement of Q's being either NP or VP quantifiers where they are projected as an argument of an NP or VP. It has been shown in the paper that quantifiers are their own Functional category and they can be projected in different positions of the sentence.

Previously, it has been noted that tous and chacun discharge Case, Incorporation is not available to them as a default. The DS of these examples must be a partitive construction before Case is discharged. To achieve the floating construction, the entire DP must move up, the determiner cannot move alone, so it must take its complement. They go through A-movement to land in the SPEC of IP. Contrary to gap constructions, Case is discharged after movement. Because auxiliaries and modals lack semantically relevant features and are not visible at LF for interpretation, they are raised to the matrix clause after the DP moves. The tree for this sentence would again begins as previously proposed, except that the entire DP will project out of the QP to a higher position:

(32)

```
CP
  IP
    DP
      les livres
        INFL
          sont
            I
            VP
              QP
                Q
                DP
                  tous
                  t
                  t
                  vendus
            VP
              I
              V
```
Applying Sportiche's explanation of quantifier float to this new proposal results in a convincing and straightforward conclusion that again, quantifiers optionally assign Case to their complement. Lack of Case assignment explains floating and incorporated structures. This proposal has again been shown to better account for alternations of quantifiers unlike previous proposals.

7.2 Gaps

Gaps are a unique type of quantifier construction. Giusti’s proposal does not account for these, however, they are common enough that they should be discussed. I propose that there are two different types of gaps in both English and French. The first is a multiply quantified sentence:

(33) Des douze garçons que j'ai rencontrés, tous sont gentils. 'Of the 12 guys I met, all are nice.'
(34) Des douze garçons que j'ai rencontrés, aucun n'est gentil. 'Of the 12 guys I met none is nice'
(35) Des quelques garçons que j'ai rencontrés, tous sont gentils. 'Of the few guys... all were nice'
(36) Des huit personnes que j'ai rencontrés, toutes sont gentils. 'Of the 8 people... all were nice'

The second type is a clitic gap and is more obvious than the ones above:

(37) J'ai dix livres et je les ai tous lus.
(38) J'ai dix livres et j'en ai tous lus.
(39) J'ai dix livres et j'en ai lu quelques-uns / beaucoup / chacun / peu / huit.
(40) J'ai dix livres et je n'en ai lu aucun.

In the first set of data what must occur is either rightward movement of the quantifier which, according to Sportiche, does not occur; or the full DP (including the NP) is topicalized, leaving a trace behind. It should be noted in only these types of sentences Case is discharged before movement occurs. The previously proposed structure must again be accepted. After the DP moves, then the subject and matrix verb raise over the quantifier for interpretation purposes. The DP moves first so that wh-island constraints are not violated. Thus, the sentence would appear as below (with traces given):

(41) [Des douze garçons [que j'ai rencontrés [ tous [ t [ t [ sont gentils]]]]]].

The second type of gap was a clitic gap. Following the second quantifier there is a clitic trace:

(42) J'ai dix livres et j'en ai lu beaucoup / plusieurs / huit / tous... [t]
The Relative Order of Quantifiers and Determiners in French

This shows that the embedded quantifier did not discharge its case, so the
determiner is incorporated and moves from the head of D to the head of Q. The higher
quantifier is in the structure for emphasis only, and does not effect the relative order of the
embedded quantifier and determiner. This example shows further that this must be the
order and structure of quantified phrases.

In sentences with multiple quantifiers where the first one is the head of the partitive
or definite construction the structure would be as:

(51a) Plusieurs des douze garçons jouent.
(51b) Tous les huit garçons ont les cheveux blonds.
(51c) Tous douze des garçons sont heureux.

Sentences like (51c) work much better in English. The structure for (51a) would
be:

(51b) is parallel to (51a), the only difference is that the case marking is overt. (51c)
is similar to (50) except that case was discharged. It was previously stated that an overt,
case-marked determiner with an empty NP would be strange, however, (51a) shows this is
possible, only if there is a following quantifier phrase.

To conclude, this new proposal can effectively account for the structure of single
and multiple quantified sentences in a concise and productive manner, where there have
been no previous accounts.

8.0 Chaque and chacun
Referring back to the quantifier patterns given in section two, *chacun* and *quelques-uns* were shown to subcategorize for partitives and gaps while the *chaque* and *quelque(s)* subcategorize for bare NP and gaps. This section will discuss these quantifiers, their structures and on a limited basis, their semantics. It was also proposed that *chaque*, *quelques* were underlying at DS and depending upon the phrase that follows, either the underlying quantifier or the alternate would appear on the surface. This is the most convincing situation that could be argued for because they are found in mutually exclusive environments.

Two arguments can be given to account for the distribution of these quantifiers. First, historically what might have happened is that *chaque* / *quelque* was underlying in these sentences. When emphasis was given to the fact that a partitive versus a general interpretation was required, the speaker inserted *un des (de – les)*. Over time, speakers realized that *des* was the marking of a partitive sentence and allowed the *un* to cliticize with the quantifier, which resulted in *chacun*. When a general meaning was intended, the specification was not necessary and thus was not added, thereby giving rise to two semantically similar and syntactically related quantifiers.

If this did not happen, then what could have occurred is again *chaque* / *quelque* is in DS. They, unlike other quantifiers have the option of a branching determiner phrase, or an empty (single) branch. In bare NP sentences the determiner is covert so *chaque* / *quelque* would be realized. However, when in a partitive construction, there must be an overt determiner to receive case assignment. So Case is assigned correctly (to the definite determiner), the indefinite determiner must cliticize to the quantifier head and then Case can be discharged to the remaining determiner. The trace will not pose a problem in this situation because it has no semantic value it cannot carry case.

The conclusions and results of both explanations are the same; however, depending if historical evidence was available to support the first versus the second claim then the real situation could be concluded. This is not a historical study, so either explanation can be accepted with a satisfactory conclusion; however, depending upon which explanation is adopted, the tree will look different. If the historical one is true, then the tree will be just as any other, however if the cliticization is adopted it will appear as:

A. Post-movement, pre-case assignment, pre-clitization:

```
          O'     QP
           /       /
          Q       DP
            /       /
           D       D
           /       /
          chaque un   garcons
              t       les
```
B. Post-movement, post-case assignment, post-clitization:

It can be concluded from this section that *chaque* / *quelque* are the underlying structure for *every* / *some* sentences in French and can be realized in two different ways where English allows one quantifier to appear in either the partitive or bare NP sentence. Both of these languages, independently and differently give support to the quantifier / determiner arguments presented thus far.

9.0

In conclusion, the newly proposed structure and theory has been shown to be much more motivated in accounting for the relative order of quantifiers and determiners and quantifier patterns than Giusti's account. In section one it was shown that quantifiers are always quantifiers even if they can be found in similar constructions with adjectives. It was also concluded that quantifiers are a Functional category and thus subcategorize for a unique complement, DP. The remainder of this paper has put forth a new proposal which effectively, economically explained all quantifier patterns and alternations. Using case-assignment, this new proposal has motivated a simple, concise and cross-linguistic explanation that should now be adopted to explain the relative order of quantifiers and determiners.
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Principle B and Nonstandard Chains

Michael Gamon

0. Introduction
In this paper I will explore a nonstandard chain approach to principle B effects.
In standard Binding Theory, the binding conditions are formulated as in (1) (Chomsky (1981)):

(1)  
A: An anaphor is bound in its governing category.
B: A pronoun is free in its governing category
C: An R-expression is free.

The relevant local domain is defined as in (2) (Chomsky (1981)):

(2) Beta is a governing category for alpha if and only if beta is the minimal
category containing alpha, a governor of alpha, and a SUBJECT accessible to
alpha.

Although this theory is fairly successful with respect to English data, it has become clear
that principle A and the relevant local domain have to be modified for a considerable
number of languages which have so-called long-distance-anaphora (cf. the collection of
papers in Koster/Reuland (1991)). Surprisingly, however, principle B seems to be rather
stable cross-linguistically, not allowing for the wide variation in possible binding domains
as in principle A. Koster and Reuland (1991, p. 2f) state:

"... it is presently quite unclear why the opacity factor for pronominals does not vary,
and why the complementarity between pronominals and anaphors, which is generally
quite striking, breaks down in some constructions, especially in languages with long-
distance anaphors."

There is another peculiarity of principle B that points to its rather peculiar status in
grammar: It is an unusual principle in that it imposes an "anti-locality" condition on a
syntactic configuration. While all other grammatical principles are formulated in terms of
local relations of one sort or another that have to hold between elements\(^1\), this is a
remarkable exception.

As an alternative to principle B I suggest a nonstandard chain approach to the
distribution of A-bound pronominals. This approach consists of a nonstandard definition
of chain, i.e. a concept of chain that does not only include movement chains, but also
dependencies between coindexed lexical elements in certain structural configurations.
In conjunction with a general condition on A-chains (Reuland Reinhart (1991b)), this
nonstandard chain concept can rule out principle B violations as instances of ill-formed
A-chains.

The notion of nonstandard chains is not a new one, Chomsky's (1981) CHAIN-notion,
and Rizzi's (1986) chain formation are predecessors.
I will try to show in this paper that a particular chain formation algorithm operating (at least) at S-structure is both conceptually and empirically superior to a standard formulation of principle B.

In section 1 I review a non-standard chain approach to some binding effects as proposed in Reuland/Reinhart (1991a, 1991b). Section 2 introduces a modified chain formation algorithm, based on Rizzi's (1990) theory of syntactic locality. I will argue that a proper head-government requirement on non-heads of chains should be incorporated into the definition of nonstandard chains. English data are examined, and it is demonstrated that the nonstandard chain approach can derive principle B effects in English. Specificity effects, where movement restrictions correlate with the possibility of locally A-bound pronouns provide additional evidence for an assimilation of movement- and binding-chains.

In section 3 other languages are examined. This section is not intended to provide detailed analyses of restrictions on pronominal binding in the languages under investigation. It shows, however, that the nonstandard chain approach is empirically adequate for a larger range of data cross-linguistically. Several problems are pointed out that cannot be resolved satisfactorily at this time without unwarranted stipulations. The binding restrictions on pronouns in prepositional phrases in French will lend support to the incorporation of proper head-government into chain formation.

Section 4 presents several odds and ends regarding the conceptual properties of a nonstandard chain approach. In this section I merely point out some properties and consequences of the notion of nonstandard chain that need further investigation. Throughout this paper I will not deal with the distribution of anaphora.

1. Nonstandard chains and Binding Theory: Reuland/Reinhart

The binding theory proposed in Reuland/Reinhart (1991b) differs in crucial respects from the standardly assumed one (e.g. in Chomsky (1986b)). Reuland and Reinhart (henceforth RR) construe binding restrictions as restrictions on reflexivization, the latter being defined as in (3) (RR, p. 13)

(3) A predicate is reflexive iff two of its arguments are coindexed.

Reflexivization in RR's framework has to be licensed, and this licensing can be achieved by reflexive-marking (RR, p. 13):

(4) A predicate P is reflexive-marked iff either P is lexically reflexive or one of P's arguments is a SELF-anaphor.

The relation between reflexivity and reflexive-marking is stated in the two binding conditions in (5) (RR, p. 13):

(5) A: A reflexive-marked syntactic predicate is reflexive
    B: A reflexive semantic predicate is reflexive-marked

Note that the definition of conditions A and B refers to syntactic and semantic predicates. The definition for syntactic and semantic predicates in RR is reproduced below: (RR, p. 13):
(6) The syntactic predicate of (a head) P is P, all its syntactic arguments and an external argument of P (subject). The syntactic arguments of P are the projections assigned Theta-role or Case by P. The semantic predicate of P is P and all its arguments at the relevant semantic level.

Principle A requires every predicate that is inherently reflexive or that has a SELF-anaphor as one of its arguments to be reflexive, i.e. to have two of its arguments coindexed. This yields the results in (7) - (10):

(7) * John\textsubscript{j} likes himself\textsubscript{j}
(8) John\textsubscript{j} likes himself\textsubscript{i}
(9) John\textsubscript{i} behaved himself\textsubscript{i}
(10) * John\textsubscript{j} behaved Mary

In (7) one argument of the predicate is the SELF-anaphor himself, so according to principle A, two arguments of the predicate must be coindexed. This is not the case, resulting in ungrammaticality.

In (8) the same reasoning applies, with the difference that coindexation of two arguments of the predicate is present. As a consequence, (8) is grammatical.

(9) is a sentence with an inherently reflexive predicate, which is forced to be reflexive by principle A. No reading as in (10) is allowed where the predicate is not reflexive. Principle B, on the other hand, requires reflexive predicates to be reflexive-marked, i.e. to be either inherently reflexive or have a SELF-anaphor as one of their arguments. This captures examples like (10) and (11):

(10) * John\textsubscript{j} likes him\textsubscript{j}
(11) John\textsubscript{j} likes him\textsubscript{j}

In (10), the predicate is reflexive, due to coindexation of its two arguments. It is, however, not reflexive-marked since it is neither inherently reflexive nor does it have a SELF-anaphor as one of its arguments.

(11) is grammatical; the predicate is neither reflexive nor reflexive-marked, so RR’s binding theory sketched above does not impose any restrictions.

The notion of syntactic predicate in condition A comes into play in ECM-constructions, where the embedded subject can be a SELF-anaphor bound by the matrix subject:

(12) John\textsubscript{j} believes himself\textsubscript{j} to be smart

In (12) himself counts as a syntactic argument of the ECM-predicate since it is assigned case by it. It therefore reflexive-marks the ECM-predicate which consequently has to be reflexive by condition A.

Note now that condition B does not cover all aspects of the distribution of pronouns:

(13) * John\textsubscript{j} behaves him\textsubscript{j}
(14) * John\textsubscript{j} introduced him\textsubscript{j} to himself\textsubscript{j}
In (13) the predicate is inherently reflexive, hence reflexive-marked. It is also reflexive because its arguments are coindexed. Nevertheless, (13) is clearly ungrammatical. In (14), a double-object construction, the predicate is reflexive-marked because one of its arguments is a SELF-anaphor. It is also reflexive, due to coindexation of the two arguments. Again, however, the pronoun seems to be the reason for the ungrammaticality of (14), if compared with the grammatical (15):

(15) Johni introduced Max to himselfi

In fact, RR claim that their condition B primarily accounts for the distribution of a second type of anaphor in Dutch, which is different from the SELF-anaphor found both in Dutch and in English. The anaphor in question is the long-distance anaphor zich. RR observe that zich can occur in the position of the pronoun in the Dutch equivalents of both (13) and (14). RR now consequently need some additional mechanism to exclude pronouns in some positions where zich can occur. This additional mechanism is a non-standard chain definition (RR, p. 20):

(16) Generalized chain definition

\[ C = (a_1, \ldots, a_n) \] is a chain iff C is the maximal sequence such that

(i) there is an index i such that for all j, 1 ≤ j ≤ n, aj carries that index, and

(ii) for all j, 1 ≤ j < n, aj governs aj+1

In (16) government is assumed to be defined as in Chomsky's (1986a). RR introduce a condition on A-chains:

(17) General condition on A-chains

A maximal A-chain \( (a_1, \ldots, a_n) \) contains exactly one link - \( a_1 \) - which is both case-marked and referentially independent².

This condition is looser than the one below, which is standardly assumed to hold for A-movement chains (Chomsky (1986b)):

(18) A maximal A-chain \( (a_1, \ldots, a_n) \) has exactly one Case-marked position (namely, \( a_1 \)) and exactly one theta-marked position (namely, \( a_n \)).

The Generalized chain definition and the General condition on A-chains can now rule out the pronouns in examples (13) and (14), repeated here for convenience:

(13) * Johni behaves himj
(14) * Johni introduced himj to himselfi

According to (16), (13) and (14) both contain the A-chains (Johni, himj) because no barrier intervenes between the subject and the object position in both cases³. These two chains violate the General condition on A-chains because these chains contain more than one link which is both case-marked and referentially independent.
1.2 A problem with Reuland and Reinhart’s Generalized Chain definition
Consider the possessive pronominial in the sentence below:

(19) Johni likes [hisi book]

Given the perfect grammaticality of this sentence, it must be concluded that no
generalized chain (Johni, hisi) is formed by (16) because this chain would violate the
general Condition on A-chains (17) by containing more than one case-marked and
referentially independent link. What blocks formation of a Generalized chain in (19)
then? In the Barriers-framework adopted by RR, the NP [hisi book] is L-marked by the
verb likes which theta-governs it. Hence NP is neither a blocking category nor a barrier.
VP is not a barrier between hisi and Johni either since by V-I-coindexing the barrierhood
of VP is voided for chain formation from a VP-internal position to SpecIP, as is obvious
in passive and raising constructions. VP cannot be a barrier by inheritance from the
object-NP either because the latter is not a blocking category. According to the Barriers-
framework then, no barrier blocks government of the possessive by the subject. It
follows that a Generalized chain in RR’s theory should be formed and ungrammaticality
should obtain in (19), contrary to fact.
Note that conditions A and B of RR’s theory do not apply in (19), because his does not
occupy any argument position of the predicate.
The conclusion at this point is that RR’s Generalized Chain definition in conjunction with
their General Condition on A-chains is problematic for the case of possessive pronouns.
In section 2.2 I will argue that this problem can be solved in an approach similar to RR’s,
if the DP-hypothesis is adopted.

2. Deriving Principle B effects in English from nonstandard chains
In this section, I will try to demonstrate that for the English language principle B effects
can be derived from a nonstandard chain formation process incorporating a locality
requirement and an independent constraint on A-chains as suggested in RR (cf. the
previous section). This eliminates the need for any binding principle that accounts for
the distribution of A-bound pronouns in English.

2.1 Chain formation and Relativized Minimality
Assume that the following chain formation algorithm as independently proposed in
Gamon (1991) operates (at least) at S-structure:

(20) Chain Formation:
\[ C = (a_1 \ldots a_n) \] is an X-chain, where \( X = A \) or \( A' \) iff
(i) for \( 1 \leq i < n \), \( a_i \) is the local X-binder of \( a_{i+1} \), and
(ii) for \( 1 \leq i < n \), \( a_i \) antecedent-governs \( a_{i+1} \), and
(iii) \( C \) is maximal

Note that this definition is very similar to the one employed by RR. RR use the restriction
that government has to hold between the links of a chain, government being defined as
in (21) below (Chomsky (1986a, p.8)):

(21) \( \alpha \) governs \( \beta \) iff \( \alpha \) m-commands \( \beta \) and every barrier for \( \beta \)
dominates \( \alpha \)
In (20), I assume Rizzi's (1991) theory of syntactic locality, as outlined below (Rizzi (1990, p.6 f)):

(22) **Antecedent-Government:** X antecedent-governs Y iff
    (i) X and Y are coindexed
    (ii) X c-commands Y
    (iii) no barrier intervenes
    (iv) Relativized Minimality is respected

(23) **Relativized Minimality:** X alpha-governs Y only if there is no Z such that
    (i) Z is a typical potential alpha-governor for Y,
    (ii) Z c-commands Y and does not c-command X

(24) a.) Z is a typical potential antecedent governor for Y, Y in an A-chain = Z is an A specifier c-commanding Y
    b.) Z is a typical potential antecedent governor for Y, Y in an A'-chain = Z is an A' specifier c-commanding Y
    c.) Z is a typical potential antecedent governor for Y, Y in an X0-chain = Z is a head c-commanding Y.

Note also that (16) is defined in terms of m-command rather than in terms of c-command. Using the definition (20) above, I will stick to the more common binding requirement, incorporating c-command. This seems to be necessary on the grounds that the NP-complement-position is not able to bind the SpecNP position (Chomsky (1986b)). Evidence comes from NP-internal movement:

(25) [the city's [destruction tij]]

Principle C would be violated in (25) if tij binds the city.

Consider now some simple cases of principle B effects in English:

(26) *Johni likes himi
(27) *Johni believes himi to be smart

In (26) where the pronoun in object position is bound by the subject, ungrammaticality obtains. In traditional Binding Theory as outlined in the introduction this is due to the fact that the pronoun is - contrary to principle B requirements - bound in its governing category. (20), however, also accounts for ungrammaticality of this example: the chain (Johni, himi) is formed by (20) since no barrier intervenes between the subject and object position. This chain is in violation of RR's General condition on A-chains, repeated here for convenience:

(17) A maximal A-chain \(a_1, ..., a_n\) contains exactly one link - \(a_1\) - which is both case-marked and referentially independent

The chain (Johni, himi) contains two case-marked and referentially independent
Turning to example (27), the same situation obtains. In classical Binding Theory, the governing category of the ECM subject is extended to the matrix clause due to government by the matrix verb. In the chain formation approach, the chain (Johnj, himj) is formed since no barrier intervenes between these two coindexed elements. As in the previous example, this chain then violates the General condition on A-chains (17). Consider now some cases where a pronoun can be bound by an antecedent in a grammatical sentence. According to the rationale behind the chain formation approach, in these cases a barrier must occur between the two coindexed elements, otherwise an illegitimate chain containing both the antecedent and the pronoun would be formed as in (26) and (27) above.

(28) Johnj believes that Bill hates himj
(29) Johnj sees a snake near himj

In (28) the NP Bill in the subject-position of the subordinate clause creates a Relativized Minimality barrier between the pronoun him and the antecedent John. Chain-formation (20) cannot apply across this barrier, therefore no chain containing John and him is formed, and the sentence is grammatical as a consequence. (29) is a more interesting case. The PP near him is an adjunct, therefore a barrier due to lack of L-marking. Evidence for the PP being a barrier comes from Wh-extraction data:

(30) *Whatj did John see a snake near tj?

(30) is ungrammatical, indicating that the PP in this sentence is an adjunct barrier. The chain formation approach correctly predicts (29) to be grammatical because due to the PP-barrier no chain between the antecedent and the pronoun can be formed. Note that with respect to this example the chain formation approach is empirically superior to standard Binding Theory: the latter cannot account for the grammaticality of (29) because the governing category for the pronoun is the matrix clause since it is the minimal category containing both a governor for the pronoun and a subject. The pronoun is bound in its governing category, violating principle B. Standard Binding Theory thus incorrectly predicts ungrammaticality for example (29). Chomsky (1981) proposes PRO as a subject in PP in this case. Under this stipulation standard Binding Theory makes the right prediction. This solution, however, is stipulative, and given the range of crosslinguistic data involving pronouns in prepositional phrases, also implausible (see section 3.4).

Interestingly, another empirical consequence of the chain formation approach is that a sentence like (29) should become ungrammatical if the PP is not an adjunct but a complement. In this case chain formation is not blocked from application, and the chain (Johnj, himj) violates the General condition on A-chains. This prediction is borne out:

(31) *Johnj turns a gun against himj

In (31) the PP against him is not an adjunct. Evidence can, again, be gained from a wh-extraction context:

(32) Whoj did John turn a gun against tj?
The possibility of wh-extraction from the PP in (32) indicates that this PP is not an adjunct. Consider, finally, examples (33) and (34) below:

(33) Johni thinks that hej is smart
(34) Johni likes hisi book

(33) and (34) both constitute a problem for the approach outlined so far. Consider the examples in turn. In (33) no barrier intervenes between the pronoun and the antecedent according to Rizzi’s (1991) theory of barriers adopted here. The embedded clause is a complement of the matrix verb, and no intervening typical potential antecedent-governor for the pronoun exists since there is no A-specifier between the pronoun and the antecedent. Under the approach outlined so far, chain formation would not be blocked from application, predicting ungrammaticality contrary to fact. (34) demonstrates a parallel problem with possessive pronouns. Again, no A-specifier occurs between the pronoun and its antecedent. There is no barrier resulting from failure of L-marking, therefore chain formation is not blocked and the grammaticality of (34) is not accounted for. In the next section, I will explore a way to remedy this shortcoming.

2.2 Incorporating a proper head-government-requirement into chain formation
A closer look at the position of the pronoun in examples (33) and (34) yields a parallelism which might be at the heart of the matter: In (33) the pronoun is in SpecIP, the next maximal projection being a CP:

(33')

```
CP
  
  C'

  that

  IP

  pronoun
```

In (34) the possessive pronoun is in a pre-NP-position. Under the DP-hypothesis, however, there is again a functional projection dominating the NP in which the possessive is located:

(34')

```
DP
  
  D'

  D

  NP

  poss

  N'

  N
```
Abney (1987) treats DPs containing a possessor differently. He assumes that the possessor is base-generated in SpecNP, but subsequently moves to SpecDP where it gets the genitive marking. I will, however, stick to the structure (34'), as argued for on independent grounds in Giorgi and Longobardi (1991). The parallelism that (33) and (34) exhibit leads to the following hypothesis: In these two examples, the configurations shown in (33') and (34') are responsible for blocking of the application of chain formation.

The common property of the pronominal position in (33') and (34') can be assumed to be failure of proper head-governance in Rizzi's (1990) framework. Proper head-government in his theory is government by a head X within the immediate projection X'. He argues that I₀ in a configuration as in (33') does not properly govern its specifier, and that the only other potential head-governor C₀ is not a head-governor per se, but can only be turned into a head-governor by A'-movement to or through its specifier. The latter process triggers the presence of an AGR-feature in C₀ which accounts for its ability to properly head-govern a subject trace in a sentence like (35):

(35) Who do you think [CP tī' [C Agr [IP tī left]]]

Assume now that a similar situation obtains in a DP: D₀ is not a proper head-governor and the only way to obtain the status of a proper head-governor is to contain an Agr-feature triggered by A'-movement to SpecDP.

Given these assumptions, the conclusion at this point is that the pronouns in (33) and (34) are not properly head-governed, because C and D, respectively, do not function as proper head-governors in these configurations.

Assume now that an additional clause is added to the chain formation definition in (20), requiring non-initial links of chains to be properly head-governed:

(36) Chain Formation (revised)
(C = (a₁ ... aₙ) is an X-chain, where X = A or A' iff
(i) for 1 ≤ i ≤ n , aᵢ is the local X-binder of aᵢ₊₁, and
(ii) for 1 ≤ i < n, no barrier intervenes between aᵢ and aᵢ₊₁, and
(iii) every a, a ≠ a₁ is properly head-governed, and
(iv) C is maximal

The addition of clause (iii) effectively blocks chain formation from applying to a pronoun which is not properly head-governed. As a result, the sentences (33) and (34), repeated here for convenience, are now predicted to be grammatical, in accordance with the facts:

(33) Johni thinks that hej is smart
(34) Johni likes hisj book
2.3 Specificity effects: additional evidence for a nonstandard chain approach

The approach developed above crucially links the ungrammaticality of A-bound pronouns in certain contexts to the fact that in these contexts a chain between the pronoun and the antecedent could be formed, which is in violation of a condition on A-chains.

In general then, there should be a correlation between positions which are opaque for extraction and those which allow for a pronoun with any coindexation.

Consider specificity effects on Wh-extraction as discussed e.g. in Fiengo and Higginbotham (1981):

(37)  
(a) who\_ did you read a book about t\_  
(b) *who\_ did you read the book about t\_  
(c) *who\_ did you read Bill's book about t\_

Wh-extraction from the non-specific NP in (37a) is grammatical, but the same extraction from more specific NPs as in (37b) and (37c) shows a sharp decline in acceptability. The examples in (38) below contain a pronoun in the same NPs, coindexed with a subject NP:

(38)  
(a) *John\_ read a book about him\_  
(b) John\_ read the book about him\_  
(c) John\_ read Bill's book about him\_

In (38), the grammaticality judgements are the reverse of those in (37). Where wh-extraction is possible, namely from a nonspecific NP, the A-bound pronoun with its antecedent in subject position is unacceptable.

I will not deal with analyses of the syntactic representation of specificity and the definite/indefinite distinction. The contrast in (37) and (38), however, serves to lend some plausibility to the analysis developed in the preceding sections.

3. Other languages

To summarize up to this point, the chain-formation algorithm in (26), including a locality and head-government requirement can account for principle B effects in English. It also makes some predictions that are expected to hold universally since a mechanism like chain-formation which basically defines the range of chain-dependencies is not a likely candidate for much cross-linguistic variation, and neither is the General condition on A-chains.

Assume, then, that the chain-formation algorithm (26) is indeed universal. This is the null hypothesis, given its basic function in grammar. The following predictions arise for the distribution of A-bound pronouns:

(i) a pronoun can be coindexed with an antecedent if that antecedent is separated from them by one or more barriers
(ii) a pronoun can be coindexed with an antecedent if the pronoun is not properly head-governed

When looking at a wider range of languages, the following cases now have to be distinguished:

(i) the language in question shows the same distribution of A-bound pronouns as English
(ii) the language in question does not allow a pronoun to be coindexed with an antecedent although chain-formation is blocked by the presence of a barrier or by the fact that the pronoun is not properly head-governed
(iii) the language in question allows properly head-governed pronouns to be coindexed with a local antecedent
Case (i) is a direct confirmation for the analysis proposed here. Case (iii), on the other hand, is a rather strong argument against this analysis, because chain-formation should yield an illicit chain in these contexts. Case (ii) would demonstrate that while the chain-formation analysis might still be valid, there must be an additional mechanism at work which blocks A-bound pronouns in some contexts where chain-formation is inapplicable. This is not a very desirable state of affairs since it creates the need for the postulation of an additional grammatical mechanism, but it does not disconfirm the chain-formation approach.
In sections 3.1-3.3 I will present data from other languages which are, or at first seem to be, instances of the three cases above. In some cases, possible, but yet very speculative analyses are proposed that could reconcile some problematic data with a chain-formation approach.
In section 3.4 I will examine pronouns in prepositional phrases in French. Some evidence for the relevance of the head-government requirement in the definition of chain formation is presented there.

3.1 The distribution of A-bound pronouns is identical to English: Dutch
Dutch, to the best of my knowledge, has a distribution of A-bound pronouns which is identical to English. Consider the following data from RR, Koster (1987), and Everaert (1986):

(39) *Jan haat hem
    John hates him
(40) Jan zag zijn moder
    John saw his mother
(41) *Jan horte hem singen
    John heard him sing
(42) Jan zag een slang naast hem
    John saw a snake near him
(43) Mieke zag dat ik haar schilderde
    Mieke saw that I her painted
    'Mieke saw that I painted her'

In (39) the pronoun is properly head-governed by the verb, there is no barrier between the pronoun and the antecedent.
In (40) the possessive pronoun is not properly head-governed, hence can be coindexed with the subject.
In (41) the pronoun is properly head-governed by the matrix ECM-verb and no barrier intervenes on the way up to the subject.
(42) contains a pronoun in a PP-adjunct which bars chain-formation from applying.
In (43), finally, a Relativized Minimality barrier separates the pronoun from its antecedent.
3.2 Pronouns are excluded although chain formation is blocked
3.2.1 LDA and pronouns
The analysis developed in the preceding sections predicts that pronouns don't exhibit "long distance effects" in the sense that the domain in which they have to be A-free is extended beyond the boundaries (presumably universal) predicted by chain formation. In other words, languages which allow for long-distance anaphora should always allow for free variation between long-distance bound anaphora and pronouns. This prediction is, to a certain extent, borne out (examples from Burzio (1989a)):

Icelandic:
(44) Joni segir [að Maria elski sigi/hannin]
     Joni says that Maria loves (subj) selfi/himj
     "Jon says that Maria loves him"

Italian:
(45) Giannì sperava che i giornali parlassero di ??sei/luij
     Gianni hoped that the papers would talk about ??selfi/himj
     "Gianni hoped that the papers would talk about him"
(46) L'oratorej persuase la folia [a venire verso di seij/luij]
     the speakerij persuaded the crowd to come towards of selfi/himj
     "The speaker persuaded the crowd to come towards him"
(47) Mariaj riteneva [ognuno innamorato di seij/leij]
     Mariaj believed each enamoured of selfi/herij
     "Maria believed everyone in love with her"

Russian:
(48) Starikj ozivilisja i prosil [na kurort egoj/sebjaj pokuda ne otpravijat']
     old manij enliven and ask to resort himj/selfj now not send off
     "the old man came to life and asked (one) not to send him off to a health resort just now"

Danish:
(49) at Susanj overtalte Anne til [at hore pa sigi/hami]
     that Susanj persuaded Anne to that listen to selfi/herij
     "that Susan persuaded Anne to listen to her"

Dutch:
(50) Hijj hoorde [mij over zichj/hemj praten]
     heij heard me about selfi/himj talk
     "he heard me talk about him"

In the following sections I will present and examine examples where this free variation breaks down, and pronouns are excluded from positions where long-distance-bound anaphora are grammatical. The examples are mainly from Burzio (1989a)7.

3.2.1.1 Icelandic
In the following examples A-bound pronouns are excluded although they are arguably "far enough" from their antecedent for chain formation to be blocked:
In both (51) and (52) the long-distance anaphora option is available. In (51) the pronoun is in object position in a complementizer-introduced infinitival complement. The PRO-subject of the infinitival clause creates a Relativized Minimality barrier for A-chain formation. As a consequence chain formation is blocked, but nevertheless (51) is ungrammatical.

In the second Icelandic example (52), again, an intervening typical potential A-antecedent (Harald) blocks chain formation between the pronoun and its antecedent. Despite the inapplicability of chain formation in this construction the sentence is ungrammatical.

A solution to this problem for the chain formation analysis could be at hand upon closer investigating of the status of the sentential complement in (51) and the AP small clause in (52)\(^8\). For chain formation to make the right predictions here it would have to be demonstrated that in both (51) and (52) the government domain of the matrix verb is extended (possibly due to reanalysis of the matrix verb and the verb of the embedded clause or abstract incorporation in the sense of Baker (1988)). In (51) it would also have to be demonstrated that the element mer (or, for that matter, whatever empty category is present in SpecIP) does not create a Relativized Minimality barrier. These highly speculative remarks can at this point only point to some further work that has to be done. For lack of further evidence, I will have to leave this matter open as a potential problem for the analysis developed here.

3.2.1.2 Russian

Russian, too, exhibits instances of complementarity between pronouns and long distance anaphors:

(53) Onj dal [ej umyt’ *egoj/sebja i vypil kruzku moloka]
    hej let her wash *himj/selfi and drank mug milk
    "He let her wash him and drank down a mug of milk".

This Russian example contains a pronoun in what appears to be the object position of a causative complement. The subject of the causative functions as a typical potential A-antecedent for the pronoun, blocking chain formation. Ungrammaticality, however, obtains in this example, unless the long distance anaphora option is chosen.

It could be argued that this causative construction has to be analyzed in terms of Baker’s (1988) incorporation analysis. If the Russian causatives are an instance of abstract verb-incorporation resulting from LF-movement of VP to SpecCP of the embedded clause, followed by incorporation of the embedded verb into the causative matrix verb, the ungrammaticality of (53) would fall out as a consequence. The pronoun would be governed by the complex matrix verb, and it would not be c-commanded by the embedded subject.
I will adduce two pieces of evidence here that an analysis along these lines has some initial plausibility.
First, in Baker’s incorporation approach to causative constructions the type of causative mentioned here, where VP moves to SpecCP, and the embedded V incorporates from the preposed VP into the matrix verb is characterized by the following case assignment situation (Baker (1988, p.162)):

Causative Rule I:
GF in embedded clause:             GF in surface clause:
ergative                          oblique (IO)
absolutive                         direct object

Ergative refers to subjects of transitive clauses and absolutive to objects of transitive clauses and subjects of intransitive ones. There is some evidence that Russian falls into this pattern: the causative verb dat' ('let') assigns dative case to the embedded subject of a transitive verb. In Timberlake (1979) dat' is generally classified as a dative case assigner. It is not clear to me whether the second part of Baker’s Causative Rule I (absolutive -> direct object) is also attested in Russian.
Second, sentence (53) contrasts minimally with examples containing non-causative matrix verbs (Timberlake 1979):

(54) ? Onâj pozvoljala nazyrat' eej ne "grazdanin nacal'nik", a Sura

shej allow call herj not citizen director but Sura
"She used to allow (one) to call her not "citizen director", but Sura"

I conclude that there is some initial plausibility that an analysis of Russian causatives in terms of Baker’s (1988) causative Rule I might be possible. This analysis would be compatible with a chain formation approach to the ungrammaticality of a pronoun in (53).

3.2.2 Possessive pronouns
Another set of data where pronouns are illicit contrary to the prediction made by the analysis proposed here can be gained by looking at possessive contexts: languages which have a reflexive possessive element sometimes disallow an A-bound possessive pronoun in the same configuration where the reflexive could occur (Burzio 1989b, p.1):

Latin:
(55) Ioannesj sororem suamj/*eiusj vidit
     Ioannesj sister selfj's/*hisj saw
     "Ioannes saw his sister"

Russian:
(56) Onj uze rasskazal mne o svoej / *egoj Szizni
     Hej already tell me about selfj's / *hisj life
     "he had already told me about his life"
Danish:
(57) Jørgen elsker sin / *hans kone
    Jørgen loves self's / *his wife
    "Jørgen loves his wife"

With respect to the unavailability of pronouns in these examples a possible hypothesis could be that in these languages (Latin, Russian, Danish) the possessor position is, in fact, properly head-governed by D₀⁹.

3.3 Pronouns are licit although chain formation is not blocked
So far, evidence from other languages has either confirmed the chain formation approach (section 3.1), or pointed at the fact that chain formation and resulting illicit chains - while valid claims - might not be the only grammatical mechanism to exclude A-bound pronouns in certain “long distance” relations (section 3.2). Turning now to direct counterevidence to the claim made here it would have to have the following form:
- a pronoun in a properly head-governed position is A-bound by an antecedent where no adjunct-barrier or typical potential A-antecedent intervenes between them.
In particular, two situations seem to be prototypical instances of this configuration:
- a pronoun in object position is bound by the subject of the clause
- a pronoun in the subject position of an ECM-complement is bound by the matrix subject
Reuland/Reinhart (1991a) present some Frisian data that seem to exemplify exactly those configurations. For lack of space I will not deal with these data here. They do pose a serious problem for any version of Binding Theory including the one proposed here.

3.4 French: additional evidence for proper head-government as part of chain formation
Zribi-Hertz (1980) presents a long list of French data where a pronoun inside a prepositional object can be bound by the subject of a clause:

(58) Victor croit en lui
    Victor believes in him
    "Victor believes in himself"
(59) Victor a confiance en lui
    Victor has trust in him
    "Victor trusts himself"
(60) Victor est pour lui
    Victor is for him
    "Victor is for him"
(61) Victor est fier de lui
    Victor is proud of him
    "Victor is proud of himself"
(62) Victor met le livre devant lui
    Victor put the book before him
    "Victor put the book in front of him"
(63) Marie a parlé à Victor de lui
    Marie has talked to Victor of him
    "Marie has talked to Victor about him"
Zribi-Hertz (1980) proposes a semantic condition on the distribution of (strong) pronouns and the reflexive lui-meme in French. Without going into further detail, I suggest the following syntactic explanation for the facts in (58)-(63): in French prepositions are not proper head-governors. As it stands, this hypothesis makes the claim that pronouns in French prepositional phrases can always be coindexed with a local subject\(^{10}\). This is compatible with the data presented by Zribi-Hertz, but it would certainly have to be tested further\(^{11}\).

These data pose a problem for a version of Binding Theory as in Hestvik (1991) where only prepositional phrases headed by an independently theta-assigning preposition count as Complete Functional Complexes in the sense of Chomsky (1986b). This theory predicts that in locative and temporal PPs pronouns can occur which are bound by the subject of the sentence. Crucially, however, in cases where the prepositional head is directly selected by a verb, and hence is arguably only a transmitter of the verb’s theta-role, the CFC of the pronoun is not the PP, but the higher S. In these latter cases the pronoun consequently has to be free in S. The problem raised by the French data in this section is that in (58), (59), and (61) the prepositions are directly selected by the higher predicate:

\[(64)\] croire en = to believe in
    avoir confiance en = to trust
    etre fier de = to be proud of

It seems, then, that in Hestvik’s theory an independent explanation for the general availability of locally bound pronouns in French PPs would have to be found.

4. Odds and ends
In the preceding sections many important issues connected to the proposal made here were not addressed. I will simply list some of the more important problems and topics, leaving them for further research.
(i) It has to be demonstrated that chain formation as formulated here does not have unwanted consequences for movement chains. (Reuland and Reinhart (1991a) do this for their version of nonstandard chains).
(ii) The General Condition on A-chains in (17) is stipulative and hence undesirable. It should ideally be replaced by or derived from a more general wellformedness condition on syntactic chains.
(iii) The implications of a representational view of S-structure versus a derivational view have to be considered.
(iv) The question of whether chain formation is operative at LF has to be addressed.
(v) What accounts for the non-availability of locally A-bound pronouns in instances where chain formation is blocked? Could this be attributed in general to extragrammatical factors that result in marginality rather than in unacceptability?
(vi) How can the Frisian data mentioned in section 3.3 be accounted for?

5. Conclusion
A tentative conclusion at this point is that a nonstandard chain approach to pronominal binding is both conceptually and empirically superior to a standard formulation of principle B.
To summarize: the conceptual advantages are:
(i) no recourse to "anti-locality" principles is needed in grammar
(ii) principle B can be abandoned and its effects derived from independently motivated grammatical concepts such as chain, antecedent-government, head-government etc. Empirical advantages include:
(i) the relative cross-linguistic uniformity of pronominal binding is accounted for
(ii) the correlation between possibility/impossibility of extraction and possibility/impossibility of locally A-bound pronouns in English is accounted for
(iii) the coverage of data is larger than that of principle B, especially with respect to pronouns in prepositional phrases, and - possibly - possessives

Notes:

1. With the exception of Contreras' (1989) Anti-Subjacency Condition. The latter could, possibly, be reinterpreted in a nonstandard chain approach, too (cf. Gamon (1991), for a different analysis Aoun and Li (to appear)).

2. In RR's framework non-reflexive pronouns, common nouns, and names are referentially independent, while reflexive pronouns are referentially dependent.

3. Although VP is a barrier in Chomsky's (1986a) framework, V-I- coindexing allows for circumvention of that barrier for A-chains linking the subject and the object position. RR make use of Chomsky's (1986a) notion of "Extended Chain" to achieve this (Chomsky 1986 a, p.75):
   a.) C=(a₁, ..., aₙ, b) is an extended chain if (a₁, ..., aₙ) is a chain with index i and b has index i.
   b.) Chain coindexing holds the links of an extended chain.

4. Some of their evidence consists of Romance data like the Italian (i) below:
   (i) il mio libro
   the my book
   They argue that since the possessive occurs between the determiner and the head of the noun phrase, it cannot be in SpecDP.

5. It seems to me at this point that adopting Giorgi and Longobardi's proposal is not essential to the argument developed here. If Abney (1987) is right in analyzing SpecDP as the position of the possessive in English, it must be assumed independently that this position is not properly head-governed in this language. Otherwise, extraction of the possessor would be permitted, which is clearly not the case:
   (i) *whose did you read [DP [D [NP ti book]]]
   As far as I can see, this would, however, require an ugly stipulation to the effect that the functional head D protects its specifier from proper head-government from outside, while the functional head I in ECM-constructions does not.

6. Heles Contreras (p.c.) has pointed out to me that the same result could have been obtained by adopting Chomsky's (1986a) theory of barriers instead of Rizzi's (1990). Under Chomsky's theory CP in (34') and DP in (34) are barriers between the pronoun and anything outside CP and DP. An empirical argument for the approach developed here will be given in section 3.4. However, the choice of a theory of barriers is not a trivial matter and certainly deserves more investigation.

7. Many thanks to Jeeya Lim for pointing out to me that some of the examples might allow for an analysis in terms of causative structures.

8. I follow Burzio (1989a) here in assuming that an AP small clause is present in this example.

9. If Cinque (1990) is correct in assuming that for the ECP proper head-government and non-distinctness of the head-governor from a [+V] category are relevant, this hypothesis would not have the unwanted consequence that possessor extraction in these languages is freely possible.

10. Interestingly, in some cases the pronoun even has to be coreferent with the subject as a function of the inherent reflexivity of a verb:
   (i) Victor a toute l'équipe avec lui/*lui
   Victor has the whole bunch with him
   It seems that the pronoun functions as a reflexive here. Note that the reflexive lui-même is excluded:
   (ii) *Victor a toute l'équipe avec lui-même
References:


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Interpretation of VP-ellipsis

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I. Introduction

In this paper I wish to deal with some facts about the interpretation of VP-ellipsis. Specifically, I wish to account for the object-adjunct asymmetry in VP-ellipsis shown in (1) and (2):

(1)a. John saw Bill, and Mary did [e], too.
   b.*I know John saw Bill, but who did Mary [e]?
   c.?I know who John saw, but who did Mary [e]?
   d.*I don't know who John saw, but Mary did [e] Bill.

(2)a. John saw Bill yesterday, and Mary did [e], too.
   b. I know John saw Bill yesterday, but when did Mary [e]?
   c. I know when John saw Bill, but when did Mary [e]?
   d. I don't know when John saw Bill, but Mary did [e]
yesterday.

The sentences in (1) demonstrate that the null VP (given as [e]) must have arguments identical to those of its antecedent VP. For example, there is a clear contrast between the unacceptable (1b), in which the antecedent VP contains an overt argument and the null VP must contain a trace in argument position to be interpreted correctly, and the merely marginal (1c) in which both antecedent and null VP contain traces in argument position. The arguments of null and antecedent VP must be identical at some level of representation. No such restriction holds for adjuncts, however, as shown in (2). The adjuncts may be identical, as in (2a), or they may be contrasted, as in (2b-d).

The range of interpretation for adjuncts is restricted however in that the ellided VP must have the same number of adjuncts as its antecedent, whether those adjuncts are all null, all contrasted, or some combination thereof. For example, all of the following are acceptable VP-ellipsis sentences:

(3)a. John hit Bill on the head with a crowbar, and Mary did [e], too.
   (= . . . Mary hit Bill on the head with a crowbar.)
   b. John hit Bill on the head with a crowbar, and Mary did [e] with a lead pipe.
   (= . . . Mary hit Bill on the head with a lead pipe.)
   c. John hit Bill on the head with a crowbar, and Mary did [e] on the arm with a lead pipe.
   (= . . . Mary hit Bill on the arm with a lead pipe.)
However, (3a) would be unacceptable with the interpretation "John hit Bill on the head with a crowbar, and Mary hit Bill, too." Furthermore, an adjunct may not be overtly contrasted if there is another null adjunct to its right, as we can see from the anomalous (4):

(4) ??John hit Bill on the head with a crowbar, and Mary did [e] on the arm [e].

The purpose of this paper is to characterize the phenomenon of VP-ellipsis in such a way as to account for these facts. The structure of the paper is as follows: section 2 will discuss some previous analyses of VP-ellipsis and show that they must be modified in order to account for the data in (1)-(4). In section 3 I will propose such a modification. In section 4 I will discuss the related phenomenon of antecedent-contained deletions (ACDs), and suggest how the proposed account impinges on the proper analysis of this phenomenon. Section 5 discusses the potentially problematic phenomenon of pseudo-gapping.

2. Previous accounts

Sag (1976) was the first analysis which made the claim that the proper condition for VP-ellipsis was identity of the null VP with its antecedent at the level of logical form. Borrowing the conventions of Church's (1941) lambda calculus, widely used in Montague semantics, Sag assumed a version of the Derived Verb Phrase Rule (DVPR) in which VPs are converted at LF into \( \lambda \)-expressions, as shown in the following pair:

(5)a. Mary \([v_p \text{ kissed John}] \)  -->
   b. Mary \( \lambda x[x \text{ kissed John}] \)

Sag's rule of VP Deletion then made use of the notion of alphabetic variance, a condition which holds of two \( \lambda \)-expressions if (i) each variable in one expression has a corresponding variable in the other, and (ii) both sets of variables, if bound, are bound by corresponding quantifiers inside the \( \lambda \)-expressions, or a single operator outside them. Thus (6a,b) are alphabetic variants:

(6)a. \( \lambda x[x \text{ kissed John}] \)
   b. \( \lambda y[y \text{ kissed John}] \)

The VP Deletion rule then states that any VP can delete which has as its logical representation a \( \lambda \)-expression which is an alphabetic variant of the logical representation of its antecedent VP. With such a rule, we can easily account for the data in (1): in each ill-formed case (1b,d) the two VPs involved are not alphabetic variants of each other. To account for (1c) we need to slightly weaken one of the conditions of Sag's characterization of alphabetic variance,
namely the condition that corresponding variables in the two VPs which are bound outside their VP be bound by the same operator. In (1c) the marginal reading requires that the first instance of t be bound by the first instance of who, and the second t by the second who. A modification which would accomplish this has been proposed in Lappin (1984), motivated in part by the need to explain so-called "sloppy identity" sentences such as (7):

(7) Mary behaved herself, and John did [e] too.

Lappin proposes a pragmatic constraint which allows variables in ellided VPs to be bound by some VP-external operator different from the operator binding the antecedent variable as long as the two variables have an appropriately similar range of interpretations. The details of this proposal need not concern us here, however. I shall merely assume that variables contained in ellided VPs need not necessarily be bound by the same operator as their antecedent.

Sag's analysis assumed that VP-ellipsis was a process of deletion. Later analyses (e.g. Williams 1977, Zagona 1982, 1988, Haik 1987) assumed, as I will here, that ellided VPs are empty categories in the syntax, meaning that Sag's generalization should be construed as a condition on interpretation or reconstruction at LF, rather than as a condition on deletion. Many arguments have been given to support the contention that null VPs are empty in the syntax. First, there is the ordering paradox between do-support and deletion which results from assuming a deletion operation (see Williams 1977). Second, null VPs seem to behave like empty categories in the syntax in being subject to the ECP (Zagona 1988) and subjacency (Haik 1987). Zagona (1988) shows that null VPs must be properly governed (in particular, tense-governed) by the I0 which licenses them. Consider for example these sentences:

(8a) John persuaded Mary to leave, and Fred persuaded Jane to [e].
   (8b) *John runs to stay fit, and Bill swims to [e].

(8b) is ill-formed because the null VP fails to be properly governed. Zagona shows that infinitival to is able to properly govern the null VP in a complement clause, as in (8a), but not in an adjunct clause, as in (8b). Haik (1987) shows that null VPs behave like variables with respect to subjacency, as in (9):

(9) *John met everyone that Peter wondered when he could [e].

I will assume for the purposes of this paper, then, that cases of VP-ellipsis are empty categories in the syntax which receive their interpretation through a reconstruction operation at LF, and that Sag's DVPR and restriction on alphabetic variance (perhaps with appropriate modifications)
correctly characterizes a necessary condition on the 
interpretation of empty VPs. This condition, while adequate 
to account for the distribution in (1), is not sufficient, 
however, to account for the data in (2-4). To see why, 
consider (10):

(10) Mary wrote her name with a pencil, and John did [e] with 
a pen.

In order to account for (10), it is necessary to assume that 
the condition need apply only to some subpart of the target 
VPs (in this case the expression \( \lambda x [x \text{ wrote } x's \text{ name}] \), 
leaving off the instrumental adjunct). But having made that 
assumption, we cannot stop the condition from allowing (11a) 
to have a meaning corresponding to that of (11b), since the 
bracketed VP in (11b) is an alphabetic variant of a subpart 
of its antecedent.

(11)a. John slept soundly, and Mary did [\( \psi \), e], too. (≠)  
b. John slept soundly, and Mary [\( \psi \), slept], too.

We need some additional condition which insures that the 
number of adjuncts in the empty VP and its antecedent be the 
same. Formulating such a condition will be the task of the 
next section.

3. A Proposal

There are two generalizations which remain to be 
accounted for, given (1-3). First, we must explain why 
arguments must be ellided, as in (1), while adjuncts seem to 
be able to either be ellided or contrasted from the 
antecedent to the null VP, as in (2). Second, we must 
explain why both antecedent and null VP must have an 
identical number of adjuncts, whether they are null, or 
contrasted, or both.

An obvious solution to the first problem would be to 
assume that the distinction between arguments and adjuncts is 
overt, in terms of the bar-level of the node at which they 
are attached to the VP. Suppose that verbal adjuncts are 
truly in adjoined position, in the sense of Chomsky (1986). 
Thus while arguments are dominated by VP, adjuncts are merely 
contained in some segment(s) of VP. (Here, contain should be 
taken to have the traditional meaning of the term dominate, 
and dominate should be taken in the sense of Chomsky (1986), 
where a is said to be dominated by b if it is contained in 
every segment of b.)

Under this assumption, the antecedent VP in (3a) 
consists of three segments, and has the form:
Given (12), we need now only assure that the VP-ellipsis rule must apply so as to obligatorily reconstruct at LF all material dominated by VP, and optionally include any material contained in but not dominated by VP. This amounts to saying that the target of the reconstruction operation is any segment of the antecedent VP.

This is not yet quite sufficient, however. Our second problem above was to account for the fact that the null and antecedent VPs must be construed as having the same number of adjuncts. Specifically this means that the reconstruction operation must copy as much material from the antecedent VP as possible, provided that the material copied has not been overtly contrasted in the null VP. Consider sentence (13):

(13) Mary eats dinner with chopsticks at home, but John only does [e] in restaurants.

I take this sentence to mean that John only eats dinner with chopsticks in restaurants. Assuming that the antecedent VP in this sentence has the structure in (12), and that the null VP has the structure in (14), we need to insure that VP₂, and not VP₁ or VP₃ is copied into the node dominating [e].

(14) VP
    / \
   VP  adjunct
      |  [e]

Let us suppose, then, that the reconstruction algorithm first targets the highest projection of the antecedent VP (in this case VP₃), copying it into the node dominating the empty category. For sentence (13), doing so results in a logical representation which has two conflicting locative adverbials. Such a sentence will be ruled uninterpretable, and so the algorithm will proceed to the next VP node down, which will yield the proper interpretation.

So far, the reconstruction algorithm may be stated thus:

(15) VP-ellipsis reconstruction:
    At LF, copy the highest VP segment of the antecedent which does not lead to a conflict of interpretation.
This informal characterization of the process adequately deals with the data in (1-3). But it is unsatisfactory in its appeal to what amounts to a pragmatic constraint, that is, "conflict of interpretation." Furthermore, (15) predicts that sentences such as (4) (repeated here as (16)) should be perfectly acceptable:

(16) ??John hit Bill on the head with a crowbar, and Mary did on the arm.

My intuition is that this sentence is quite marginal. Informants to whom I have spoken about this sentence expressed the feeling that it was somehow incomplete, i.e. missing an instrumental adverbial. That this is a syntactic, and not simply a pragmatic, phenomenon can be seen by contrasting (16) with the perfectly well-formed (17):

(17) John hit Bill with a crowbar on the head, and Mary did on the arm.

The problem with (16), of course, is that what seems to be its intended interpretation requires a gap on both sides of the adjunct "on the arm." The impossibility of having a discontinuous gap of this sort falls out from the requirement that the target of VP-ellipsis be a single segment of VP. But (15) still predicts that the sentence will be acceptable if one simply copy the lowest VP segment (i.e. [VP hit Bill]), an operation which should yield no "conflict." Conflict of interpretation then is too weak a notion to characterize this phenomenon. Again we are led to the generalization that the null and antecedent VP have to have the same number of adjuncts. But to make this generalization explicit in the grammar will require us to give the grammar some mechanism which can "count" adjuncts. I suggest that this can be accomplished by marking VP segments with an overt index which will in effect indicate the number of adjuncts contained in the VP.

Suppose we adopt the characterization of transformational operation outlined in Chomsky (1992), without for the present dispensing with D-structure and S-structure, as Chomsky does. In this characterization, projection from the lexicon and the operation Affect-α are subsumed as special cases under a generalized transformation GT which has two specific instantiations: substitution and adjunction. Substitution is the operation which targets a phrase-marker K and replaces it with K*, where K and K* are restricted in form by the conditions of X-bar theory. The substitution operation is further restricted by the condition that it must extend K, which amounts to increasing its bar-level by one; thus for example GT(substitution) may apply to (18a) to yield (18b), or (18b) to yield (18c):

(18a) [x X]
    b. [x X YP]
c. \[x \ ZP \ [x, \ XYP] \]

Given this characterization of substitution, we may think of bar-level as an overt marker of GT(substitution) having been applied. In effect, bar-level allows the grammar to "see" how many times the operation has applied to a particular projection without counting.

Adjunction, on the other hand, does not extend the phrase marker to which it has applied. Thus adjunction may yield structures like (19a,b):

(19)a. \[x \ Y \ X\]
   b. \[x' \ XYP \]

But let us suppose that such instances of GT(adjunction) also leave a visible marker of their application, different from bar-level; i.e. suppose that the subscripts in (12) are not merely notational conveniences but an overt element of the grammar. I will refer to these subscripts as adjunction indices. Given this assumption, we now have a means for the VP-reconstruction operation to "count" adjuncts: simply, the adjunction index of the highest segment of the antecedent VP must match that of reconstructed VP at LF. If we assume that the reconstruction operation is another instance of GT, so that it parallels the applications of GT which led to the S-structure of the antecedent VP, we will get the right result. In other words the VP-copying algorithm at LF is just another set of instantiations of GT, performing essentially the same set of operations which built the antecedent VP. This will have the effect of "renumbering" the segments of the reconstructed VP in such a way that the subscripts on the top nodes of the two VPs will match.

To summarize, VP-anaphora are base-generated empty categories which receive their interpretation through a process of VP-reconstruction at LF. The reconstruction algorithm applies to a single segment of the antecedent VP, copying it onto the node dominating the empty category. The resulting structure will be well-formed if the adjunction index of the top segment of the antecedent VP matches that of the anaphoric VP.

4. Antecedent-contained deletions

There is another class of VP-ellipsis cases which I have purposely not dealt with up to this point. These are the so-called antecedent-contained deletion (ACD) sentences, in which the empty VP is contained in the VP which is its antecedent. Some examples are given in (20):

(20)a. Dulles suspected everyone who Angeton did [e].
   b. Mary hit the ball farther than John did [e].
   c. Bill took the test before everyone else did [e].
Any attempt to reconstruct the antecedent VP into the empty VP in these cases will lead to an infinite regress, because the copying operation will give rise to a new empty VP, which in turn needs to be reconstructed, and so on ad infinitum. Most attempts to analyze these sentences involve somehow getting the phrase which contains the empty VP out of its antecedent, either at S-structure, or at LF before reconstruction. Baltin (1987), for example, proposes that the offending phrase is extrapolated out of VP at S-structure, so that the reconstruction at LF is unproblematic. Thus (20a) would have the ultimate S-structure:

(21) Dulles [VP suspected [DP everyone that] [who Angleton did]].

Baltin must assume that the trace of the extrapolated relative be deleted before copying. May (1985) and Larson and May (1990) defend an analysis in which quantifier raising is responsible for removing the phrase from VP at LP. Thus for example the copying operation will apply to the following LF representation, which has the quantified object raised out of VP:

(22) [everyone who Angleton did [e]] Dulles [suspected that].

Both analyses would posit similar operations for sentences like (20b) and (20c). The analysis presented in this paper must be modified slightly in light of sentences like those in (20), but will in turn make strong predictions which bear on the two competing analyses of ACD sentences mentioned above. First, let us see in detail how the account above deals with a sentence such as (20c), which has the S-structure (23):

(23)
```
     IP
    /   \
   Bill I'
     /   \ 
    VP  PP
     /   \ 
    VP  DP
      /   \
     V    before everyone else did e
       \
      took the test
```

Clearly the intended interpretation of this sentence is (24):

(24) Bill took the test before everyone else took the test.

That is, the VP we wish to copy into [e] is the segment VP₁, and not VP₂. This would seem to be a violation of the condition that the antecedent and null VPs have the same
adjunction index on their topmost node. To solve this problem, all we need assume is that any node which contains both the empty VP and its antecedent is ignored for the purpose of interpreting the empty VP. Stated somewhat differently, the domain of previous discourse in which the antecedent may be found is limited to the structure contained by the first node that contains both the empty VP and some segment of its antecedent. Any node which contains the empty VP must not be construed as part of the antecedent. Thus in (23) the node VP₁ is simply ignored by the reconstruction algorithm. The segment VP₁ is the only legitimate antecedent of [e], and thus the copying of this node into the empty VP meets the requirements of identity at LF and matching adjunction indices.

To see more clearly, perhaps, that the domain of VP-reconstruction is limited to nodes which do not contain the empty VP, consider the pair of sentences (25):

(25) a. ??John kissed Bill before Mary did on the lips.
   b. John kissed Bill on the lips before Mary did.

The questionable (25a) is ambiguous, I believe, between two possible readings: one in which John, but not necessarily Mary, kissed Bill on the lips ("on the lips" is an adjunct of the matrix V); and a second, extremely marginal reading in which Mary, but not necessarily John, kissed Bill on the lips ("on the lips" is an adjunct of the null V). The reading where both John and Mary necessarily kissed Bill on the lips is crucially not available here, because the adjunct "on the lips" is outside the "scope" of the reconstruction operation. When the order of the adjuncts is reversed, however, as in (25b), we get the intended reading, as expected under the analysis given here.

Given this new assumption, we can now significantly restrict the range of data which count as actual ACD constructions. Since nodes containing the null VP are ignored by the reconstruction operation, the position of the empty VPs in (20b,c) is already sufficiently outside the antecedent VP to perform the copying algorithm. The algorithm will simply skip the VP segment that contains the adjunct containing the null VP. Thus the ACD phenomenon can be reduced to a core set of data in which the null VP is contained in an argument of its antecedent. Furthermore if the condition assumed above (that the antecedent of a null VP may not include any node which contains that null VP) is true, then it provides explicit motivation for the type of analyses which May (1985), Larson and May (1990), and Baltin (1987) have proposed--namely those in which the phrase containing the empty VP must be removed from its containing VP in order to be interpreted.

We may now ask whether the analysis here makes any predictions which might help us decide between an extrapolation and a quantifier raising account. Let us consider the ACD sentences in (26), which are analogous to
those in (25):

(26)a. ?John kissed everyone Mary did on the lips.  
    b. John kissed t on the lips everyone Mary did.

The sentence (26b), with heavy-NP extrapolation, unproblematically gives us the intended reading, without the need for quantifier raising or additional extrapolation. But in (26a), the reading where Mary and John both kissed everyone necessarily on the lips is unavailable. In the extrapolation analysis it is possible to account for this fact if we assume two movement operations which yield the S-structure representation in (27):

(27)  
John [[[kissed t_i] t_j][everyone Mary did [e]]; ][on the lips]; ]

But (26a) is a problem for the quantifier raising account, for if the LF representation of (26a) is as in (28), then the null VP should have scope over the entire matrix VP, and the undesired reading should be available:

(28) [everyone Mary did [e]; [John [kissed t_i on the lips]].

In light of these facts, I suggest that the extrapolation analysis of ACD sentences is deserving of a second look.

5. Pseudo-gapping

One problem facing the present analysis is the fact that arguments of the verb can sometimes be contrasted in VP-ellipsis environments, after all:

(29)a. John writes more books than Bill does articles.  
    b. John showed everything to Mary which he did to Bill.  
    c. Max gave Lucy flowers before John did chocolates.

Levin (1979) called these constructions pseudo-gappings and argued that the rule which creates them is distinct from VP-ellipsis. She points out, for example, that the syntactic distribution of pseudo-gappings is much more restricted than that of VP-ellipsis (chapter 2). Pseudo-gaps are usually restricted to comparatives and other VP-internal contexts. In the canonical intersentential pseudo-gapping, the corresponding subjects are coreferential, the two clauses have opposite polarity, the verb is a "psych" verb, there is but one contrasted object, and that object is the first person singular. Failure to meet any or all of these conditions reduces acceptability. Compare, for example, (30a) and (30b):

(30)a. "Cabaret" didn't thrill Eugene, but it did me.  
    b. ?"Cabaret" didn't thrill Eugene, but "Jaws" did Mary.
Other authors, however (e.g. Lappin and McCord (1990), Lappin (1992)) have more recently sought to treat pseudo-gapping as a special case of VP-ellipsis. In the remainder of this section, I will briefly examine their proposal, and show that the account of VP-ellipsis given here need not be modified to accommodate an account of pseudo-gapping.

Lappin and McCord (LM) assume as I do that ellided VPs are resolved through a copying mechanism at LF, but they propose that the reconstruction algorithm copies just the head of VP and then a computational procedure matches the arguments and adjuncts of the two VPs. Contrast elements, such as the arguments of the ellided verbs in (29), are not inherited in the reconstruction process. The contrasted arguments, they contend, may be overt as in (29), or null (i.e. traces). So for example, LM analyze sentence (31a) as having underlying structure (31b), with a trace inside the empty VP:

(31)a. Dulles suspected everyone who Angleton did.
   b. Dulles suspected everyone who Angleton did [VP e [t]].

The head of the matrix VP is then copied into [e] and a computational algorithm compares the arguments (deciding in this case that both VPs are complete with just the head being copied, since both have a legitimately licensed argument). But this analysis would incorrectly predict that (32a) should be judged acceptable (cf. 32b), because it again should be possible to simply copy the head of the antecedent VP into [e] and compare arguments (again assuming a trace in the object position of the null VP at S-structure, as LM suggest):

(32)a. *John hit Bill before knowing who Mary did.
   b. John hit Bill before knowing that Mary did.

Furthermore their analysis does not account for the fact discussed above that pseudo-gapping is more restricted than VP-ellipsis.

To conclude, given the limited syntactic distribution of pseudo-gapping, and the inability of LM's analysis to successfully subsume it under VP-ellipsis, I will assume with Levin (1979) that pseudo-gapping is distinct from VP-ellipsis and will not consider it the responsibility of this paper to provide an account for sentences such as (29) at this time.

6. Conclusion

VP-ellipsis involves an empty category in the syntax which receives its interpretation at LF through copying of the proper segment of the antecedent VP into the node dominating the empty category. From the requirement that the operation target a segment of VP it follows that arguments of V must be copied; adjuncts may be copied or contrasted. The copying algorithm can in principle target any segment of the
antecedent VP, but the outcome will be subject to a condition requiring that the number of adjuncts of both VPs be identical. This condition can be expressed in terms of indices connected with VP segments that indicate how many adjuncts are in the derivational history of the category, in much the same way that bar-level indicates something of the derivational history of a projection.

Footnotes

1. Sentences such as (31a) seem to be a problem for my account in that they seem to violate the principle of no vacuous quantification. Specifically, the wh-operator in the relative clause binds no variable in the S-structure representation (i):

   (i) Dulles suspected everyone who Angleton did [e].

Nüük (1987) answers such an objection by assuming that the null VP itself fulfills the role of the bound variable at D- and S-structure, and that the meaningful operator-variable relation is realized only at LF. Under this assumption, the principle of no vacuous quantification is a strictly syntactic condition at all levels but LF, i.e. at D- and S-structure, an operator must simply bind some variable, no matter its category.
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Nominative Case and Subject Agreement within a Minimalist Program

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O. Introduction

The Minimalist Program developed in Chomsky (1992) proposes several restrictions concerning the form of the computational system of the grammar of a natural language. Two of these restrictions are to be examined here: first, the proposal that parametric variation among languages should be reduced to morphological properties of lexical items; second, the proposal that movement in the overt syntax should not be legitimate unless necessary for convergence, optional movement being thus eliminated from overt syntax.

This paper examines two different phenomena whose explanation has been traditionally based on the notions of optionality of movement and parametric variation in the overt syntax, the phenomena of subject position and verbal agreement, under the guidelines proposed in the Minimalist Program.\(^1\) The relevant set of data for the analysis is drawn from Spanish, English and Arabic\(^2\), and discussed in detail in section 1. In the second section I will list the minimalist assumptions that are relevant to the analysis and propose a way of

\(^1\) I am most thankful to all my colleagues and classmates in the Winter syntax seminar directed by Heles Contreras at the University of Washington for their helpful comments. Special thanks to Jeeya Lim and Jewel Cripe for their generous review of a first draft of this paper.

\(^2\) The term Arabic refers, throughout this paper, to Modern Standard Arabic (M.S.A. or \(\text{\textit{?arabiyya l-mu\textit{?aaSira}}\)) the contemporary version of Classical (Medieval) Arabic used today in Arabic-speaking communities for reading, for writing, and in "formal situations" (news broadcasts and religious discourses, for example.) All the M.S.A. examples have been drawn from Abboud and McCarus (1983) and Mohammad (1990).
applying them in section 3. This section is the core of the proposal: I show that a system that differentiates among [+strong] and [-strong] L-related features is sufficient to explain the data analyzed in section 1, once we accept that only [+strong] features are visible at LF. In this section I will also show that it is necessary to postulate the existence of an empty expletive subject pronoun, base-generated in [Spec, IP] and marked 3rd person singular, in order to explain the problematic "impoverished agreement" of postverbal subjects in Arabic.

The system developed in the third section correctly predicts the behavior of raising verbs in Spanish and English and the lack of subject-to-subject movement in Arabic, and therefore the lack of this type of verb in the Semitic language. This is shown in section 4, along with an explanation of V-to-I movement in English for the verbs be and have and a possible analysis for agreement of the verb with the postverbal element in existential sentences (There is / are...). The L-related feature system proposed seems to be too powerful, and section 5 sketches two different ways of restricting its power, and discusses the language typology that such a system predicts. The paper ends with a consideration of several criteria for the explanatory adequacy of the proposal and a blueprint for its further development.

1. Data

I will start by examining a three way contrast related to the position of the subject with respect to its predicate in simple declarative sentences in English, Spanish and Arabic, and the subject-verb agreement systems of these languages. In English, the subject must be in preverbal position, and it has to agree with the verb in person and number (1):
(1) **English**

a. *John watches T.V.*

b. *Watches T.V John*

Spanish and Arabic, on the other hand, allow both preverbal and postverbal positions of the subject NP. But there is a crucial difference: while in Spanish the subject always agrees with the verb in person and number (2), agreement in Arabic depends on the surface order of the subject. When the subject precedes the verb, the verb shows full agreement with the subject in person, number and gender (3.a;3.d). But if the subject is postverbal, the verb shows an "impoverished agreement" in third person singular masculine (3.b;3.c):

(2) **Spanish**

a. *Juan mira la televisión*
   
   "John watches T.V"

b. *Mira la televisión Juan*
   
   "Watches T.V John"

(3) **Arabic**

a. *al-?awlaad-u jaa?uu*
   
   the-boys-NOM came 3pm
   
   "The boys came"

b. *jaa?a al-?awlaad-u*
   
   came 3sm the-boys-NOM
   
   "The boys came"

c. *jaa?uu al-?awlaad-u*
   
   came3pm the-boys-NOM
   
   "The boys came"

d. *al-?awlaad-u jaa?a*
   
   the-boys-NOM came3sm
   
   "The boys came"
The position of subjects in a sentence has been satisfactorily explained by the Internal Subject Hypothesis, ISH, (Koopman & Sportiche (1991), among others), as a result of parametric variation in the mechanisms of Case assignment. The ISH claims that subjects are generated within the maximal projection of the predicate, preverbal subjects being the result of raising of the subject to [Spec, IP](4):

\[
\begin{array}{c}
\text{IP} \\
\text{NP}^\wedge (=[\text{Spec}, \text{IP}]) \\
\text{I}^' \\
\text{I} \\
\text{NP}^* \\
\text{VP}
\end{array}
\]

Koopman and Sportiche propose that nominative Case may be assigned either under government or by agreement. Under the former mechanism, INFL assigns Case to an NP that is governed by it. Under the latter, Case is assigned by a head to an NP in its specifier position as a reflex of the general process of Spec-Head agreement. According to this hypothesis there exists parametric variation among languages with respect to the obligatoriness versus the optionality of the movement of the internal subject to [Spec,IP], due to a distinction in the mechanism of structural Case assignment: in languages like English, where INFL assigns Case by agreement, the VP-internal subject must raise to [Spec, IP] to satisfy the Case Filter, as in (5).

\[
\begin{array}{c}
[\text{IP John [t Pres. 3 sgl] [VP [NP t][VP watches T.V.]]}]
\end{array}
\]

In languages like Spanish or Arabic, INFL is rich enough to be considered lexical, VP is L-marked and the subject NP* in (4) is governed by INFL. The postverbal subject can then be directly assigned nominative Case under canonical (left to right) government by INFL.
Movement of the subject to the preverbal ([Spec, IP]) position is then optional, VOS and SVO orders being both possible in declarative sentences ((6),(7))\(^3\)

\begin{align*}
(6) & \quad \text{a. } [\text{IP } [\text{I Pres}, 3 \text{ psg}] [\text{VP } [\text{VP mira la televisión}]] [\text{NP Juan}]] \\
& \quad \text{b. } [\text{IP } \text{Juan } [\text{I Pres}, 3 \text{ psg}] [\text{VP } [\text{VP mira la televisión}]] [\text{NP t}]]
\end{align*}

\begin{align*}
(7) & \quad \text{a. } [\text{IP } [\text{I Past}, 3 \text{ psg}] [\text{VP } [\text{VP jaa?a}]] [\text{NP al-a?awlaad-u}]] \\
& \quad \text{b. } [\text{IP } [\text{NP al-a?awlaad-u}][\text{I Pres}, 3 \text{ ppi}] [\text{VP } [\text{VP jaa?uu}]] [\text{NP t}]]
\end{align*}

Even though the position of subjects is reasonably explained under Koopman & Sportiche assumptions, the proposal has very little to say about agreement systems, particularly about the "impoverished agreement" in Arabic. In this framework, the Arabic examples can be held as supporting evidence to the claim that assignment of (governed) nominative case does not correlate with agreement, so the two phenomena cannot be reduced to different manifestations of the Spec-Head relation (Koopman & Sportiche: 251).

There are two underlying assumptions in the ISH that will be of our concern in this paper: first, that there are parametric variations in the overt syntax (languages differ with respect to the mechanisms of Case assignment by INFL); and second, that there is optionality in the application of movement rules in specific cases (in Spanish or Arabic the VP-internal subject can optionally move to [Spec-IP]). These assumptions, commonly accepted in the recent syntactic theory, are challenged by the program proposed in Chomsky (1992). The minimalist program proposes a system in which parametric variations must be reduced to morphological properties of lexical items and in which movement must be

---

\(^3\) For ease of exposition I have opted to place the subject to the right of the predicate in the examples under consideration. The reason is merely visual: the subject is generated in preverbal position but both Spanish and Arabic present v-to-I movement, the result being the postverbal position of the subject. In this paper I will put aside the question of the subject in Spanish being generated as an adjunct unordered with respect to the predicate, as has been proposed in the literature (Contreras(1991)).
considered legitimate only if necessary for convergence. Since the goal of this paper is to explain the contrasts in (1), (2) and (3) within the minimalist framework, that is to say, to explain the position of the subject in Spanish, English and Arabic as a reflex of different morphological properties of certain lexical items and movement of the internal subject to [Spec-IP] as movement needed for convergence, I am going to describe the relevant assumptions of the program in the next section.


2.1. General considerations and some basic notions

The minimalist program proposes some basic ideas about the form and organization of the grammar, that can be summarized as follows:

i) a language consist of:

   a) a lexicon, that specifies the items that enter in the computational system and their properties, and

   b) a computational system, that uses the lexical elements to generate derivations and structural descriptions (SD). Each derivation constructs two representations: an articulatory-perceptual representation (PF) and a conceptual-intentional representation (LF). The parts of the computational system that are relevant to both representations are the overt syntax.

   ii) There are no parametric variations in overt syntax. Parametric differences must be reduced to morphological properties of lexical items.

   iii) A lexical item has inflectional features in the lexicon as an intrinsic property. All inflectional features must be checked somewhere for convergence.
iv) A step in the derivation is legitimate only if it is necessary for convergence (Last Resort Principle).

Along with these basic ideas about the form and organization of the grammar, Chomsky proposes an inflectional feature absorption system, constructed as follows:

2.2 Inflectional feature absorption system. Checking domains

i) Lexical elements are fully morphologically specified in the lexicon. They are taken to be a sequence:

(8) \[ L = (\alpha, \text{INFL}_1, ..., \text{INFL}_n) \]

where \( \alpha \) is the morphological complex [Lexical Root-INFL\(_1\)-...-INFL\(_2\)]. The PF rules only "see" \( \alpha \).

ii) The functional elements Tense and AGR have L-features (\( F_1, ..., F_n \)). The function of the L-features of an inflexional element is to check the morphological properties of the lexical item selected from the lexicon.

iii) When a lexical element \( L \) is adjoined to a functional category, the feature INFL\(_1\) is removed from \( L \) if it matches \( F_1 \). If any L-feature INFL\(_i\) remains at LF, the derivation crashes at this level of representation. Once all functional features \( F_i \) have been checked, the functional head that carries those features is deleted at LF and receives no interpretation.

iv) Basic grammatical relations involve the head of a chain as one term (chains are the basic elements of a representation) and are local: Head-Compl relations and Spec-Head relations.

For the purposes of this paper the local relation that will be considered is that of Spec-Head, for it is our intention to redefine agreement and structural Case (nominative) as manifestations of this type of relation.
v) Basic grammatical relations are defined in terms of **domains**. The domain typically involved in checking inflectional features is the **checking domain**, and it is defined as follows:

(9) The **domain** of a chain headed by $\alpha$ is the set of nodes contained in the least full-category maximal projection dominating $\alpha$.

(10) The **minimal domain** of a chain headed by $\alpha$ is the smallest subset $\psi$ of the domain of $\alpha$ such as for any element $\Delta$ of the domain, some element of $\psi$ dominates $\Delta$.

(11) The **minimal complement domain** of a chain headed by $\alpha$ is subset of the minimal domain reflexively dominated by the complement of the construction. The remainder of the minimal domain with respect to the complement domain is the **minimal residue** of $\alpha$.

(12) The **checking domain** of $\alpha$ chain headed by $\alpha$ is its minimal residue.

In less formal terms, we can take the checking domain of a chain to be the specifier of its head, any element adjoined to the specifier of its head, and any element adjoined to the least-full maximal projection dominating its head. So, in the configuration (13):

(13)

```
XP
 /    \
UP XP
 /  \
ZP X'
 /  \
WP ZP X YP
 /  \
H X
```
the checking domain of the chain headed by H is the set of nodes \{UP, ZP, WP, H\} and the checking domain of X is \{UP, ZP, WP\}.

If we take the L-related features of functional heads to be those in (14)

(14) \begin{align*}
  \text{AGR} & \quad \text{N-related features: [person/number]} \\
  \text{TENSE} & \quad \text{N-related features: [Case]} \\
  \end{align*}

\begin{align*}
  \text{V-related features: [person/number]} \\
  \text{V-related features: [Tense]} \\
\end{align*}

the basic structure of a matrix sentence, once all the L-features have been checked at the appropriate level of representation, is shown in (15)\textsuperscript{4}:

\textsuperscript{4} The structure in (15) follows basically Pollock (1989). There are two differences: in (15) AGR dominates T, instead of the other way around. This is motivated by lineal order considerations: tense morphemes usually precede agreement morphemes. The second difference is that in (15), Tense projects a Specifier position (highlighted). In the course of the argumentation will be shown the relevance of such claim, allowed in any case by X-bar considerations. For the purposes of this paper I take the subject to be generated in [Spec, VP], maintaining Chomsky's position, since our goal is to show that agreement and subject position can be satisfactorily explained keeping to minimal assumptions within his framework. Other possibilities will be discussed later.
In (15), SU ([Spec, AGRs]) is in the checking domain of AGRs and in the checking domain of the chain headed by T. As a consequence it will have agreement features and case features. V in (15) has no checking domain, but the chain CH_v that is headed by V does. V has raised to AGRo to form the chain CH_v = (V, t_v). The complex [V AGRo] raises to T to check its V-related features and raises to adjoin AGRo for the same reason. Neither V nor CH_v has a new checking domain in this adjoined position, but V, as part of the complex [T [V AGRo]T], is now in the checking domain of AGRs and shares features with it. The subject SU is also in the checking domain of AGRs, as seen before, and agrees directly with V in this position. Subject-verb agreement is therefore formally explained.

Once the mechanism of subject-verb agreement has been specified under these minimalist assumptions, I will propose a system that accounts for the position of the subject in the examples in (1), (2) and (3) and the default agreement in (3.a).
3. Proposal

Following a suggestion in Chomsky (1992), I propose that all L-related features, that is to say, all inflectional features in AGR and T, can have two different values: [+strong] or [-strong]. If we assume that [+strong] features are visible at PF while [-strong] are invisible at that level of representation, the data analyzed in section 1 can be explained in a simple way, as will be shown below. The interaction of these two assumptions and two of the economy principles, SPELL-OUT and Procrastinate, creates the necessary typology of NP-movement and agreement systems:

i) The computational system tries to reach the PF component "as fast as possible" (SPELL-OUT). If the features that remain at this level of representation are only [-strong] features, the derivation will converge at PF since these features are not visible at this level. If any [+strong] feature remains, the derivation will crash at PF. As a result, movement in the overt syntax will be only necessary when there are [+strong] features to be checked.

ii) On the other hand, the computational system "procrastinates": if an operation can take place at LF, it will take place at this level rather than in the overt syntax. Those features that are [-strong] will be then checked at LF, and movement in order to match these features will be covert rather than overt.

The combination of [+strong] L-related inflectional features and the economy principles SPELL-OUT and Procrastinate creates a lexically parametrized system, in which overt movement is forced by convergence considerations, that shows the same results with respect to the analysis of the position of subjects than a system in which the parametric
variation occurs in the overt syntax and in which movement can be optional in certain syntactic configurations.

Languages will differ, then, with respect to their choice of values for the feature [±
strong] in their inflectional system. I propose that the inflectional feature systems of English, Spanish and Arabic can be described as follows:

(16)

<table>
<thead>
<tr>
<th></th>
<th>AG</th>
<th>RE</th>
<th>EM</th>
<th>ENT</th>
<th>TEN</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N-features</td>
<td>+</td>
<td>[-st]</td>
<td>[+st]</td>
<td>[-st]</td>
<td>[+st]</td>
<td>[-st]</td>
</tr>
<tr>
<td>V-features</td>
<td>[-st]</td>
<td>+</td>
<td>[-st]</td>
<td>+</td>
<td>[-st]</td>
<td>+</td>
</tr>
<tr>
<td>Engl.</td>
<td>--</td>
<td>+</td>
<td>--</td>
<td>+</td>
<td>--</td>
<td>+</td>
</tr>
<tr>
<td>Span</td>
<td>--</td>
<td>+</td>
<td>--</td>
<td>+</td>
<td>+</td>
<td>--</td>
</tr>
<tr>
<td>Arab.</td>
<td>+</td>
<td>--</td>
<td>+</td>
<td>--</td>
<td>+</td>
<td>--</td>
</tr>
</tbody>
</table>

4. Analysis

4.1 English inflectional features

(17)

- AGR
  - N-feature [-st]
  - V-feature [-st]

- TENSE
  - N-feature [+st]
  - V-feature [-st]

In English, a language with [-strong] V-related features, V-to-I. movement takes place at LF. As a consequence, the position of the subject in the overt syntax will always be preverbal. The N-related feature of Tense (Case), with the value [+strong], forces the subject
NP_{su} to raise overtly to [Spec, T] for convergence. Even though this does not bear on the
surface position of the subject, it is relevant in order to explain the existence of NP-
movement in English forced by Case considerations (Raising and Passive constructions;
(cf.sec.6)). The structure of (1) is then shown in (18), where the notation [+ ] shows the
element that forces raising for convergence:

(18) [[TP John [T]][VP t watches T.V.]]

[+]  

At LF, V will raise to AGRs and the NP subject to [Spec, AGRs], in the way
previously analyzed in (15). If the [-strong] features of T and AGRs do not match the INFL
features of the N-head of the NP subject and the V-head of the predicate, that is to say, if the
subject and the verb do not agree, the derivation will crash at LF and will receive no
interpretation.

It is appropriate to notice that the system can also account for the overt V-to-I raising
in English of the verbs *be* and *have*: since "be" and "have" lack semantically-relevant
features (Pollock(1989)), we can assume that they are not visible at LF. If they do not raise
overtly, the derivation will crash (Chomsky(1992:44). On the other hand, the system has a
new advantage: the assumption that I lowers to V in English-type languages while V raises
to I in French-type languages is no longer necessary once we assume that what differentiates
these two languages is the fact that French has [+strong] V-related features ("strong
agreement") while English V-related features are [-strong] ("weak agreement"). Overt V-to-I
raising is forced in French, but not in English, for convergence.

A similar argument can be used to explain the English structures such as (19) with an
expletive *there* and agreement with the postverbal element:
(19)  a. There is a man in the mirror.
     b. There are men in the room.

In (19) it can be assumed that the expletive there has inflectional features, since it enters into agreement with the inflected verb. The expletive receives no interpretation at LF, and therefore should be deleted. But since it has inflectional features, the principle of recoverability of deletion would prevent this deletion process. We can contemplate the possibility of the associate postverbal NP (a man, men) being adjoined to the expletive at LF, forming an "amalgamated expletive" [there [a man]] (Chomsky & Lasnik (1991):39) that will match the inflectional features of the verb be. This would explain the fact that is and are cannot be interchanged in (19).

4.2 Spanish inflectional features

Spanish is characterized, on the one hand, by having strong agreement, V-related features with the value [+strong], and, on the other hand, by allowing the N-related feature of T(ense) to have two possible values, [±strong]. The possible combinations are, then, (20) and (21):

(20)

- AGR
  N-feature [-st]
  V-feature [+st]
- TENSE
  N-feature [+st]
  V-feature [+st]

(21)

- AGR
  N-feature [-st]
  V-feature [+st]
- TENSE
  N-feature [-st]
  V-feature [+st]
In both cases, (20) and (21), there is overt V-to-I raising, since the V-related features are [+strong]. In (20), the internal subject NP has to raise to check its case feature, forced by the [+strong] value of the N-related feature of Tense. But crucially, the only position in which this feature can be checked is [Spec, AGRs], since V has adjoined to T and then the complex [t[T[V]T]] has adjoined to AGRs. The system has two advantages: we can maintain the assumption that, to put it in more traditional terms, T(ense) is the nominative case assigner, and we can maintain at the same time that the internal subject has to raise to the specifier of the highest inflectional projection in order to check its case feature. This, always motivated for all the languages that show strong agreement. The result is the SVO order, with full agreement, in (22): \(^5\)

(22) \([\text{AGR}_{\text{Juan}} \text{AGR}_{\text{mira T}} \text{AGR}_{\text{S}}] tT [VP tju t{	ext{v}} la TV]]\)

Contrary to what happens in (20), when the features selected from the lexicon are those of (21) the result is the postverbal order of the subject, with full subject-verb agreement checked at LF. In this case V raises overtly to AGRs but the subject remains in its base-generated position in the overt syntax and will not raise to [Spec, AGRs] until LF, as shown in (23):

(23) \([\text{AGR}_{\text{mira la televisi{on}}} T] \text{AGR}_{\text{S}}] tT [VP Juan t{	ext{v}} t{ob}]]\)

\(^5\) Even though this paper does not deal with the object position, and therefor with AGRo, it is possible to speculate that the N-related features of both AGRs and AGRo should have the same values for the feature [+strong], and assume the working hypothesis that there is a parallelism between subject and object shift.
4.3 Arabic inflectional system

(24) 
- AGR  N-feature [+st]  
        V-feature [+st]  
- TENSE N-feature [-st]  
        V-feature [+st]  

In the Arabic case, a pro-drop language with strong agreement, like Spanish, V will raise overtly to AGRs and the subject NP will move to [Spec, AGRs] to check the [+-strong] N-related feature of AGR, the result being the SVO order with full agreement (25):

(25)  
[[AGR_{al-}\text{awlaad-u} [AGR_{a?u T}][AGR_{s}] \, \text{tt} [VP \, \text{tsu t}_v]]]  
\text{the-boys-NOM} \quad \text{came3pm}  
\begin{bmatrix} \text{[+] [+]} \\
\text{[+] [+] } 
\end{bmatrix}

"The boys came"

But now we must face the problem of "impoverished agreement" in Arabic when the subject is postverbal. I would like to claim here that the VSO in Arabic results from the presence of an empty expletive pronoun, base-generated in [Spec, AGRs], whose inflectional features are 3rd person singular masculine. This empty expletive can check the [+-strong] N-related feature of AGRs: the VP-internal subject will not raise overtly, but will raise to [Spec, T] at LF, and the subject-verb agreement will be in 3rd person singular, i.e., the verb will agree with the empty expletive, as in (26):

(26)  
[[AGR_{expl} [AGR_{a?u T}][AGR_{s}] \, \text{tt} [VP \, \text{al-}\text{awlaad-u t}_v]]]  
\text{came3sm} \quad \text{the-boys-NOM}  
\begin{bmatrix} \text{[+] [-]} \\
\text{[+] [+] } 
\end{bmatrix}

"The boys came"
In the next section I will discuss supporting evidence to the claims that such an empty expletive pronoun exists in Arabic and that it is base-generated in the specifier position of the highest inflectional projection.

4.4 The empty expletive in Arabic

In Arabic, the matrix verb selects the complementizer of the embedded clause and the complementizer assigns case to the adjacent element (Mohammad 1990: 125). The complementizer ?anna (‘that’) assigns accusative case to the element that follows it, but can never be followed by an empty category, as shown in (27) and (28)\(^6\):

(27)
\[\begin{align*}
a. & \quad \textit{al-?awlaad-u} & \textit{qqaaluu} & \textit{?anna-hum} & \textit{saafaruu} \\
& \text{the-boys-NOM} & \text{said3pm} & \text{that-they-AC} & \text{left3pm} \\
& \text{"The boys said that they left"}
\end{align*}\]

\[\begin{align*}
b. & \quad *\textit{al-?awlaad-u} & \textit{qqaaluu} & \textit{?anna-pro} & \textit{saafaruu} \\
& \text{the-boys-NOM} & \text{said3pm} & \text{that-pro} & \text{left3pm} \\
& *\text{"The boys said that pro left"}
\end{align*}\]

The examples in (27) show that the complementizer ?anna cannot be followed by pro. (28) shows that it cannot license a subject trace, sort of a "?anna-trace" effect in Arabic:

(28) *[[?ayyu \quad \textit{al-?awlaa-i}] \quad ?idda?aa \quad ?ahmad-u ] \quad \textit{ei ?anna} \\
\quad \text{which-NOM} \quad \text{the-boys-GEN claimed3sm} \quad \text{Ahmed-NOM} \quad \text{that} \\
\quad [\text{ei jaa?uu}]]]) \\
\quad \text{came 3pm} \\
\quad *\text{"Which boys did Ahmed claimed that came?"} \]

---

\(^6\) The other Arabic complementizer ?an ("that") is also selected by the matrix verb, but has to be followed by the subordinate predicate to whom it "mood-marks" in subjunctive. It can never be followed by the subordinate subject.
Crucially, an 3psm expletive "appears" when a sentence with a postverbal subject is embedded, as shown in (29):

(29)
a. jaaʔa ar-rikaal-u
   came 3sm the-men-NOM
   "The men came"

b. iddaʔa ?aHmad-u ?anna-hu jaaʔa arrijaalu
   claimed 3sm Ahmed-NOM that-it came 3sm the-men-NOM
   "Ahmed claimed that the men came"

The examples above show that there is an expletive pronoun in Arabic that appears in the specifier position of the highest inflectional projection when the subject is postverbal.7 This expletive pronoun is empty in matrix sentences, but surfaces in embedded clauses when it is assigned accusative case by the complementizer. This pronoun is distinct from pro and is always 3psm, as can be seen by the contrast between (29) and (30):

(30)
a. pro jaaʔu
   pro came 3pm
   "They came"

b. *iddaʔa ?aHmad-u ?anna jaaʔu
   claimed 3sm Ahmed-NOM that-pro came 3pm
   "Ahmed claimed that they came"

---

7 In our system the existence of this expletive causes no problems: even though an Arabic sentence can have two subjects, only one of them receives nominative case (the subject that is generated VP-internally, which receives its case at LF, after covert raising to [Spec, T]).
Similar claims for the existence of an empty expletive in Arabic modal verbs and subjectless passives have been made in the literature (Muhammad (1990)).

In this section I have claimed that the correct distribution of inflectional features (cf.(16)) can account for the different positions of the subject in English, Arabic and Spanish. I have also shown that the existence of an expletive pronoun in Arabic, independently motivated, accounts for the inflection of the verb in third person singular when the subject is postverbal. In the next section I will analyze the predictions that this system creates with respect to NP-raising, a solid testing ground for any theory that deals with subject position and the mechanisms of nominative case assignment.

5. Predictions

The inflectional feature system that has been developed in the previous pages correctly predicts the behavior or raising verbs in English and Spanish, verbs like seem or its Spanish counterpart, parecer 8, as we will see in section 5.1. But since in Arabic the verbs that traditionally have been taken to be of the raising type, yabduu 'seem', ?itaDaHa 'become clear' and yaDharu 'appear', do not take infinitival complements, our system predicts that they should not be considered true raising verbs. Furthermore, the necessity of having an element in [Spec, AGRs] in Arabic in the overt syntax in order to check the {+strong} N-related feature of AGR, an element that can be either an empty expletive pronoun or an NP-subject base-generated VP-internally, predicts that there will not be subject-to-subject raising in Arabic. This prediction is borne out by the data.

8 As pointed out by Jeeya Lim (personal communication), the system also predicts that there are languages in which the N-related features of AGR and T have the value [-st]. In these languages, which present "default case", there should not be true raising verbs. This seems to be the case of Korean and Japanese
5.1 NP-raising in English and Spanish

The verbs seem and parecer do not assign an external Ø-role. In English the presence of an overt grammatical subject is needed, and the subject position is occupied by an overt expletive (31). Spanish, a null-subject language, allows the presence of an empty pronominal in the subject position (32)

(31) It seems [CP that John is singing]
(32) pro parece [que Juan está cantando]

When seem or parecer take a non-finite clause as their complement, the subject of the embedded IP has to raise to the subject position of the matrix clause: the non-finite form of the verb does not project AGR or T nodes; its subject has N-related features that have to be checked in the overt syntax, in particular the [+st] feature of T (Case), the only position in which they can be checked being the [Spec, T] of the main clause. In the Spanish case, as we have seen before, this means raising to [Spec, AGR] because V-to-AGR also takes place (cf. 4.2). The movement of the subject is thus forced by convergence considerations: had the NP-subject not raised, there would be a non-matched [+st] feature in T and the derivation would have crashed at PF. The preverbal subject agrees with the verb, as shown in (33):

(33) a. Johni seems [ ti to be singing]
     b. [Los niños de Viena]i parecen [ti cantar bien]

5.2 NP-raising in Arabic

The Arabic verb yabduu, on the other hand, does not allow infinitival complements, and, similarly to seem and parecer, does not assign an external Ø-role. It allows an expletive
subject, either empty or overt (34). As a consequence, the subject of the embedded clause will be able to check all its inflectional features in the [Spec, AGR] position of its non-infinitival clause, and will show full agreement with the verb (34)\textsuperscript{9}:

(34)

a. *pro yabduu ?anna al-?awlaad-a saafaruu
   pro seem3sm that the-boys-ACC departed 3pm
   "It seems that the boys departed"

b. *pro yabduu ?anna al-banaat-i s aafarna
   pro seem3sm that the-girls-ACC departed 3pf
   "It seems that the boys departed"

The subject of the embedded clause will not be able to check the[+st] Case feature of the verb yabduu:

(34)

c.* al-?awlaad-u yabduuna ?anna saafaruu
   the-boys-NOM seem3pm that departed 3pm

d.* al-banaat-u yabduuna ?anna saafarna
   the-girls-NOM seem3pf that departed 3pf

6. Further developments

The feature absorption system developed in this paper is still too powerful. I would like to offer some suggestions as to how to constrain its power; I would also like to show

\textsuperscript{9} Notice that the postverbal position of the subject in the embedded clause is ruled out since the complementizer ?anna cannot be followed by an empty element, as seen previously in section 4.4.
how a very simple and interesting language typology that, if proved correct, would support this system, can be predicted within our framework. Finally I would like to mention some criteria for explanatory adequacy that would be helpful in order to compare this feature absorption system with the ISH traditional framework discussed in section 1.

6.1 Constraining the system. (guidelines)

i) The description of the inflectional feature system of a given language should reduce to the minimum the number of [+strong] features, keeping within the spirit of the economy principles Spell-Out and Procrastinate.

ii) V-related features should always have the same value ([a strong]) for a given language. The possible combinations should be reduced to:

\[
(35) \quad \begin{array}{ccc}
V\text{-features} & AGR & T \\
[-st] & [-st] & 
\end{array}
\]

With this we would predict that there are no languages in which there is overt V-to-T raising, but V covert raising to AGR, a type of language that would correspond to the combination of V-features \([-st \text{ AGR}, [+st T]]\). Notice that the other "unequal combination" of V-features \([+st \text{ AGR}, [-st T]]\) should be barred by the Head Movement Constraint.

iii) If AGR_s and AGR_o are to be considered mnemonic notation for the same set of Ø-features, then the N-related features of AGR_s and AGR_o should have the same [a strong] values. This would predict that languages with overt object shift would have subject raising to [Spec, AGR_s]
6.2 Typology (example)

<table>
<thead>
<tr>
<th>Type</th>
<th>Head</th>
<th>S-raising</th>
<th>V-raising</th>
<th>O-raising</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSO</td>
<td>Left</td>
<td>covert</td>
<td>overt</td>
<td>covert</td>
</tr>
<tr>
<td>SVO</td>
<td>Left</td>
<td>overt</td>
<td>covert/overt</td>
<td>covert</td>
</tr>
<tr>
<td>OSV</td>
<td>Right</td>
<td>covert</td>
<td>covert/overt</td>
<td>overt</td>
</tr>
<tr>
<td>SOV</td>
<td>Right</td>
<td>overt</td>
<td>covert/overt</td>
<td>overt</td>
</tr>
</tbody>
</table>

7. Conclusions

I have shown that a system that differentiates among [+strong] and [-strong] L-related features can account for the differences with respect to the subject position and the agreement systems of English, Spanish and Arabic, provided that we accept the assumption that only [+st] features are visible at LF. The optional appearance of subjects in pre or postverbal position has been explained under assumptions that fall under those sketched in the Minimalist Program: parametric variation should be reduced to morphological properties of lexical items and movement should be legitimate only if necessary for convergence. The need to postulate the existence of an empty expletive pronoun, base-generated in [Spec,IP] and marked 3rd person singular, that explains the problematic "impoverished agreement" of postverbal subjects in Arabic has been independently motivated. I have also shown that the resultant feature absorption system correctly predicts the behavior of raising verbs in the languages under consideration, and explains the lack of subject-to-subject movement in Arabic.

Some guidelines have been proposed to constrain the excessive power of the feature system, as well as predictions with respect to a possible typology of languages. The
problematic status of optional movement (Scrambling, Topicalization) under minimalist assumptions has not been addressed.

8. References


Reflexive Auxiliary Suffix and Principle-A of Binding Theory
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1 Introduction

Tamil Anaphor taan is bound in its clause only when the main verb is marked with the reflexive auxiliary suffix kol (Sent. 1), otherwise it is bound by subjects from distant domains (Sent. 1.b). Also, the verb phrase with this suffix is always complex in nature with both main verb and the auxiliary suffix are marked for tense. Structure of Tamil sentences with anaphor binding in local domains may be shown as follows.  

[Subject: Anaphor: Verb+ past + conj. + kol + tense+ PNG].

1.[jaan: tann: -ai ați- -tt- -u- -kkol- -v- -aan]
   John  self - acc beat past conj refl fut 3sgmas
   John will beat(+refl) himself

1.a.*[jaan: tann: -ai ați- -pp- -aan]
   John  self - acc beat fut 3sgmas
   John will beat(-refl) himself

1.b.[IP jaan; tann: -ai ați- -cc- -aan] -nουCp 
   John  self - acc beat past 3sgmas that
   Susan say past 3sgfem
   Susan said that John beat(-refl) self(her)

---

1I would like to acknowledge Prof. Heles Contreras, Erin Collopy and Margaret Salome for their valuable comments, suggestions, and criticisms.

2Zubizarreta(1987) reports that in Romance languages the suffix se is used in a similar manner, except for some differences from Tamil. The suffix kol, like all the other aspectuals, is derived from a lexical verb meaning 'to possess' or 'to have'.

3The suffix kol becomes kki, kku etc., depending on different phonological environments. Although much emphasis is given in this paper for spoken Tamil, occasionally literary variety (as in 1 and 1.a) is provided for the sake of clarity.
This property of Tamil anaphor raises the following two questions. a) what is the role of the suffix kol with respect to principle-A and b) what is the structure of such sentences where both main verb and auxiliary suffix are marked for tense.

Based on the above observations on Tamil anaphor binding, this paper attempts to highlight the following points.

- 1. It is described how principle-A in Tamil needs to be viewed as a principle that defines the process of reflexivization rather than the distributional property of anaphors. Process of reflexivization involves the roles of anaphor, subject, reflexive auxiliary (kol) and the nature of verb.

- 2. The role of the auxiliary suffix in the process of anaphor binding is explained by positing an obligatory node of ASPP (aspectual phrase) dominating VP. The process of incorporation and Government Transparency Corollary (GTC) principle, as proposed in Baker(1988), are used to explain the operator function of the head of ASPP kol.

- 3. Long-distance property of Tamil anaphor is characterized here using the concept of logophoricity as introduced in Clements(1975), with evidence from African languages; and extended to English, Japanese, Chinese and other languages by Sells(1987), Reinhart and Reuland(1991) etc.

- 4. Based on the claims made by Everaert(1986), Reinhart and Reuland(1991) about intrinsically and extrinsically marked reflexive predicates, three types of verbs are distinguished in this paper according to their capacity to subcategorize anaphors. They are a) those verbs which subcategorize only anaphors in their object position, b) those verbs which never subcategorize anaphors and c) those which subcategorize both anaphors and other nouns.

This paper is organized in the following manner. Section 2 of this paper provides the basic properties of Tamil anaphor and pronouns along with a description of logophoricity with respect to Tamil anaphor. Section 3 describes the process of reflexivization involving three items viz., subject, anaphor and the reflexive auxiliary suffix. Section 4 establishes a structure for reflexive marked sentences and discusses the processes such as incorporation, and licensing of the co-indexation between an anaphor and subject.
2 Basic Properties of Anaphoric sentences in Tamil

Tamil has the following three properties that need special mention with respect to principle-A of binding theory. First, it has only lexical anaphor (taan) and there are no phrasal anaphors. Unlike Chinese, Japanese etc., phrasal anaphors cannot be made in Tamil by conjoining pronouns and a lexical anaphor together. For instance, the lexical anaphor zibun in Japanese has its counterparts kare-zisin ‘he-self’, watasi-zisin ‘I-self’ etc. Similarly zij in Chinese has ta-ziji ‘himself’, niziji ‘yourself’ etc., as phrasal anaphors. But in Tamil such anaphors like *avan-taan ‘himself’, naan-taan ‘myself’ and so on cannot be constructed.

Second, the lexical anaphor taan is marked only for third person. This leads to a situation in which the first and second person pronouns also undergo reflexivization like anaphors. In other words, since there are no first and second person anaphors in Tamil, reflexivization in such sentences like ‘I beat myself’, ‘you beat yourself’ etc., is carried out using the first and second person pronouns naan ‘I’ and nii ‘you’ themselves, violating principle-A.

\[2a. [\text{naan}_i; \text{enn}_i; -e-yee \ a\text{-}t\text{-}i-c\text{-}c\text{-}i-k\text{-k}i-t\text{-}t\text{-}e\text{en}_i] \]
\[I \ me - acc - emp \ beat \ conj - refl - past \ 1\text{st}. sg. \]

I beat myself

\[2b. [\text{nii}_i; \text{unn}_i; -e-yee \ a\text{-}t\text{-}i -c\text{-}c\text{-}i-k\text{-k}i-t\text{-}t\text{-}a\text{ay}_i] \]
\[you \ you - acc - emp \ beat \ conj. \ refl. \ past \ 2\text{nd}. sg. \]

You beat yourself

Similar case is attested by Hellan (1988) in Norwegian also.

2c. Jon skammer ham*/seg ‘Jon shames him*/himself’
2d. Jeg skammer meg ‘I shame me’ (I am ashamed)
2e. Du skammer deg ‘You shame you’ (You are ashamed)

In 2a and 2b the pronouns enn (oblique form of naan ‘I’) and unn ‘you’ respectively are bound by their c-commanding antecedents in the same clause like anaphors.\(^4\)

The third property of Tamil that needs special mention is the use of reflexive auxiliary suffix kol as a verbal operator. This suffix occurs with main verb in all the cases of reflexivization. Presence of this suffix supports the claim

\(^4\)Also, as we will see in section 2.1. below that all the third person anaphors that undergo reflexivization can also be substituted by the respective pronouns without affecting the meaning of the source sentence (See sentences 3 and 3b below).
made by Reinhart and Reuland (1991:4) that universally reflexivity must be licensed either extrinsically or intrinsically. Tamil kol and se in Romance languages are the instances of extrinsic markers.

2.1 Local and long-distance binding

In this section we will see how anaphor binding in Tamil illustrates the phenomenon of logophoricity and how the presence of reflexive auxiliary suffix kol with main verb is important with respect to anaphor binding in local domains.

As already noted, Tamil anaphor taan is bound by its c-commanding antecedent in the same clause only when the verb is marked with the auxiliary suffix kol (S. 3), otherwise it is bound by subjects in long-distance domains (S.4).

\[
3.\text{[jaan}_\text{i} \text{ tann}_\text{i} -e \text{ kaṇṇaaṭi} - le} \\
\text{John self - acc mirror - loc}
\]

\[
\text{paar} - -tt - -u - -kki - -\text{ṭ} - -aan}\]

\[
\text{see past conj refl past 3sgmas}
\]

John saw(-refl) himself in a mirror

\[
3.a. *\text{[jaan}_\text{i} \text{ tann}_\text{i} -e \text{ kaṇṇaaṭi} - le} \text{ paar} - -tt - -aan}\]

\[
\text{John self - acc mirror - loc see past 3sgmas}
\]

John saw(-refl) himself in a mirror

3.a. is ungrammatical because the main verb is not reflexive marked by the suffix kol. Suppose that this anaphor occurs in a subordinate clause and the verb is not reflexive marked like 4. The anaphor will be free to be bound by subjects from other domains.

\[
4.\text{[[jaan tann}_i/j -e virumpu - r - aan}_1P]\text{ -ṇṇu}_1CP\text{ ]}
\]

\[
\text{John self}_i/j -acc like - pr - 3sg.mas that}
\]

\[
\text{meeri}_i \text{ nene - kki}_{\text{ṭ} - aal}_1P]\text{ -ṇṇu}_1CP\text{ ]}
\]

\[
\text{Mary}_i \text{ think - pr - 3rd.sg.fem. that}
\]

\[
\text{cuucan}_j \text{ co - nn - aal}_1P\text{ ]}
\]

\[
\text{Susan}_j \text{ say - past3rd.sg.fem.}
\]

Susan said that Mary thinks that John likes self$_{i/j}$

As already noted, replacing anaphors by their equivalent pronouns (3b below) or removing it completely in the S-structure (3c) will not affect the
meaning of the source sentence(3), as long as the main verb is marked with 
the suffix koI.

3b.[jaan;  avan; -e-yee    kaññaaṭi – le
   John    he – acc – emp. mirror – loc
   paar– –tt– –u– –kki– –t̪t– –aan] 
   see past conj refl past 3sgmas
John saw(+refl) he-emphatic (himself) in a mirror

3.c.[jaan;  pro kaññaaṭi – le paar– –tt– –u– –kki– –t̪t– –aan]
   John  pro mirror – loc see past conj refl past 3sgmas
John saw(+refl) (himself) in a mirror

Given the basic condition for Tamil that in the Complete Functional Com-
plex (CFC), as described by Chomsky(1986), the main verb has to be marked 
with reflexive suffix, movement of the long distance anaphor taan to local 
domains at LF to satisfy principle-A is prevented. The reason is that in 
every landing site of the anaphor the co-indexation between subject and 
anaphor has to be licensed by the reflexive suffix, as required by Tamil 
anaphors. Note, none of the long-distance domains in sentence 4 have their 
verbs marked with reflexive suffix, so this anaphor can not be bound lo-
cally at LF. (See Huang and Tang(1991) in favor of the argument that 
long-distance anaphors are local in nature by movement at LF).
One of the solutions to solve the problem of long-distance binding is to 
treat such anaphors as an instance of logophoric pronouns, a concept that 
is introduced in Clements(1975) and explained in detail in Reuland(1986) 

2.2 Logophoric pronouns

Reinhart and Reuland(1991: 316) assume that logophoricity is a concept 
that is related to center orientation, which according to them is a triple 
consisting of a) speaker, b) addressee, and c) the time and place of utterance.
By this, an anaphor need not have its antecedent in the same clause as long 
as it refers to the speaker deictically. Consider the following sentences where 
the anaphors are bound deictically.

5. Physicists like yourself are a godsend
6. She gave both Brenda and myself a dirty look
7. The Chairman invited my wife and myself for a drink
8. Max and myself are having a great time in Lima


8a. John is furious. The picture of himself in the museum had
mutilated. (Pollard and Sag (1992: 268)).

In 5 to 8 and 8a, the anaphors have no c-commanding antecedents in the local
domain and they are referentially indexed to the speaker of the utterance.
In the corresponding indirect quotes, however, the antecedent will be in the
matrix clause as in 5a. and 6a.

5a. I say (to you;) that physicists like yourself; are a godsend.
6a. I; said that she gave both Brenda and myself; a dirty look.

Similar constructions are also cited in Pollard and Sag (1992). A com-
parison of the Tamil sentence 4 with the English sentences 5 to 8 may
reveal that in Tamil, the binder has to be present within the sentence in
one of the domains like 5a and 6a can not be deictically referred. Still, the
long-distance binding in Tamil is an instance of logophoricity because the
selection of the binder by taan from one of the subjects in distant domains is
determined only deictically and there are no syntactic constraints to choose
the respective binder.

2.3 Concept of Co-argument and logophoricity

A careful analysis of sentences with taan in Tamil will show that long-
distance binding is not only determined by the absence of kol with the main
verb, but also determined by the occurrence of taan inside a) genitive NPs,
b) co-ordinate NPs and, c) in adjuncts. This has been already noticed in sev-
eral other studies like Reinhart and Reuland (1991), Katada (1991), Huang
and Tang (1991), Annamalai (1992) etc., that anaphors in these three types
of NPs are always bound in long-distance domains. This is because, the do-
main of the anaphor is NP or PP but not the sentence consisting of subject;
and the heads of genitive NP and adjuncts are not proper head governed.
Obviously these NPs do not have the auxiliary kol, so the only option for
taan inside them is long-distance binding, which can be seen from 9 to 12
below.
taan inside co-ordinate constructions:

9. [umaː; {avaː; -ukku oru pustagam - um tanaː*i/j - kku oru}
   Uma her - dat one book - and self - dat one
   eenaa - vum} vaangun - aaiP] ηνυCP
   pen - and bought - 3sg.fem that
   Kumaar sonn - aaiP] Kumaar said - 3sg.mas.

Kumar said that Uma bought a book for self(Kumar) and a pen for her
Example from Annamalai(1992)

taan inside genitive constructions:

10. [jaːn; {tann; -uṭaiya appaav - e} kwuppi - tː - aaiP]
    John self - gen father - acc called - 3sg.mas.

    John called his (self's) father

taan inside adjuncts:

11. [jaːn; {tann; -e paːtːi} peecin - aaiP]
    John self - acc about spoke - 3sg.mas.

    John spoke about himself/him

12. [jaːn; {tann; -akku arukil} oru paamp - e paarrisaiP]
    John self - dat near one snake - acc saw - 3sg.mas.

    John saw a snake near himself/him

Obligatory nature of long-distance binding in these NPs may also be explained using the concept of co-argument structure. An anaphor has to be a co-argument of its binder in order to undergo reflexivization. In 9,10, 11 and 12, only the complex NPs as a whole, but not the taan inside them, are the co-arguments of the respective subjects. Further discussion about how these complex NPs and adjuncts create their own governing category is not made here, since it is not considered as a major concern to the objectives of this paper.
3 Process of Reflexivization

Having stated the long-distance property of anaphor in the absence of the verbal operator ko with main verb, let us now see how the four elements viz., subject, anaphor, reflexive auxiliary suffix, and type of verb are closely related to process of reflexivization.

Zubizarreta(1987), who emphasizes the relationship between Romance se and the process of reflexivation, quotes her personal communication with N. Hornstein as follows.

"Hornstein gives a very convincing argument in favor of the hypothesis that the clitic se in the reflexive construction (13) has the status of a verbal operator which relates the object and subject positions via predication. He notes that the Romance reflexive constructions formed with the clitic se are always subject oriented."

_Zubizarreta(1987: 161)_

Consider, for example, 13 in French and 14 in Tamil are identical with respect to the use of reflexive operator in the verb.

13. Les hommes se rasent tous les matins
   The men se+ shave every morning
   'Men shave themselves every morning'

14. [ella aamblenga] – um tenamum kaole – yile
   Every men – conj. dely morning – loc.
   taangle – aav cavaramseñji –kku – r – aanga]
   themselves – adv shave refl – pr. – 3pl.hum.

Every men shave(+refl) themselves in the morning

_Zubizarreta(1987)_ describes this phenomenon as an instance of externalizing an arg-variable. ".. the operator se, when it is adjoined to V at S-structure, as well as when it is adjoined to V at L-R (Lexico-Syntactic level), accomplishes the function of syntactically externalizing an arg-variable which is within the scope of V." (p.163). Further, the concept of "scope domain" which she explains to account for this phenomenon reads as follows. "If argument x and argument y are selected by predicate P, y is within the scope of (or governed by) P, and x is outside the scope of P, then the scope of y is contained within the scope of x. (ibid: p.133). She gives the
following VP structure with an operator node inside VP. Scope domain of this operator includes the argument that it binds (p.165).

**Figure-1**

```
se\textsuperscript{y} + V \quad \text{NP}\textsuperscript{y}
```

A closer look at the structure of *se* construction in French and *koṭ* construction in Tamil would reveal that in French *se* does not take either tense marker or person, number and gender marker, where as *koṭ* construction in Tamil does.

<table>
<thead>
<tr>
<th>French</th>
<th>Tamil</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>se</em> presenteront vs aẓimuhōce</td>
<td>-nji- –kku– –v– –aanga</td>
</tr>
<tr>
<td>refl. willintroduce</td>
<td>conjp. refl. fut. 3plmas.</td>
</tr>
<tr>
<td><em>se</em> rasent vs savarāce</td>
<td>-nji- –kki– –r– –aanga</td>
</tr>
<tr>
<td>refl. shave – pr.</td>
<td>conjugate. refl. pr. 3plhum.</td>
</tr>
</tbody>
</table>

Thus, *se* in French is a bare suffix and only the main verb takes tense and other morphems. But, in Tamil the picture seems completely different. Both *koṭ* and main verb take tense suffix, besides the other suffixes viz., conjunctive participle and person, number and gender marker. Conjunctive participle is a composite of past tense marker and a conjunctive morpheme, either *i*, *or y* or *u*, which is selected depending on the class of the verb. This implies that the structure shown by Zubizarreta will not represent all the facts in Tamil, even though it is still identical to Tamil with respect to the reflexive suffix, which functions as a verbal operator in the process of reflexivization. Before we provide the suitable structure for Tamil in the next section, let us now see how the nature of verbs is related to the process of reflexivization.

### 3.1 Reflexivization and reflexive predicates

It has been pointed out in a number of studies like Everaert(1991), Zubizarreta(1987) etc., that verbs like *behave* in English are inherently reflexive marked and subcategorize only anaphors in their object position.

15. John; behaves himself; but not *John behaves Bill*

This specific property of verbs compels us to categorize other verbs also from the point of view of the process of reflexivization. For instance, verbs like *kalyaṇaṁceyy* 'mary', *tattuṭu* 'adopt', *añai* 'embrace' etc., do not seem to allow a reflexive anaphor in their object position. 16 to 18 below are
ungrammatical because the verbs in them can not subcategorize an anaphor in their object position.
16 *John married himself (but) John married Mary
17 *Joe adopted himself (but) Joe adopted a child
18 *I embraced myself (but) I embraced her
Third type of verbs like affi ‘beat’, cavarancey ‘shave’, paar ‘see’ etc., can take both an anaphor and other nouns.
19. We beat ourselves (and) We beat John
20. They shaved themselves (and) they shaved everyone
21. You saw yourself in the mirror (and) You saw me
Thus, we can classify all the verbs into the following three types.

- A. Those verbs which can subcategorize only anaphors in their object position.
- B. Those verbs which can never subcategorize anaphors in their object position.
- C. Those verbs which can subcategorize both an anaphor and other nouns in their object position or in any other argument position.

This classification of verbs based on their property of subcategorizing anaphors reveals that basically verbs are not only selecting their theta grids and case frames, they also seem to select specific types of nouns to which they can assign their theta roles. Assuming Reinhart and Reuland’s proposal that “a predicate is reflexive iff two of its arguments are coindexed”(p.5), we can explain that in the case of reflexive marked languages, the respective reflexive marking suffix licenses the argument NP (or arg-variable as stated by Zubizarreta) by indexation. For verbs like behave, this indexation is obligatory; for verbs like ‘adopt’, this indexation is not permitted because they can not govern an anaporic NP; and for verbs like ‘beat’ the indexation is determined by whether or not the object is an anaphor.

4 Structure of Reflexive sentences and Incorporation

In section 3 we saw how the reflexive predicates in Tamil are different from French with respect to whether or not they have tense and φ features. All the reflexive predicates in Tamil are complex in nature for the reasons of marking
tense with both main verb and auxiliary verb. Consider the following simple sentence,

\[ 22. \text{jaan;} \text{ tann;} -e \text{ ați} - tt -u- kkol - v- aan \]

John self acc. beat past conj refl. fut. 3sg.mas

John will beat himself

Occurrence of tense with both main verb ați 'beat' and reflexive auxiliary kol 'refl' here suggests that they must be treated in their own clausal structures. Note that the conjunctive suffix u being an X' element does not have \( \phi \) features. Also, all the aspectuals including kol in Tamil always govern ConjP in their structures, so any structure that contains aspectuals in Tamil must contain a ConjP phrase as sister to the head of the conjunctive phrase, which seems different from regular structure for conjunctive sentences where the ConjP is assumed to occur in Spec of IP.

Since subjects of both main verb and the reflexive auxiliary are same, the subject NP has to move from Spec. of VP to Spec of AGRP. Also, the lower verb has to move to AGR for the reasons of incorporation (cf. Baker 1988). Accomodating all these facts, structure for sentences with anaphor binding in local domain may be shown as below.
Figure-2:

\[ jaan \text{ tann - ai aṭi - tt - u - } \text{ konl - v - } \text{ aan } \]

John self - acc beat pa conj refl fut 3sgmas

John will beat himself

VP and AGRP are intervened by two nodes viz., ASPP and CONJP. The subject \( jaan \) 'John' is considered here as base generated in the SPEC of
VP. Since ConjP has only tense suffix but not $\phi$ features, the subject in Spec of VP can not get case, so it has to move to SPEC of AGRP to get case. The lower verb (ati) assigns inherent case and theta role to its object and theta role to subject, but it can not license the co-indexation between subject and anaphor, because a bare verb in Tamil is not a proper licenser for the co-indexation of its arguments. So, it has to move to higher V, kof through Conj of ConjP after incorporating the suffixes viz., conjunctive marker and tense suffix. After the main verb is incorporated in kof, it can govern the items it previously governed by Government Transparency Corollary (GTC).

"A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position." Baker(1988: 64).

Neither the movement of subject jaan ‘John’ nor the movement of lower V violates movement conditions in this structure because subject undergoes SPEC to SPEC movement where as the verb undergoes Head to Head movement without violating Head Movement Constraint. ‘An $X^0$ may only move into $Y^0$ which properly governs it.’ (Baker 1988: 53).

4.1 Anaphoric nature of first and second person Pronouns

Proper licensing of the co-indexation between subject and internal argument by the verbal operator kof allows Tamil to substitute anaphors either by pronouns with emphatic marker ee as in 3b or by a small pro as in 3c. The role of the emphatic marker ee is crucial in this context where an anaphor is substituted by pronouns, because the relationship between an anaphor and the emphatic suffix, that converts a pronoun into an anaphor is unknown. In any case, licensing the co-indexation between subject and anaphor by the verbal operator plays an important role in the process of reflexivization, especially in those languages where verbs are marked with reflexive suffixes.

5 Conclusion

Role of the reflexive auxiliary suffix in Tamil with respect to anaphor binding illustrates the fact as shown in Everaert(1986) and Reinhart and Reuland(1991) that all the reflexive predicates must be either intrinsically or extrinsically marked. In the case of extrinsically marked languages like
Tamil and Romance languages, the process of anaphor binding must indicate the proper licensing of co-indexation between subject and anaphor by such markers. Local domain of anaphor in the structure shown here (fig. 2) is the constituent consisting of ASPP, CONJP and VP. The main verb that is incorporated with the reflexive suffix is a proper candidate for licensing the co-indexation between subject and anaphoric object. Further, the long-distance property of anaphors illustrates the phenomenon that principle-A must be viewed as a process of reflexivization rather than a principle that accounts for the distribution of anphors.

References
The Syntactic/Semantic Approach to French causatives
Tomoko Sekiguchi

0. Introduction

The goal of this paper is to propose a novel account of clitic climbing and case alternations in French causatives. Cliticization in French causative has been the focus of linguist attention in recent literature. However, previous works achieved by many authors dealt with most exclusively the data from Standard French. Dorel (1978), Reed (1990) and Auther (1991) took the data from dialects into consideration and attempted to account for anomalous phenomenon in dialects. To illustrate the anamacy in dialects, I will consider a set of examples below, which show the contrast of SF (Standard French) and DF (Dialectal French). The first set of data is cited from Hyman and Zimm (1976).

(1) a. J'ai fait manger des épinards à Maurice.
   "I made Maurice eat spinach".
   b. Je lui ai fait manger des épinards. (SF)
   "I made him (dat) eat spinach."
   c. Je l'ai fait manger des épinards. (DF)
   "I made him (acc) eat spinach."

What strikes us in (1c) is that the clitic corresponding to the embedded subject does not bear the expected dative case feature, generally found with transitive verbs, but rather an accusative case feature.

The second set of examples is from Dorel (1978).

(2) a. J'ai fait envoyer la lettre à Jean.
   "I made Jean send the letter."
   b. Je lui ai fait envoyer.
   "I made him (lui, dat) send it (la, acc)." (SF)
   c. Je l'ai fait l'envoyer. (1st l'=le, 2nd l'=la) 2 (DF)
   "I made him (le, acc) send it (la, acc)."
   d. *Je le l'ai fait envoyer. (1st l'=le, 2nd l'=la)
   "I made him (le, acc) send it (la, acc)."

(2a) shows a well-formed cliticization which is widely accepted by native speakers of French. As we expect, the object of the embedded verb, la lettre, is cliticized by an accusative clitic la, and the embedded subject Jean by a dative

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1In this paper, I will exclusively discuss faire -construction. Faire par -construction, laisser - and other perceptive verb constructions are outside the scope of this paper.

2Milner (1982) notes that, based on Grevisse (1965: 1065), this type of construction is literary, however, rather natural.
clitic lui. However, another variation of cliticization such as (2c) exists in some dialects in French. Each argument is cliticised as accusative up to its corresponding verb respectively, that is, the embedded subject Jean as le to the matrix verb faire, and the object of the embedded verb la lettre as la to the embedded verb envoyer. In contrast to (2c), (2d) is ungrammatical since both arguments (le and la) bear an accusative feature, attaching to the matrix verb. Then, the problem is to explain the contrast between (1b) and (1c), on the one hand, and (2b) and (2c), on the other.

In this paper, I will argue that the differences in cliticization between SF and DF can be accounted for by setting up a dual subcategorization frame for faire. I propose a syntactic analysis based on subcategorization frames, that is, faire in dialects subcategorizes not only for CP complements, but also IP complements. This conclusion challenges previous work by Reed (1991), who maintains that SF faire has a unique CP subcategorization frame, setting aside faire in dialects as semantically different from faire in SF. I argue that a "dual" CP/IP subcategorization frame is "necessary" in order to account for all the data, not restricting within SF but incorporating dialectal variations. My argument will take the following form. In section 1, I will show main arguments for bisentential analysis versus mono-sentential analysis. In section 2, I will briefly present the theoretical framework in the analysis by Reed (1991). Except for her treatment of the dialectal variations, I agree with her on the CP subcategorization frame for faire in SF with respect to word order, case-marking and clitic climbing. In section 3, I will point out some theoretical problems in her analysis. I will also argue the treatment of Reed does not account for the problematic data in dialectal French. In section 4, I will propose and develop my account which accommodates all dialectal variations in French causative. I will attempt to establish a "dual" subcategorization frame of faire, following Dorel (1978), who claims the existence of two kinds of faire: faire 1 and faire 2. I will argue that in SF there exists only faire 1, which subcategorizes for CP, whereas in DF in addition to faire 1, faire 2, which subcategorizes for IP, is still conserved. Thus a dual subcategorization frame is required. As several predecessors (Dorel 1978, Zubizarreta 1985, Reed 1990 and Martineau 1990) have pointed out, this may reflect an "on-going" histirical linguistic change in French causative construction.

1. Mono-sentential versus Bi-sentential analysis

Since Kayne (1975), much literature has been developed concerning the categorial status of the embedded infinitival complement of French causatives. It has been pointed out that French causatives show properties of both mono- and bi-sentential structures in one sentential construction. On one hand, mono-sentential VP analysis has been developed by J.-Y. Morin (1978) among others, and recently by Pijnenberg & Hulk (1989). On the other hand, bi-sentential analysis has been argued for by a number of linguists such as Ruwet (1972), Kayne (1975), Rouveret & Vergnaud (1980), Milner (1982), Baker (1988), and the
most recently Reed(1991). In addition, Zubizarreta (1985) combined the mono-
and bi-sentential structures and uniquely proposed a dual analysis. Although
the debate concerning this issue has drawn a great deal of attention in the
literature, it seems that any unitary consensus has not been reached yet. In this
section, I will show the main arguments in favor of bi-sentential analysis over
mono-sentential analysis based on the previous works. In particular I contrast the
most recent arguments for each analysis, mainly citing Reed (1991) for bi-

1.1. Arguments for mono-sentential analysis
P & H argue for VP mono-sentential analysis based on the following arguments.

1.1.1. The impossibility of embedded questions
They point out that in the faire construction, embedded questions are
impossible. It contrasts to infinitival clausal constructions with such verbs as
demander and dire, in which wh-movement is normally possible.

(3) a. Je me demande à qui donner ce livre.
   "I wonder to whom give this book."
   b. Je lui ai dit à qui donner ce livre.
   "I told him to whom to given this book."

(4) a. * Tu as fait à qui donner ce livre?
   "You made to whom give this book?"
   (You had to whom give this book?)
   b. Tu as fait donner ce livre à qui?
   "You made give this book to whom?"
   (You had this book give to whom?)

As the examples above illustrate, wh-element has to stay in situ position.
Assuming that wh-elements move to Spec CP, P & H argue that the impossibility
of embedded questions in the faire-construction indicates that the embedded
complement cannot be a CP. 4

1.1.2. The absence of auxiliaries
In faire-construction, embedded complements cannot contain an auxiliary such
as avoir and être.

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3Zubizarreta (1987) argues, faire-construction can be analyzed as if containing two parallel
structures: for some purposes, complex causative sentences behave as if they were monoclausal;
for others, they behave as biclausal structures. She claims the morphosyntactic status of faire-
construction. Faire functions simultaneously as a main verb, like make in English, which takes a
CP complement and as a morphosyntactic affix, like -ize.

4The claim against this analysis will be shown in fn. 12.
(5) a. *Je fais avoir teminé ce travail à Jean avant midi.
    "I make John have finished this work before noon."
   b. *Je fais être bue cette eau par le chien.
    "I make be drunk that water by the dog."
    (I made that water be drunk by the dog.)

This is a piece of evidence to show the embedded complements lack an INFL. Thus P & H argue for VP rather than IP or CP as the status of the embedded clause.

1.1.3. Negation
Based on the general assumption that ne is generated in INFL\(^5\) and pas somewhere inside the VP, P & H point out that the embedded verb is not negated in faire-construction.

(6) *J'ai fait ne pas partir Jean."
    "I made not John leave."

This fact also indicates that the INFL node is absent in the embedded complement and thus gives a support for a VP analysis. Based on Pollock's analysis, P & H assume that all nodes higher than VP such as NEGP and AGRP are lacking in the complement of faire.

1.1.4. Clitic climbing
In faire-construction, normally clitics have to climb up to the matrix verb faire, not to the embedded verb.
(7) a. Je le fais voir.
    "I him make see."
   b. *Je fais le voir.
    "I make him see."

Given that clitics move to the nearest INFL, this is also an indication of the absence of INFL in the embedded clause. Thus they argue that the embedded complement should be VP or AGRP.

1.2. Arguments for bi-sentential analysis

\(^5\)Rizzi (1990) argues that ne on a par with the other nonsubject clitics, is attached to Agr\(^0\), and pas is the specifier of the lower inflectional head T\(^0\):

\[\text{[AgrP Jean ne [TP pas [VP beaucoup mangé]]]}\]

His analysis affects the argument by P&H. It provides a counterexample for their claim that all nodes higher than VP are lacking in the complement of faire.
In this subsection, I present the main arguments in favor of a bi-sentential analysis advanced by Reed (1991), adding some arguments from Zubizarreta (1985). Also I attempt to refute the arguments in favor of VP analysis presented in 1.1.

1.2.1. Argument structure
The embedded verb takes exactly the same arguments as in a simplex sentence. Reed maintains that the embedded subject is a thematic argument of the embedded predicate alone, and this \( \theta \)-role remains constant at all levels.\(^6\) Assuming a D-structure illustrated (8) below, she asserts that this argument is base-generated in preverbal position.

(8) \[[CP \text{ je fais } [CP/IP \text{ Jean } [VP \text{ travailler }]]]\]

The advantage of assuming this structure is that the embedded subject receives only the external \( \theta \)-role assigned by the embedded verb. This analysis can rule out double \( \theta \)-marking which violates the Theta Theory.\(^7\)

1.2.2. Binding Theory
Zubizarreta maintains that anaphora inside the embedded complements are necessarily bound by the subject of the embedded verb, not by the subject of the matrix verb \textit{faire}. (The examples are quoted from P & H)

(9) a. Ils \textit{feront} parler les étudiants \( i \) l'un à l'autre \( i \).
   "They will make the students talk to each other."
   b.* Ils\( i \) \textit{feront} parler les étudiants l'un à l'autre \( i \).

1.2.3. The impossibility of passivization
Zubizarreta points out the fact that a VP analysis makes a partially false prediction about the passivization of the embedded object. Suppose that the structure of the \textit{faire} - construction is as follows, it is wrongly predicted that the embedded object can be freely passivized.\(^8\)

\(^6\)This is against Rouveret \& Vergnaud (1980) and Zubizarreta (1985).
\(^7\)Zubizarreta is not explicit about \( \theta \)-marking.
(i) \textit{Je fais} travailler Jean. \ "I make Jean work."
Her claim is that Jean in (i) is an object of \textit{faire} and a subject of \textit{travailler} at the same time. It is not clear whether this suggests Jean has two \( \theta \)-roles: THEME and AGENT.

\(^8\)Zubizarreta notes that nothing prevents the embedded subject in (i) from being passivized to the matrix subject position. Since the embedded subject position is governed by the matrix verb, the minimal governing category for the embedded subject is the matrix \( S \). From the viewpoint of the binding principles, it is a transparent position, and we would therefore expect (ii) to be grammatical.
(i) Pierre \textit{a fait} travailler Jean. \ "Pierre made Jean work."
(ii) Jean \textit{a été fait} travailler. \ "Jean was made work."
(10) a. On a [vp fait [vp construire la maison par Casimiro]].
   "We made Casimiro construct the house."
   b. *La maison a été faite construire (par Casimiro).
   "The house was made to be constructed by Casimiro."

1.2.4. Clitic climbing
P & H claim that normally clitics have to climb up to the matrix verb faire, not to the embedded verb. Thus they conclude that the embedded clause is VP, rather than IP or CP. Adopting the analysis proposed by Pollock, however, Reed (1991) tentatively assumes the structure of IP as follows:

(11) [CP [IP [NEG [AGR [VP]]]]]

In order to show that faire does not obligatorily subcategorize for a VP, Reed cites the following examples from a corpus in some dialects.

(12) a. Je l'ai fait les y mettre (les livres sur la table).
   "I made him put the books on the table."
   b. Ca les fera leur en expédier. (des médicaments aux victimes du tremblement de terre)
   "This will make them send some to them" (medicine to victims of the earthquake)

Following Chomsky’s claim that Romance clitics are base-generated in AGR-O, Reed argues that these data suggest that the embedded complements may project higher than VP, that is to AGRP.

1.2.5. Negation
Reed gives a further support against a VP analysis, based on the following examples which indicate the existence of NEGP in the embedded clause.

(13) a. Le sorcier l’a fait ne pas se sentir bien pendant des jours.
   "The sorcerer has made him not feel himself well during some days."
   b. Ce genre d'attitude ne peut que leur faire ne pas prendre au sérieux une situation qui est cependant des plus graves.
   "This kind of attitude can only make them not take seriously a situation which is nonetheless of the utmost importance."

Given the structure of IP provided in (11), these data suggest that the embedded clause has a NEGP as the minimal projection.

She notes there are in fact speakers who find (ii) far better than (10b); however, others find it totally unacceptable.
1.2.6. Tensed complements to faire

Reed attests that, in a restricted context, however, faire can take a tensed CP complement. The following examples would be strong evidence to prove that faire must be allowed to subcategorize for a tensed CP complement.

(14) a. Mon Dieu, faites que mes parents reviennent vite!
   "God, please make my parents come back soon!"
   b. Se négligence a fait qu'il a perdu beaucoup d'argent."
   "His carelessness would end up costing him a lot of money."

These data clearly indicate that the embedded clause may contain a complement higher than at least VP. Then, this fact casts a serious doubt on the analysis which assumes that faire subcategorizes for a VP. In contrast, bi-sentential, more specifically, CP subcategorization analysis seems to be unproblematic and more generalized for accounting for all the data presented above.

2. CP subcategorization frame for "faire"

In this section, I will illustrate the analysis of Reed (1991), who uses the novel idea of verbal government chain formation by proposing two types of predicate raising. As she admits herself, the idea of predicate raising is not new (Rouveret & Vergnaud 1980, Herschensohn 1981, 9 Baker 1988 among others). However, her analysis is different from her predecessors in terms of the movement and mechanism of Case assignment. It appears that her approach properly accounts for the word order, Case-marking, and other distributional characteristics of the French causative construction.

2.1. X0 movement and XP movement

On the outset, I illustrate her final version of D-structure for faire - construction. She assumes the following D-structure for the sentence "Je fais téléphoner Jean à Maire"

(15) [CP je [VP faire [CP [IP [NEG] [AGR] [VP] [NP] Jean [VP2 téléphoner à Marie]]]]]10
   "I make Jean call up Marie."

Given the D-structure above, if any raising movement doesn't occur at S-structure, the embedded lexical subject will not be able to receive a case because

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9Herschensohn (1981) proposes Verb grafting, a quasilexical restructuring rule.
10Ouhalla proposes that the embedded clause in causative constructions has the form in (i) where the AGR node is missing and where the subject is in the Spec of TNSP:

(i) ...V [CP C [TNSP -ere [VP V (NP) (PP)]]]

Accruing to her account, the verb moves to TNS obligatorily to attach to the infinitive marker occupying it, and from there moves up to C. Movement to C would account for the fact that the causative faire and the embedded verb must be adjacent despite the fact that they are morphophonologically independent of each other.
the possible case assigner, INFL is [-Tense]. *Faire* in the matrix clause cannot assign a case to *Jean*, either, because three barriers, VP, IP and CP intervene between them. To solve the Case-marking problem, Reed proposes the two types of moving: \( X^0 \) movement (substitution) and XP movement (adjunction). Reed claims that intransitive verbs such as *travailler, partir*, allow both types of movement, indirect transitiveives such as *téléphoner, parler*, allow only \( V^0 \) movement, and direct transitive verbs such as *quitter, envoyer, mettre*, allow only VP adjunction. \(^{11}\) The resulting two S-structures are illustrated respectively below.

(16) \( V^0 \) movement

\[
\begin{array}{c}
\text{AGRP} \\
\text{AGR} \quad \text{VP1} \\
\quad \text{NP} \quad \text{VP2} \\
\quad \quad \quad \text{V}_i \\
\end{array}
\]

\[
\text{travailler} \quad \text{Jean} \quad \text{t}_i
\]

(17) VP adjunction

\[
\begin{array}{c}
\text{VP3} \\
\text{VP2} \quad \text{VP1} \\
\quad \text{NP} \quad \text{VP2} \\
\end{array}
\]

\[
\text{travailler} \quad \text{Jean} \quad \text{t}_i
\]

Since *faire* still does not govern the embedded subject because of the three barriers, she further proposes a movement of AGRP to Spec CP following \( V^0/VP \) movement.

(18) Movement of AGRP to Spec CP: \( V^0 \) movement

\[
\begin{array}{c}
\text{VP} \\
\quad \text{CP} \\
\quad \quad \text{Spec}^1 \quad \text{C'} \\
\quad \quad \quad \text{AGRP}_j \\
\quad \quad \quad \quad \text{C} \\
\quad \quad \quad \quad \quad \text{IP} \\
\quad \quad \quad \quad \quad \quad \text{Spec} \\
\quad \quad \quad \quad \quad \quad \quad \text{I} \\
\quad \quad \quad \quad \quad \quad \quad \quad \text{t}_j \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{V}_i \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{NP} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{VP2} \\
\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{t}_i
\end{array}
\]

\[
\text{faire travailler} \quad \text{Jean} \quad \text{t}_i
\]

\(^{11}\) Due to limited space, I omit her detail discussions about why a specific class of verbs require a specific type of movements.

\(^{12}\) As we see, Spec CP is filled with AGRP, after V/VP raising. We can refute P & H’s argument that the impossibility of embedded questions in *faire*-construction indicates the absence of CP node. Embedded questions are impossible in *faire*-construction, not because it lacks Spec CP, but because the position is already occupied by AGRP.
(19) Movement of AGRP to Spec CP: VP Movement

\[
\begin{array}{c}
\text{VP} \\
\text{V} \\
\text{CP} \\
\text{Spec} \\
\text{AGR} \\
\text{VP3} \\
\text{VP1} \\
\text{Spec} \\
\text{I'} \\
\text{IP} \\
\text{C} \\
\text{AGRP}_j \\
\text{NP} \\
\text{VP2} \\
\end{array}
\]

\[\text{faire} \quad \text{travailler} \quad t_k \quad \text{Jean} \quad t_i\]

As we have seen in (18) and (19), now that \textit{faire} L-marks its CP complement, a government relation is established between the matrix verb \textit{faire} and the embedded verb \textit{travailler} "work". Moreover after V-raising the raised embedded verb governs the embedded subject, since it also L-marks its embedded VP.

2.2. Two types of verbal government chain: Simple verbal government chain vs. Complex verb formation

2.2.1. Case frame of \textit{faire}
In the analysis of Reed, it is crucial to distinguish two types of verbal government chains, simple verbal government chains and complex verbs. This distinction is made based on the Case frame of the two verbs involved in chain formation, that is \textit{faire} and the embedded verb. She assumes the following Case frame of \textit{faire}.

\[(20) \quad \text{ACC} \quad \text{(DAT)}\]

2.2.2. Single verbal chain formation
Based on this Case frame of \textit{faire}, Reed hypothesizes that simple verbal government chain is formed when \textit{faire} governs a verb whose obligatory Case feature is different from its own. Putting it another way, simple verbal government is formed when there is a mismatch in the obligatory Case features between \textit{faire} and the embedded verb. She assumes that in one sense these two verbs function as a unit, but in another sense act as independent verbs. In terms of government relation, the two verbs function as a unit, thereby allows \textit{faire} to
assign a case to the embedded subject, using the embedded verb as an intermediary. In this chain formation, the embedded verb act as a bridge for Case-marking, as though it were a verbal trace of faire. In another sense, the two verbs are independent in the sense that they still keep their own Case frame with respect to the type of case they assign. That is, faire assigns the accusative case to the embedded subject, whereas the embedded verb independently assigns its Case features to its object.

2.2.3. Complex verb formation
Complex verbs, as Reed notes, are a special type of verbal government chain. It is formed only when faire governs a verb whose obligatory Case features are compatible with its own, in other words, only when faire governs a verb which obligatorily subcategorizes for accusative case. Reed hypothesizes that faire and the embedded verb syntactically form a true unit, sharing a single Case frame ____ ACC ____ (DAT). Therefore, complex verbs formed in this fashion assign cases to the embedded arguments as a unseparable single unit.

3. Problems in the analysis of Reed
The proposal of Reed appears to be effective to account for word order, case-marking and clitic placement only in Standard French. However, her approach is contradictory. She proposes an analysis that does not cover the data from dialects, despite of the fact that she resorts to examples from the corpus of dialects in order to argue for a CP analysis against a VP analysis. In order to validate her analysis, she speculates an ad hoc account for dialectal variations and attempts to incorporate them into one subcategorization framework. In this section, I will show that her treatment for dialectal variations actually does not work to account for the ideosyncratic behaviours in data presented in (1a–c) and (2a–c). Moreover her analysis is not tenable because of two technical defects: 1) the violation of the adjacency requirement for accusative case assignment (Chomsky 1977), 2) the violation of the Specified Subject Condition (SSC) described by Chomsky (1981). I will also argue that the notion of optionality of complex verb formation in her assumption should be clarified. I will demonstrate that the mechanism of case assignment of Reed is not consistent, especially, with respect to case-marking of clitics. In her analysis, cases are assigned to clitics, as though the existence of the D-structure is ignored. Thus, her proposal lacks a clear underlying generalization.

3.1. Obligatory vs. optional Case frame merger
Reed explains the anomalous phenomena of the clitic placement and Case-marking in dialects in terms of the optionality of the Case frame merger. She asserts if the need for Case-marking is removed, the formation of a complex verb with a single Case array becomes optional. In this instance, since nothing in the
theory requires obligatory Case frame collapsing, the two verbs may retain their own Case frame and function as a distinct constituent. To illustrate, she cites the following examples.

(21) a. J’ai fait mettre les bières dans le frigo à Jean.
    "I made/ had Jean put the beers in the fridge."

b. Je les lui y ai fait mettre. (les = les bières, lui = Jean, y = dans le frigo)
    "I made /had Jean put them (les, acc) there (y)."

c. Je l’ai fait les y mettre. (le = Jean)
    "I made him put them there."

(21b) shows the instance of obligatory Case frame merger, whereas (21c) shows the instance of optional merger. Reed asserts that in (21a), we would expect Case frame merger to be obligatory, otherwise the lexical embedded subject cannot receive a case. Thus both the verbal predicate raising and Case frame obligatorily have to take place. This operation yeilds the structure in (21b). In this sentence, all the clitics receive their own case feature from the complex verb faire mettre "make put". As for (21c) she merely remarks that the clitic placement in (21c) is an indication of no Case frame merger. The clitic corresponding to the embedded subject receive case directly from faire and the embedded object from the embedded verb. In this example, there are two distinct verbs, which maintain their own respective Case array. I argue that her accounting of the data is inconsistent in terms of Case assignment. Since both (21b) and (21c) are supposed to be derived from the same S-structure (21a) after V-raising, the mechanism of the Case-marking in this underlying structure also should be the same, although their clitic placement at S-structure varies. Since the S-structure (21a) requires the formation of complex verb for the purpose of Case assignment, the only derivable structure should be (21b). Given that there no Case frame merger has taken place, (21c) would be a theoretically illicit structure, because the embedded lexical subject Jean in the S-structure cannot receive accusative case from faire. The intervening elements in between block the Case-making to Jean in the violation of the adjacency requirement for accusative case assingment. This is illustrated in (22).

(22) J’ai fait mettre les bières dans le frigo à Jean.

In the same vein, her approach doesn't allow to account for the example (2), which is repeated below.

(2) a. J’ai fait envoyer la lettre à Jean.
    "I made Jean send the letter."

b. Je la lui ai fait envoyer.
    "I made him (lui, dat) send it (la, acc)." (SF)

c. Je l’ai fait l’envoyer. (1st l’=le, 2nd l’=la)
    "I made him (le, acc) sent it (la, acc)." (DF)

d. *Je le l’ai fait envoyer. (1st l’=le, 2nd l’=la)
"I made him (le, acc) send it (la, acc)."

(2c) should not be derived from (2a), the structure after VP raising, because there is no way for the embedded subject Jean to receive an accusative case and to be cliticized as le. In contrast, the ungrammaticality of (2d) can be accounted for in terms of optional Case frame merger. Assuming that a complex verb has been formed in this structure, envoyer has a Case frame with one accusative and one dative at the maxim. Thus the double accusative clitic climbing should be ruled out.

However, her argument for optional Case frame merger is not convincing, because she doesn't clarify under what circumstances the optional Case frame merger is applicable. As for the notion of "optionality", Reed offers no explicit explanation: what determines the selection of obligatory or optional formation of a complex verb. More explicit, well-developed theoretical account is needed. Without a motivation of the "optionality", the data in (1) would not be accounted for.

(1) a. J'ai fait manger des épinards à Maurice.
   "I made Maurice eat spinach".
   b. Je lui ai fait manger des épinards. (SF)
      "I made him (dat) eat spinach."
   c. Je l'ai fait manger des épinarad. (DF)
      "I made him (acc) eat spinach."

Following her analysis, (1b) is the instance of a complex verb formation, while (1c) is the instance of non-complex verb formation. As we have already seen in (21), this is not a licit structure which could not have been predicted from her theoretically faulty assumption. This fact gives a serious doubt about her unique CP subcategorization frame.

Taking a closer look at the data in (1), we naturally expect that when one clitic case is chosen over the other, there should be some semantic or pragmatic motivations. Returning now, to the data (2), we might also expect that any semantic or pragmatic elements are involved when a cluster of clitics split up, attaching one to the matrix verb and the other to the embedded one.

3.2. Violation of SCC

In the previous subsection, we have examined the analysis dealing with direct transitive verbs. Now consider the data with indirect transitive verbs. She asserts when the embedded verb is an indirect transitive verb, the clitic corresponding to the indirect object must be attached to the embedded verb, whereas the clitic corresponding to the embedded subject to the matrix verb faire...

This is illustrated in (23).

(23) a. J'ai fait téléphoner Jean à Marie.
"I made Jean call Marie."
b. *Je le lui ai fait téléphoner.
"I made him call her."
c. Je l’ai fait lui téléphoner.

As for this puzzling clitic climbing, her explanation goes as follows: since téléphoner doesn’t subcategorize for an accusative Case feature, a verbal complex between faire and téléphoner cannot take place. Consequently, each clitic in (23c) appears on the verb from which they absorb the case. However, there is a serious technical defect in this account. Cliticizing the embedded dative across over the embedded subject violates the SSC, which is formulated as (24)

(24) **Specified Subject Condition**: Chomsky (1977)
- No rule can "involve" X and Y where α contains a specified subject, i.e., a subject not containing Y and not controlled by X.

Based on this assumption, the embedded indirect object Marie may not be clitic placed when the subject of the embedded clause, Jean, which functions as a Specified Subject, intervenes as illustrated in (25b). However, in (25c), the embedded subject Jean is freely clitic placed.

   b. *Je lui ai fait téléphoner Jean.
   c. Je l’ai fait téléphoner à Marie.

In the same vein, the derivation of (23c) from (23a) violates the SCC, since the trace of the Specified Subject can still block the cliticization of the indirect object. As (26c) shows, not only a full-fledged NP Jean but also its trace t1 blocks the cliticization of the indirect object out of the embedded clause. The account by Reed relying on the non-complex verb formation neglects this theoretically fatal assumption.

(26) a. J’ai fait téléphoner Jean à Marie.
   b. *J’ai fait [lui1 téléphoner Jean t1].
   c. *Je l’ai fait [lui1 téléphoner t1 t1].

To conclude this section, the analysis of Reed is not valid on the two theoretical backgrounds: inconstistency in Case-marking mechanism and clitic placement in violation of SCC. In addition her analysis requires a semantic account for clitic case alternations. In the final section, following Dorel (1978), I will demonstrate how syntax / semantics interface plays a role in clitic placement in French causatives. I will also establish a new subcategorization frame for faire, which
will give a more generalized account of cliticization phenomenon, accommodating the idiosyncratic data in dialects.

4. New proposal
4.1. Dual subcategorization frame for "faire"
As we have seen in the previous section, the analysis of Reed is incompatible with the SCC, because it may involve a movement of the embedded object across the Specified Subject. The failure of accounting for problematic data in dialects by a unique CP subcategorization frame suggests that we might need more than one subcategorization frame. I propose that in dialects there exist two subcategorization frames, CP and IP, while in Standard French there is only CP. Following Dorel (1978) I argue that there are two verbs faire: faire₁ and faire₂, in certain dialects in French. The former has been extensively treated in the literature of French causation, whereas the latter has drawn too little attention from previous researchers to be examined its importance. Dorel claims that faire₁ and faire₂ differ in that faire₁ denotes indirect causation, while faire₂ denotes direct causation. To illustrate, let us back to the examples (1b, c), which are repeated below.

(1) b. Je lui ai fait manger des épinards.  
"I made him (dat) eat spinach."  
(SF)

c. Je l'ai fait manger des épinards.  
"I made him (acc) eat spinach."  
(DF)

Hyman and Zimmer (1976) claim that (1b) and (1c) should be distinguished semantically, in their terms "direct" versus "indirect" causation. Thus (1b) is interpreted that the person denoted by lui accepted the spinach offered to him by je, the subject of the causation, with an English translation of "I had him eat spinach". (indirect causation) One of the conceived situations is that a hungry person was offered spinach, that is the only thing I had in the house at the moment. He could have refused to accept it, if he had not wanted it. On the other hand, (1c) implies that the person denoted by le has had no choice but to eat the spinach, with an English translation "I made him eat spinach." (direct causation) We can imagine such a situation in which parents forced their child to eat spinach against his will. Thus, according to Dorel, (1b) and (1c) can be constrained in terms of faire₁ and faire₂, respectively. Further support for the

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13 However, Author & Reed claim that such a generalization is not entirely accurate: although it is true that (1c) can express "direct" causation, (1b) can express either "direct" or "indirect" causation. They maintain that although the dative option remains neutral with respect to whether or not the person denoted by the clitic has any control over the action, selecting the accusative clitic entails that the person has no control over the action expressed by the embedded predicate.
bifurcation of faire is found in the examples from Dorel. (27) and (28) clearly illustrate the contrast between faire₁ and faire₂.

(27) a. Sa petite amie lui a fait₁ commettre le meurtre.
   "His girlfriend (indirectly) had him commit the murder."
   b. Sa petite amie l'a fait₂ commettre le meurtre.
   "His girlfriend forced him to commit the murder."

(28) a. La peur de perdre lui fait₁ gagner toutes les courses.
   "The fear of losing (among other reasons) causes him to win all the races."
   b. La peur de perdre le fait₂ gagner toutes les courses.
   "The fear of losing (the only reasons) makes him win all the races."

The data above suggest that faire₂ carries the connotation of "forcing" in contrast to faire₁. Dorel hypothesizes that in some period in the history of French causation, the old faire construction denoting forcible (direct) causation split into two distinct constructions: faire₁ and faire₂, in Dorel's terms. Given the evidence for the existence of two verbs faire, I wish to argue that some dialects still conserve the faire₂ construction, others do not conserve any more. Thus I will propose to set up a different subcategorization frame for each type of dialect: Standard French and Dialectal French. Modern Standard French possesses a unique CP subcategorization for faire₁. On the other hand, Dialectal French possesses two subcategorization frames: CP subcategorization for faire₁ and IP subcategorization for faire₂.

(29) SF: faire₁: ___ CP   DF: faire₁: ___ CP   faire₂: ___ IP

4.2. Why IP subcategorization for faire₂
I will now demonstrate why an IP subcategorization is motivated for faire₂ construction in terms of the word order. Actually this analysis is raised in Reed's discussion to refute an IP subcategorization frame of faire (supposedly faire₁). Ironically it works in my analysis in order to support the IP subcategorization frame of faire₂. I assume the D-structure of faire₂ construction as the following.

(30) [CP je [VP faire [IP [NEG₃ [AGR₃ [VP₁ Jean [VP₂ envoyer la lettre ]]]]]]

Given this D-structure, the embedded lexical subject Jean may raise to Spec IP at S-structure.

(31) [CP je [VP faire [IP Jean₁ [NEG₃ [AGR₃ [VP₁ t₂ [VP₂ envoyer la lettre ]]]]]]

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¹⁴Dorel (1978) notes that faire₁ has no restriction on the class of embedded predicates, whereas faire₂ requires that embedded predicates represent a controllable action by the embedded subject.
Now that the embedded subject Jean is moved into Spec of IP, it is governed by faire and thus is able to be directly case-marked in its base-generated position. Different from the CP subcategorization frame, no verbal predicate raising is required. In this fashion, a peculiar word order in faire 2 construction, in which the embedded subject appears in a preverbal position of the embedded verb, can be accounted for straightforwardly. As evidence, in restricted contexts in dialects, there exists examples in which the embedded lexical subject intervenes between faire and the embedded verb. To illustrate, I will cite examples from the Ottawa-Hull corpus. (Reed 1991)

(32) a. j'essayaïs de faire ma voix changer.
   "I tried to make my voice change.'

b. c'était Charlebois qui faisait leurs élèves signer un contrat...
   "That was Charlebois who made their students to sign a contract."

The data above strongly support an IP subcategorization analysis, since a CP subcategorization analysis accompanied by V/VP raising doesn't allow to account for this word order. Based on the currently available data (from Dorel 1978, Reed 1991), I tentatively assume that faire in this type of causative construction is associated with direct causation, thus identify it as faire 2. Although I have no theoretical ground for this assumption, the denotation of direct causation can be still perceived from the context in the data. It may not be a mere accident that "make" is used more preferentially over "have/get" in English translation for faire2. For instance, the following examples illustrate the semantic difference resulting from a syntactic consequence.

(21) b. Je les lui y ai fait mettre.
   "I made /had Jean put them there."

c. Je l'ai fait les y mettre.
   "I made him put them there."

As further evidence that it is not surprising at all for faire 2 to subcategorize for an IP, consider the case of laisser, one of the other causative verbs in French. As Reed (1992) notes, laisser and perception verbs such as voir "see", entendre "hear", subcategorize for IP or VP small clause. This "dual" subcategorization is

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15My instinct is against Dorel (1978). She claims that one of the syntactic consequences of this semantic shift is that no full-fledged NP can intervene between faire 2 and the following infinitive. She proposes that, similarly, clitics are not allowed to intervene between faire and the following infinitive, whenever possible, that is when the surface filter tells you that the ban on accusative doubling is lifted.

16Reed (1991) notes that the English causative verb "make" also subcategorizes for IP or VP small clause

(i) [CP [IP [VP made [IP/VP [John [VP leave]]]]]]
widely accepted in order to account for the dual position of the embedded subject in the construction with these verbs. That is, the embedded subject is allowed to appear either preverbal or postverbal position of the embedded verb.

(33) a. J'ai laissé partir Jean. / J'ai laissé Jean partir.
   "I let Jean go."
   b. J'ai vu partir Jean. / J'ai vu Jean partir.
   "I saw Jean leave."

Reed claims that faire-construction (supposedly faire₁) is different from laisser and perception verbs in that in laisser, voir, entendre-constructions, predicate merger is optional, while in faire₁ it is obligatory. The optimality of predicate merger for laisser and perception verbs allows the embedded subject to appear either pre- or postverbal position of the embedded verb freely.

4.3. Account of the data
I will now illustrate how my analysis fit into the account of aberrant behaviors of clitic placement in dialects. I assume two basic assumptions in order to account for clitic placement and case assignment in my approach:

i) Case absorption: Jaeggli (1986)
ii) Hierarchy of the available case feature: Comrie (1976)

First of all, the notion of Case absorption is described by Jaeggli as follows:

(34) **Case absorption:** Jaeggli (1986)
French accusative and dative clitics are obligatory Case absorbers which appear on the element from which they absorb Case.

Given this assumption, examples in (35) are ruled out, in contrast to those in (36).

   "They will make him drink wine."
   b. *On laissera le lire à Jean.
   "They will let Jean read it."

(36) a. On lui fera boire du vin.
   b. On le laissera lire à Jean.

Secondly, the Hierarchy of the available case feature are defined as follows:

She explains that under the IP option, John is raised to Spec of IP at S-structure to receive a case by make. Under the other option, VP small clause approach, make case-marks directly in its base-generated position.
(37) **The Hierarchy of the available case feature**: Comrie (1976)
The embedded subject is assigned the first available Case feature on the following hierarchy: 

\[ \text{ACC} \quad \text{DAT} \]

Based on the two assumptions, to begin with, I will examine the instance of the indirect transitive verb.

(38) a. J'ai fait \text{2} [IP Jean téléphoner à Marie.]
\[ \text{ACC} \quad \text{DAT} \]
b. Je l'\text{i'ai fait} \text{2} [IP t\text{i} téléphoner à Marie.]
c. Je l'\text{i'ai fait} \text{2} [IP t\text{i} lui téléphoner t\text{j}]
d. *Je le lui ai fait \text{2} [IP t\text{i} téléphoner t\text{j}]
e. *Je lui \text{i'ai fait} \text{2} [IP t\text{i} téléphoner t\text{j}]

Given the S-structure in (38a), the embedded subject Jean is directly case-marked by the matrix verb faire. The adjacency requirement for accusative case assignment is already met in this base-generated position. The embedded infinitive verb téléphoner independently assigns dative case to its indirect object according to its own case array. In (38b) only the lexical embedded subject Jean is cliticized, leaving its trace t\text{i}. In (38c) the embedded indirect object Marie cannot be clitic placed into the matrix clause in violation of the SCC. As a consequence, the only possible position where lui, the clitic corresponding to Marie, is attached to is the preverbal position of téléphoner. This prediction is borne out and can correctly rule out the ungrammatical form of (38d) and (38e). Ungrammaticality of (38e) also ensures that the clitic climbed to the upper clause is always the embedded subject.

In the same vein, we can account for the case of transitive verbs.

(39) a. J'ai fait \text{2} [IP Jean envoyer la lettre.]
\[ \text{ACC} \quad \text{ACC} \]
b. Je l'\text{i'ai fait} \text{2} [IP t\text{i} envoyer la lettre.]
c. Je l'\text{i'ai fait} \text{2} [IP t\text{i} lui envoyer t\text{j}]
d. *Je le lui \text{i'ai fait} \text{2} [IP t\text{i} envoyer t\text{j}]

Again an IP subcategorization frame of faire \text{2} allows us to account the data in a straightforward way. Both the matrix verb faire \text{2} and the embedded verb envoyer "send" function as an independent constituent. Consequently each verb assign accusative case to Jean and la lettre respectively. The Hierarchy of the available case feature ensures that envoyer assigns accusative case to la lettre instead of dative case. In (39c) l'\text{i}, the clitic corresponding to la lettre is attached to the embedded verb since the trace of the Specified Subject Jean still blocks the moving of this element out of the embedded clause. In contrast, the ungrammaticality of (39d) can be accounted for with respect to the Case Frame Preservation Principle described by Baker (1988).
A complex verb can only assign as many Case indexed as a simple verb can.

This principle would provide a natural way of accounting for the fact that *faire envooyer* in (39d) cannot assign more than one accusative case. Finally I present some rather mysterious data taken from Dorel (1978), which my analysis cannot deal with. It is a special instance of triple clitic placement onto the matrix verb *faire*.

(41) a. *J'ai fait_2 [IP Jean envooyer la lettre à Marie.]
    ÆCC---------------------------------------- DAT
    "I made Jean send a letter to Mary."

b. *Je le_1 j la_j lui_k ai fait_2 [IP t_i envooyer t_j t_k.]

c. *Je l'_1 ai fait_2 [IP t_i la_j lui_k envooyer.]

Given the theoretical assumptions so far, cliticization in (41b) is not predicted from the S-structure (41a). Instead, we expect (41c) as the correctly derived form as Milner (1982) points out. However both structures are judged as grammatical by Dorel. There seems to be a rather puzzling mechanism which complicates placement of clitic cluster shown as in (41c).\(^{17}\) However, a detailed investigation of this topic is beyond the scope of this paper. I leave the solution to this problem to further research.

5. Conclusion
In this paper, I argued that a unique CP subcategorization frame approach proposed by Reed (1991) is not totally compatible with the data in various

\(^{17}\)Milner (1982) points out that a certain combinations are excluded for either the principle of non-redundancy rule, or for other reasons. e.g. In contrast to the grammaticality of (i), (ii) is considered ungrammatical.

(i) *Je le lui ferai lire. "I will make him read to her."

(ii) *Je te lui ferai parler. "I will make you speak to him/her."

Hyman and Zimmer (1976) argue for the hierarchy of topic worthiness to account for this anomalous phenomena.

(iii) a. *Il m'a fait battre à Maurice. "He made me beaten by Maurice."

b. *Il m'a fait battre par Maurice. "He made me beaten by Maurice."

(iv) a. *Il te fera battre à Maurice. "He will make Maurice beat you."

b. *Il te fera battre par Maurice. "He will make you beaten by Maurice."

Dorel presents the following conditions for cliticization into the upper clause.

(i) The two accusatives clitics must be followed by a dative clitic.

(ii) The two accusatives clitics must be of different number or different gender.

Thus the example (42b) is grammatical since both conditions are met.
dialects in French. I also pointed out that her analysis has some defects in theoretical grounds and thus cannot provide a generalized accounts for the complicated anomalous data. I partially agree with her novel idea of theory, proposing V/VP raising followed by Movement of AGRP to Spec CP, two types of verbal government chain formation, CP subcategorization frame of faire in Standard French. Although her analysis seems rather effective to account for word order, case-marking and clitic placement in French causative construction, it did not succeed in providing unitary account for all the corpus including dialectal variations.

Furthermore, her analysis doesn’t take into consideration a semantic aspect of approach with respect to clitic case alternation in causative structure. To deal with puzzling phenomena in dialects, I attempted a syntactic and semantic approach, assuming two verbs faire : faire 1 and faire 2. I demonstrated that faire 2 in some dialects is associated with a "dual" CP/IP subcategorization frame, just as the case with the other causative verbs. This dual subcategorization allows to accommodate the data not only in Standard French but also idiosyncratic dialects.

As a final point, following Zubizarreta (1985), I would like to suggest that the "dual" subcategorization of French causatives, faire , laisser , and perception verbs, voir , entendre etc. might be captured as a reflection of coexistence of two distinct grammars. As Dorel (1978), Martineau (1990) and Reed (1991) also note, this could be a reflex of historical linguistic change. Hyman and Zimmer (1976) claim that faire is in the process of becoming a mere causative marker. Reed (1991) suggests that Standard French is in the process of generalization of Case frame merger to all instance of the faire - construction. Whatever the answer may be, consequently it explains uncertain intuitions and judgments even among native speakers and a various dialectal idiosyncrasies.18

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18Among native speakers of Standard French, some speakers perceive the semantic difference between indirect and direct causation rendered by clitic alternation such as le and lui, while some speakers don’t. One of the native speakers who can see the difference points out the following with citing examples.

(i) Je lui fais 1 comprendre.
   "I have him understand."

(ii) * Je le fais 2 comprendre.
   "I make (force) him (to) understand."

For that speaker, (ii) is not acceptable, because "comprendre" (understand) is not the action which the person undergoing causation can have control over.
REFERENCES


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