

THE STRUCTURE AND PLACEMENT OF
FRENCH CLITIC PRONOUNS

Thesis submitted for the

Ph.D. DEGREE

of

The University of London

by

James Richard Black

School of Oriental and African Studies

University of London

1982



ProQuest Number: 10673239

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 10673239

Published by ProQuest LLC (2017). Copyright of the Dissertation is held by the Author.

All rights reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

ABSTRACT

The order in which French clitic pronouns occur is highly idiosyncratic. Students of French have to learn to disrupt the normal Subject-Verb-Object pattern of declarative sentences, and to insert object pronouns directly before the verb. Moreover, the preverbal alignment of these clitics does not always reflect the left-to-right order of postverbal phrases to which the pronouns correspond. There are additionally certain puzzling incompatibilities among clitics.

The purpose of this thesis is to offer an explanation for preverbal clitic order, and not to account for impermissible clitic sequences.

The problems posed by French pronouns are approached within the framework of generative grammar, especially as exemplified in Kayne's (1975) French Syntax. Certain later developments in this model have been incorporated into the arguments presented here, while certain others have been rejected as being non-explanatory when applied to the question of clitic ordering.

General proposals designed to regulate the order of application of transformational rules or to delimit their domain are examined to determine their relevance to French pronouns. Proposals specific to the grammar of French are also investigated. It will be shown that none of the explanations offered to date is entirely satisfactory: supposedly universal constraints on rules fail to align clitics correctly, and language-particular claims require convoluted or otherwise improbable sets of rules, make certain dubious assumptions, or simply do not make the right predictions.

The claim made here is that important differences in the underlying structure of French pronouns motivate their preverbal order.

Elaborate clitic 'templates' like the one advocated by Perlmutter (1971) can therefore be rejected in favour of a single surface filter. No new mechanisms are needed, as clitic order follows from the interaction of a simple clitic movement rule constrained by the very general A-over-A Principle and a filter limiting the surface position of en.

It has been pointed out to me that there are two remaining problems in the analysis of clitic order presented in chapter seven.

My claim that the A-over A Principle can successfully distinguish underlying Pro forms to which a subject clitic is attached from those first and second person Pro forms which I argue are generated without these subject clitics is not above suspicion. Whether the Pro mentioned in the structural description of the rule of Clitic Placement operates on a syntactic category Pro, or on an NP marked with a +PRO feature, it is not clear that the structure NP [$\bar{\text{NP}}'$ -SCL] of page 366 is affected in the desired manner(i.e., NOT subject to Clitic Placement), because the higher NP containing NP' and SCL may well not itself be a Pro constituent.

The second problem concerns clitic ordering in cases of non-reflexive idiomatic clitics combined with other clitics having a post-verbal source. My set of rules will not generate, for example, sequences like "Il m'en veut". Further refinements of the notion "idiomatic clitic" will be required to obviate this lacuna.

CONTENTS

Introduction	1
Chapter 1: The Problem of Ordering and Co-occurrence	11
1.1 The Preverbal Order of French Clitics	11
1.2 Co-occurrence Restrictions Among French Clitics	16
1.3 Proposed Solutions to the Problem: Perlmutter's Surface Structure Constraint	19
1.3.1 Rejection of a Phrase Structure Approach	20
1.3.2 A Transformational Approach	23
1.3.3 A Surface Filter	25
1.4 Problems with the Surface Structure Constraint	27
Chapter 2: General Proposals for the Placement of French Clitics: Preliminary Considerations	36
2.1 The 'Straightforward' Approach	40
2.2 Interpretations of the Variable	46
2.2.1 The Abbreviatory Variable Convention	46
2.2.2 The Variable Interpretation Convention	47
2.3 The Minimal String Principle	55
2.4 The Locality Principle	59
2.5 The Superiority Condition	66
2.6 Trace Theory	68
2.7 Conclusion	73
Chapter 3: Previous Analyses of French Clitic Order	74
3.1 Emonds' Analysis of Clitic Placement	74
3.2 Herschensohn's Analysis of Clitic Placement	79
3.3 Fiengo and Gitterman's Approach to Clitic Ordering	83
3.3.1 Second Position and A-before-A	84
3.3.2 Rules Required for Cliticisation	87
3.3.3 Problems for Fiengo and Gitterman's Analysis	96
3.3.3.1 The Category Status and Position of <u>ne</u>	97
3.3.3.2 The Determination of Second Position	101
3.3.3.3 The Intervention of Adverbs Between Verb and Objects	103
3.3.3.4 The Derived Constituent Structure of Clitics	105
3.3.3.5 The Category Status and Bar Specification of <u>en</u>	114
3.3.3.6 Pro PPs and Feature Assignment	117
3.3.3.7 Ethical Datives in Three-Clitic Sequences	119
3.3.3.8 The Deep Structure Position of <u>y</u> and the Derived Constituent Structure Rules	121
3.3.3.9 The Feature [\pm STRONG]	124
3.3.3.10 A False Prediction of the 'A-before-A' Principle	125
3.3.3.11 Summary	126
Chapter 4:	
4.1 The Pronoun <u>En</u>	128
4.2 <u>En</u> and the Internal Structure of Noun Phrases in French	128
4.2.1 <u>En</u> as a Pro-PP	128
4.2.2 Sources of <u>en</u> within the NP	129
4.2.3 The Internal Structure of Indefinite and Quantified NPs: The Hidden Partitive Hypothesis	132

	5
4.2.4 The Empty-N Hypothesis	136
4.2.5 Evidence for the Hidden Partitive Hypothesis	141
4.3 The Simple Noun Phrase Hypothesis	142
4.3.1 Syntactic Category Differences Between 'Simple' and 'Partitive-like' NPs	142
4.3.2 The Inaccessibility of Constituents of PPs	148
4.3.3 Agreement and the Hidden-Partitive Hypothesis	149
4.3.4 Rightward Detachment and the Ubiquitous-De Hypothesis	154
4.3.5 The Underlying De-Hypothesis: Summary	163
4.4 The Three <u>ens</u> of French	165
4.4.1 The Underlying Disunity of <u>en</u>	165
4.4.2 A Further Source for <u>en</u>	168
4.4.3 The Internal Structure of NP Antecedents of <u>en</u>	171
4.4.4 <u>De + noun</u> Sequences Corresponding to <u>en</u>	174
4.4.5 <u>De + noun</u> Sequences Which Do Not Correspond to <u>en</u>	187
4.4.6 A Potential Counter-example	199
4.4.7 Summary	204
Chapter 5: The Structure of Quantified and Partitive NPs in French	206
5.1 Partitive-Like Constructions in the Analyses Proposed by Selkirk and Milner	206
5.2 Selkirk's Measure Phrases	207
5.2.1 Argument One: The Structure of 'Pseudopartitives'	207
5.2.2 Argument Two: Constraints on Recursion in Partitives	211
5.2.3 Argument Three: Leftward Extraposition in French	213
5.2.4 Argument Four: The Upward Boundedness Constraint on Extraposition from NP	217
5.2.5 Argument Five: Non-Restrictive Relative Clauses	223
5.2.6 Argument Six: Presence or Absence of the Preposition	226
5.3 Selkirk's Measure Nouns, Full Partitives and Noun Complement Constructions	228
5.3.1 Argument Seven: Agreement Phenomena	229
5.3.2 Argument Eight: True Partitives and Noun Complement Constructions	238
5.4 Milner's Tours Partitifs and Tours Quantitatifs	241
5.4.1 <u>En</u> from a Subject NP	243
5.4.2 <u>En</u> and Left-Dislocated Phrases	247
5.4.3 Extraposition of PPs from 'Partitifs' and 'Quantitatifs'	252
5.5 Some Implications of this Analysis	254
Chapter 6: The Problem of <u>Se</u> : Lexical and Transformational Approaches	256
6.1 Lexical Rules	256
6.1.1 Form and Functioning of Lexical Rules	256
6.1.2 Motivation for Lexical Rules	264
6.2 Non-Reflexive Clitics: Lexical or Transformational Treatment	270
6.2.1 Application of these Arguments to Reflexive Clitics	277
6.3 Reflexive Clitics: Lexical or Transformational Treatment	280
6.3.1 The Criterion of Unsystematic Exceptions	282
6.3.2 The Criterion of Structure Preservation	297
6.3.3 The Criterion of Category Changes	299
6.3.4 The Criteria of Rule Ordering and the 'Local' Nature of Lexical Rules	301
6.4 Conclusion	318

Chapter 7: The Preverbal Order of French Clitic Pronouns	322
7.1 Reflexive Clitics	324
7.2 The Necessity of Two Cliticisation Rules	329
7.3 Non-Reflexive Personal Pronouns	343
7.3.1 The Non-Uniformity of the Pronoun System	344
7.3.2 Morphological, Distributional and Semantic Differences	346
7.3.3 Syntactic Similarities	349
7.4 A Single Clitic Placement Rule, without Positive Output Constraints	352
7.4.1 The Deep Structure of Personal Object Pronouns	352
7.4.2 An Account of Clitic Ordering	359
7.5 The Preverbal Position of <u>En</u>	369
7.5.1 Pro PP <u>en</u> Dominated by VP	370
7.5.2 <u>Pro PP en</u> Dominated by NP, and <u>Pro N en</u>	372
7.5.3 The Placement of Y	378
7.5.4 The Placement of Ethical Datives	379
7.5.5 The Order of Clitics in Affirmative Imperatives	380
Bibliography	382

INTRODUCTION

I remember quite distinctly the first time it ever occurred to me that another language was something more than a set of new labels which simply replaced English words in translation exercises. It surprised me to find out from our Canadianized Whitmarsh French Texts (in which boys played ice hockey instead of cricket) that object pronouns occupied positions in sentences which were quite strange: they came directly in front of the verb, in unexpected orders.

I cannot pretend to have been obsessed by this fact for the last twenty years, but as a teacher of French, I am constantly made aware of how odd it seems to English speakers that the French have pre-verbal pronouns, often arranged in patterns having nothing to do with the order of their possible antecedents. My advice to learners encountering object pronouns for the first time is the same as that of countless other teachers: memorize the traditional clitic chart, and make sure that any conjunct pronouns in the sentence are ordered in accordance with the chart. There is no rational reason for the patterns; that's just the way it is.

This thesis was written in an attempt to show that there is, after all, a reason for the apparently unpredictable patterns of French clitics. A particular view of the underlying structure of these pronouns, together with consideration of constraints on rule application, account for the idiosyncratic alignment of French clitics. In this investigation of pronoun structure and placement, I have tried to eliminate as far as possible any proposals of new rules or other descriptive devices, believing that the field of generative grammar is already quite crowded enough with mechanisms and constructs, and possesses more than enough power to describe language. I have concentrated instead on

clarifying the structure of pronouns and making explicit what rules, and what rule types, must be invoked to explain their preverbal position.

Absolutely no pedagogical benefits, I am sure, will come from this work. The set of assumptions lying behind my explanation for clitic order would be somewhat more onerous to teach to a high school class than the traditional pronoun list. And in any case, generations of successful learners of French are evidence enough that an understanding of why pronouns pattern in peculiar ways is not necessary for skillful manipulation of elements which disrupt normal Subject-Verb-Object word order. It seems that brute memory work still has an important role to play in education!

The framework within which the problem of clitic order has been examined is largely that brand of generative grammar exemplified in Kayne's (1975) French Syntax: a hybrid of Standard Theory and Extended Standard Theory. Additionally, certain later developments within this model have been incorporated into the arguments presented here, while certain others have been rejected as non-explanatory when applied to the question of clitic patterning.

Time constraints and the late availability of materials have meant that I have not evaluated a new branch of linguistic theory which departs from many of the assumptions of more traditional generative grammar. Gazdar's (1982) Phrase Structure Grammar rejects the need for transformations, generating surface word order with phrase structure rules and relating structures by relating the rules which generate the structures. Gazdar (1982: Section 7:8) in fact suggests that the 'clitic preposing' transformation for Romance languages can be replaced by a metarule, which says that for every rule producing a postverbal non-pronominal noun phrase there is a rule producing a preverbal pronominal form. No further suggestions are made about the arrangement of clitics before the verb when more than one of these pronominal elements

are present. I presume that provision would have to be made in an expanded metarule for up to three of these pronouns, and that they will be assigned positions on the basis of syntactic features of case and person, in the manner described by Grimshaw (1980: 9a).

My reaction to this account of clitic order, if this is indeed the way the phenomenon would be described in generalized phrase structure grammar, is that it amounts to saying that clitic order is essentially inexplicable, and that French pronouns occupy peculiar positions because that is the way it is. Assigning pronouns to certain fixed slots determined on the basis of syntactic features seems to imply relinquishing any claim that the preverbal order of clitics can be explained. If clitics must be generated in front of the verb by a phrase structure rule, then the fact that postverbal phrases to which they correspond occur in different orders relative to each other than their clitic counterparts remains an unsolved problem.

Perhaps my inclination to believe that a transformationless grammar will be able to suggest no better an account of clitics than the one I offer within a transformational grammar will prove unwarranted and premature, in light of the analyses now being put forth for fragments of grammar by supporters of this new development in linguistics. But I will leave application of this approach to French pronouns for further study.

I owe substantial debts of gratitude to several people, who have provided support of all kinds during the time this thesis was being planned and written. The greatest is to Ruth Kempson, who in our first meeting jolted me with the information that claims I had made in previous work were worthless, because they were framed in such a way as to be unfalsifiable. Her enthusiasm and willingness to spend many hours with a linguistically unsophisticated student, coupled with her intellectual acuity and determination to make me follow Popperian

precepts, made her an ideal thesis supervisor.

I would also like to thank Andrew Radford, who, during my stay in London, wrote several encouraging and enlightening letters, and provided valuable papers and bibliographical material.

Friends in St. John's have also helped in the writing of this thesis. Colleagues in the Linguistics Department of Memorial University have been generous in sharing both their knowledge of syntax and their books. Colleagues in the French Department have patiently dealt with many requests for grammaticality judgements on sentences which often offended their ears and sense of "le bon usage." Thanks go too to Mrs. Dallas Strange, who did such a good job of typing the final version of the thesis.

I would also like to acknowledge the material support provided by both Memorial University and the Canada Council (now, the Social Sciences and Humanities Research Council), which made it possible to carry on a course of study at the University of London.

My very special thanks go to my wife Jan, who has encouraged me every step of the way towards completion of the thesis. For the past few years, she has assumed an unfair portion of the domestic burden to provide me with writing time, and spent many hours patiently seeing me through unproductive dry spells as well as the good times.

Before I had produced a single idea, she gave birth to our son Daniel, and somewhere between Chapters 3 and 4, Georgia arrived. Subjectively speaking, of course, I can assert in all confidence that they are among the most amazing things on this earth. Their ability to internalize the whole grammar of English while their father laboured over a tiny fragment of the grammar of French gave some perspective to the whole project, and the desire to spend more time with them and their mother was a powerful incentive to see the thesis through to its conclusion.

CHAPTER 1

1. The Problems of Ordering and Co-occurrence

1.1 The Preverbal Order of French Clitics

Non-topicalized object noun phrases in a French sentence normally follow the verb. If the sentence contains an indirect object NP, it comes after the direct object NP, as in (1).

- (1) Jean a écrit la lettre à Marie.
'Jean wrote the letter to Mary.'

Under certain conditions, the emphatic or strong form of personal pronouns also appears postverbally, observing the canonical direct object-indirect object order.

For example, Kayne (1975: 179) notes that sentences containing modified dative pronouns after the verb are in some cases considered fully grammatical. The choice of modifier is relevant here; with neutral intonation, (2)a is fully acceptable, (2)b less acceptable, and (2)c doubtful.

- (2) a. Elle offrira des bonbons à vous tous.
'She will give sweets to you all.'
- b. ?Elle offrira des bonbons à vous deux.
'..... to you two.'
- c. ??Elle offrira des bonbons à vous autres.
'..... to you others.'

With accusative pronouns, however, such examples seem to be impossible.

- (3) a. *Elle aime vous tous.
'She loves you all.'
- b. *Elle aime vous deux.
- c. *Elle aime vous autres.

In special contrastive environments, a bare pronoun may be found postverbally, as in (4).

- (4) a. J'ai voulu en parler à toi, mais pas à lui.
'I wanted to speak about it to you, but not to him.'
- b. Il paraît que cette maison plaît moins à vous qu'à moi.
'It appears that this house pleases you less than me.'

Again, accusative pronouns resist postverbal position more than datives, but in a finger-pointing context, (5) is fairly readily acceptable.
(Kayne (1975: 174)).

- (5) ? Je préfère lui à elle.

It is the restrictive ne . . . que construction which provides the most natural examples of direct and indirect object personal pronouns occurring after the verb, parallel to full NPs.

- (6) a. Paul n'a vu que Marguerite à la librairie.
'Paul saw only Marguerite at the bookstore.'
- b. Paul n'a vu que $\left\{ \begin{array}{l} \text{toi} \\ \text{vous} \\ \text{nous} \\ \text{moi} \\ \text{lui} \end{array} \right\}$ à la librairie.
'Paul saw only you (sing)/you(p)/us/me/him at the bookstore.'
- (7) a. Charles, paraît-il, ne va parler qu'à Suzy.
'Charles, it seems, is going to speak only with Suzy.'
- b. Charles, paraît-il, ne va parler qu'à $\left\{ \begin{array}{l} \text{elle} \\ \text{eux} \\ \text{elles} \\ \text{lui} \end{array} \right\}$
'Charles, it appears, is going to speak only with her/them (masc.)/them (fem.)/him.'

When a personal pronoun appears following a 'two-place' object verb, the expected order is observed:

- (8) a. Elle ne devrait dire ces choses qu'à moi.
'She should say those things only to me.'

- b. Elle ne voudrait présenter que moi à ces gens-là.
'She would want to introduce only me to those people.'

Clearly then, in those contexts which allow postverbal object pronouns in French, no special mention has to be made about the order in which the pronouns appear in the sentence. Just as full NPs do, they follow the verb, and if there are two, the direct object comes before the indirect object. However, these modified, contrastively stressed and restricted pronouns are special cases; with the exception of a very small class of penser-type verbs, which require personal pronominal complements to follow them, verbs in French require direct and indirect object pronouns to appear preverbally. The ungrammaticality of the sentences of (9) is a consequence of the postverbal position of the pronoun objects.

- (9) a. *Jeanne a vu moi.
'Jean saw me.'
- b. *Jacques parlera à eux demain.
'Jim will speak to them tomorrow.'

Placing the pronouns of (9) into preverbal position does not automatically make these sentences grammatical; the strong form is not found before the verb:

- (10) a. *Jeanne moi a vu.
b. *Jacques à eux parlera demain,

Instead, the pronoun must appear in its weak (or atonic, or clitic) form.

- (11) a. Jeanne m' (=me) a vu.
b. Jacques leur parlera demain.

Table 1 below contains the stressed, strong form personal pronouns and their unstressed, clitic counterparts (omitting the reflexive

se, which will be dealt with separately).

TABLE 1
Personal Pronouns

<u>Strong form</u>	<u>Weak form</u>	
moi/à moi	me	'me/to me'
toi/à toi	te	'you/to you' (sing)
lui	le	'him', 'it'
elle	la	'her', 'it'
à lui	lui	'to him', 'to it'
à elle	lui	'to her', 'to it'
nous/à nous	nous	'us/to us'
vous/à vous	vous	'you/to you'
eux	les	'them' (m)
elles	lès	'them' (f)
à eux	leur	'to them' (m)
à elles	leur	'to them' (f)

One might expect that preverbal clitic order would reflect the canonical postverbal order of elements, and indeed, this is the case when two third-person pronouns from the above table occur together. That is, only (12)b is grammatical; (12)c, where the indirect pronoun leur precedes the direct pronoun la, is ungrammatical.

- (12) a. Max a écrit la lettre à ses cousins.
'Max wrote the letter to his cousins.'
- b. Max la leur a écrite.
- c. *Max leur la a écrite.

Actual clitic order departs from the expected order when a third-person pronoun is combined with a first/second-person clitic. Because of co-occurrence restrictions which do not concern us here, no third-person dative pronoun may appear preverbally along with a first- or second-person pronoun (or the reflexive se). The only permitted combination therefore is of a third-person accusative and a first- or second-person dative. In other words, le, la or les may co-occur with me, te, nous vous; lui and leur may not. And when such permitted combinations occur, they are subject to what appears to be a surprising ordering restriction:

the dative first or second person must come first, with the accusative pronoun directly preceding the verb. That is, preverbal order for this set of clitics is exactly the opposite of the anticipated order. If these clitics behaved syntactically like pairs of third-person clitics, or like full NPs and modified, stressed or restricted pronouns postverbally, then we would expect the b sentences of (13)-(16) to be grammatical. Instead, these are rejected in favour of the c sentences.

- (13) a. Paul me donnera la lettre.
'Paul will give me the letter.'
- b. *Paul la me donnera.
- c. Paul me la donnera.
- (14) a. Marie t'enverra l'argent.
'Marie will send you the money.'
- b. *Marie le t'enverra.
- c. Marie te l'enverra.
- (15) a. Le facteur nous a remis les paquets.
'The postman handed us the parcels.'
- b. *Le facteur les nous a remis.
- c. Le facteur nous les a remis.
- (16) a. Le concierge vous apportera le journal.
'The caretaker will bring you the newspaper.'
- b. *Le concierge le vous apportera.
- c. Le concierge vous l'apportera.

Surface structure clitic order seems therefore to be unpredictable, in the sense that when the strong form counterparts of these weak pronouns are found postverbally, their position does not differ from that of full NPs. Before the verb, however, some, but not all, of the clitics seem to undergo an ordering switch which produces a dative-accusative pronoun order in place of the expected accusative-dative order.

1.2 Co-occurrence Restrictions Among French Clitics

Sentences such as (17) below are grammatical when the indirect object is contrasted.

- (17) a. Elle le présentera à moi, pas à Paul.
'She will introduce him to me, not to Paul.'
- b. Max les enverra à nous, mais pas à Pierre.
'Max will send them to us, but not to Paul.'

If these indirect objects are not contrasted, the pronoun must appear in clitic form, as in (18).

- (18) a. Elle me le présentera.
'She will introduce him to me.'
- b. Max nous les enverra.
'Max will send them to us.'

Similarly, the sentences of (19), where a first- or second-person pronoun has replaced the third-person direct object pronoun, are also grammatical when the indirect object is contrastively stressed.

- (19) a. Elle vous présentera à moi, pas à Paul.
'She will introduce you to me, not to Paul.'
- b. Max t'enverra à nous, mais pas à Pierre.
'Max will send you to us, but not to Pierre.'

If the indirect objects of (19) are not contrasted, however, no grammatical sentences arise by replacing the strong form pronouns with the clitics, as shown in (20).

- (20) a. *Elle me vous présentera.
- b. *Max te nous enverra.

The only grammatical version of (20) is (21), where the indirect object pronouns are not contrastively stressed.

- (21) a. Elle vous présentera à moi.
- b. Max t'enverra à nous.

If the direct object personal pronouns in (21) are replaced with full NPs, as in (22), the results are ungrammatical.

- (22) a. *Elle présentera la présidente à moi.
'She will introduce the president to me.'
- b. *Max enverra son porte-parole à nous.
'Max will send his spokesman to us.'

Grammatical sentences result though if the indirect objects are cliticised, as in (23).

- (23) a. Elle me présentera la présidente.
- b. Max nous enverra son porte-parole.

So the sentences of (20) are rejected because the first-person pronouns appear in clitic form, while the sentences of (22) are rejected because these pronouns fail to cliticise. The conclusion to be drawn from this observation is that there is some kind of incompatibility between certain pronouns when they are in preverbal position.

There are, in fact, no possible combinations, in any order, of first- and second-person object pronouns in French when they are both in clitic position, despite the fact that if one of these first- or second-person indirect objects follows the verb, no incompatibility arises. There is therefore no grammatical sentence in standard French containing more than one preverbal clitic form from the group of direct/indirect object clitics me, te, nous, vous. This last qualification is necessary in light of permissible strings of clitics when one or more of the pronouns is an 'ethical dative'. These share the morphology of indirect object pronouns, but are syntactically and semantically quite distinct. They will be discussed later in this chapter.

Another peculiarity of this group of first- and second-person pronouns is the co-occurrence restriction they impose on third-person dative pronouns when these are cliticisable. Nothing prevents a

third-person dative from appearing contrastively under stress post-verbally when a sentence contains a first- or second-person accusative clitic, as in (24).

- (24) a. Charles nous a recommandés à elle, pas à lui.
'Charles recommended us to her, not to him.'
- b. Paul te présentera à eux, mais pas à elle.
'Paul will introduce you to them, but not to her.'

But when these third-person datives are not contrastive, they may not appear in clitic form, as (25) illustrates.

- (25) a. *Charles nous lui a recommandés.
'Charles recommended us to her.'
- b. *Paul te leur présentera.
'Paul will introduce you to them.'

Again, the only grammatical version of (25) is (26), where the indirect objects, though not contrastively stressed, nevertheless do not cliticise.

- (26) a. Charles nous a recommandés à lui.
- b. Paul te présentera à eux.

And as was the case above, replacing the first- and second-person direct objects in (26) with full NPs results in the ungrammatical sentences of (27).

- (27) a. *Charles a recommandé nos cousins à lui.
'Charles recommended our cousins to him.'
- b. *Paul présentera sa soeur à eux.
'Paul will introduce his sister to them.'

The indirect objects here must cliticise.

- (28) a. Charles lui a recommandé nos cousins.
- b. Paul leur présentera sa soeur.

These facts suggest a conclusion similar to the one drawn on the basis of sentences (18)-(23): there is an incompatibility between first- and second-person direct object pronouns, and third-person indirect object pronouns. No combination, in any order, or one of the direct object clitics me, te, nous or vous with lui or leur, is allowed, when both are in preverbal position, even though, as (24) and (26) show, there is no incompatibility if the strong form of lui or leur occurs postverbally.

I have no explanation for these incompatibilities, seeking instead to account for the order of pronouns which may co-occur preverbally. Querido (1975) offers a partial account of why certain clitic combinations are not acceptable. I shall assume that a set of surface filters will be required to ensure that impermissible sequences do not appear.

In summary then, French object clitics present what seem to be highly idiosyncratic characteristics of ordering and co-occurrence. First- and second-person pronouns, whether direct or indirect objects, always appear first in any sequence of clitics, and there must be only one of them. And third-person indirect object clitics can never occur in preverbal position along with a first- or second-person clitic; these must come after the verb, in their stressed form.

1.3 Proposed Solutions to the Problem: Perlmutter's Surface Structure Constraint

Given the seemingly fortuitous ordering and co-occurrence restrictions which obtain among clitics, a number of possible analyses are available. The constraints could be stated at the base structure level, by generating clitics in their surface order by means of a phrase structure rule. Or they could be incorporated into the structural change of a rule or rules in the transformational component responsible for moving clitics from their postverbal positions and rearranging them

in preverbal order. Either of these two approaches would make use of formal devices which are well motivated within the theory of generative grammar, and would not therefore add any new mechanisms to an already powerful model. According to Perlmutter (1971), however, neither the phrase structure solution nor the transformational solution can adequately express clitic constraints in French.

1.3.1 Rejection of a Phrase Structure Approach

One reason why the phrase structure solution is rejected is that it fails to relate clitic sequences which are permitted to appear before verbs, with the strict subcategorization and selectional facts which are defined on particular verbs and adjectives. A very simplified phrase structure rule designed to generate clitics in the right order might have a general form something like (29).

$$(29) \quad V' \longrightarrow (CL_{I/II}) (CL_{III_{acc}}) (CL_{III_{dat}}) V$$

and would imply that any verb could be preceded by any kind of personal clitic pronoun. This is obviously false, as a simple example illustrates. In the absence of any qualifications or restrictions, (29) allows us to generate (30).

- (30) *Paul lui frappe.
'Paul hits to him.'

In fact, (30) is wrong for exactly the same reason as (31) is wrong.

- (31) *Paul frappe à Pierre.
'Paul hits to Pierre.'

That is, indirect object clitics like lui can only co-occur with verbs which allow indirect object NPs to follow them, which frapper does not. In other words, a subcategorization feature which excludes certain configurations of postverbal NPs predicts exactly which clitics will be allowed to appear preverbally, in sentences like the above. It is

no coincidence that frapper only allows direct object NPs to follow it and direct object clitics to precede it. As this phrase structure solution fails to state these facts explicitly, it makes false predictions about which clitics may co-occur with which verbs.

To resolve this difficulty, Kayne (1975: 70) notes that one could relate postverbal NPs and preverbal clitics by means of a lexical redundancy rule which assigned the feature "direct object clitic _____", for example, to any verb already subcategorized with the feature "_____ NP." But lexical redundancy rules fail to ensure correct clitic-verb pairings in those cases where clitics are not the objects of the verb they precede. In French, adjective complements, if cliticised, are positioned in front of the main verb of their clause, and not in front of the adjective. Consider for example (32)b, in which the clitic corresponds to the underlined NP of (32)a.

- (32) a. Paul est infidèle à Marie.
 'Paul is unfaithful to Marie.'
 b. Paul lui est infidèle.

The main verb of this sentence, être, is peculiar in that it does not allow its own dative complements to cliticise, as shown by (33).

- (33) a. Ce foulard est à Marie.
 'This scarf is Marie's.'
 b. *Ce foulard lui est.
 c. Ce foulard est à elle.

It will have to be stated therefore as a lexical fact that the normal operation of the redundancy rule, which assigns the feature "indirect object clitic _____" to every verb already subcategorized with the feature "_____ à NP", will have to be suspended in case the verb is être (or penser or rêver, etc.). Given this restriction, it will then be impossible to explain within this set of assumptions why

(32)b is grammatical. It is obvious that the clitic is not a complement of être but of infidèle, and that at some stage of the derivation of this sentence, after the point at which subcategorization features are specified, the pronoun has 'moved away' from its source position to its clitic position. No lexical redundancy rule of which I am aware has access to information such as [\pm main verb complement] on clitics to which it could refer in determining its domain of applicability. Such rules affecting être could refer only to the strict subcategorization features on être itself, and, in view of the lexical peculiarities of this verb, would predict that (32)b should be rejected. The fact that this sentence is perfectly grammatical is reason enough to suspect that a phrase structure approach to the problem of ordering and co-occurrence restraints on French clitics will not be successful.

Further problems with (29) can be easily seen. A phrase structure rule may well get clitics in the right order, but cannot by itself disallow such ungrammatical combinations as *nous le leur, *te lui and *me la leur. All of these would be generated by a rule like (29), and some other component of the grammar would have to ensure that these were marked as deviant. This is an especially difficult problem for a phrase structure analysis, in view of the fact that the lexical redundancy rules required for this approach will assign to a verb like recommander the feature "indirect object clitic _____", because of sentences like (33).

- (33) a. Elle a recommandé Jean-Pierre au chef de la section.
 'She recommended Jean-Pierre to the department head.'
- b. Elle lui a recommandé Jean-Pierre.

The fact that the indirect object clitics me, te, nous, vous are allowed preverbally in (34)a but not in (34)b

- (34) a. Elle m'/t'/nous/vous a recommandé Jean-Pierre.
 'She recommended Jean Pierre to me/you/us/you (pl.).'
- b. *Elle me vous a recommandé.
 'She recommended you to me.'
- c. Elle vous a recommandé à moi.

is not explained at all by lexical redundancy rules: a feature like "indirect object clitic _____" assigned to a verb which accepts indirect object NPs cannot be suspended just in case there happens to be another clitic of a certain type already in preverbal position. The rule would generate (34)b, which would have to be filtered out at the surface. Other arguments against a lexical treatment of non-reflexive clitics are advanced in Chapter 6, Section 6.2. Perlmutter rejects the lexical approach on the basis of evidence like that presented here.

1.3.2 A Transformational Approach

Since the phrase structure approach seems an unlikely candidate for the job of getting clitics in the right order and of excluding certain co-occurrences of clitics, it seems obvious to turn next to the transformational component of the grammar. A transformational analysis would avoid the difficulties of a base structure approach because clitics would be derived from object proforms generated in postverbal NP (or PP) position. Selectional restrictions and subcategorization features could then be stated naturally, and there would be no need for lexical redundancy rules.

Perlmutter (1971) claims, however, that the solution to the problems posed by French clitics will not be found in a transformational approach. He states that "it has been shown that in adequate grammars of . . . French, the constraints on the order of clitic pronouns cannot be stated by means of a clitic-reordering transformation . . . " (Perlmutter (1971: 74)).

To make his point, Perlmutter uses examples similar to the sentences in (35)-(36) (cf. (24)-(28)).

- (35) a. Paul ne me recommandera qu'à lui.
'Paul will recommend me to him only.'
- (36) Paul me recommandera à Marie, mais pas à vous.
'Paul will recommend me to Marie, but not to you.'

A plausible deep structure for sentence (35) is (37), in which both me (moi) and lui appear postverbally.

- (37) Paul-ne-recommandera-moi-que-à lui.

Only moi is cliticisable; the ne . . . que construction prevents lui from being moved. So, obviously, me and lui are compatible at the level of deep structure. The removal of the restrictive ne . . . que should not affect this deep structure compatibility. But with lui now cliticisable, the resulting structure (38) is ungrammatical.

- (38) *Paul me lui recommandera.

The lack of grammaticality here does not result from any inability on the part of lui to be cliticised, as (39)-(40) show.

- (39) Paul lui recommandera ce jeune chargé de conférences.
'Paul will recommend this young lecturer to her.'
- (40) Paul le lui recommandera.
'Paul will recommend him to her.'

So there are well-formed deep structures to which a clitic movement rule may apply, but some of the surface structures produced by this rule are not correspondingly well-formed. It would be inappropriate to alter the rule in such a way that the ungrammatical surface strings are avoided, because such an alteration would entail allowing a transformation to "peek ahead" at its output. If that

output were to form an illicit surface structure combination, the rule would have to suspend its operation. This is simply not a possible solution to the problem, because transformations operate on category labels in phrase markers, and not on particular lexical items. To attempt to state clitic co-occurrence restrictions by building such information into the structural index and structural change of transformations would void the theory of any explanatory power and reduce the role of transformations to constructing lists of idiosyncratic lexical sequences.

Perlmutter concludes therefore that the peculiarities of French clitic order and co-occurrence restrictions are not amenable to a transformational solution.

1.3.3 A Surface Filter

Because of these serious problems involved in expressing ordering and co-occurrence constraints among French clitics, Perlmutter (1971) proposes to augment the already existing stock of phrase structure rules and transformational rules by adding another formal device to grammatical theory which he calls a surface structure constraint or output condition. The constraint is to be interpreted as a template or filter which is applied to the output of the transformational component. In other words, the rule responsible for moving object pronouns into preverbal position will be stated in maximally simple form, and will be allowed to apply freely. Both grammatical and ungrammatical strings of clitics will result, but the ungrammatical ones will be discarded because they do not contain a surface structure configuration which conforms to the template. The following chart is given by Perlmutter for French:

an automatic consequence of a filter operating on the output of freely applying rules of the transformational component.

The only apparent disadvantage of this surface structure constraint is the additional power it gives to generative theory, but Perlmutter considers this liability to be outweighed by its ability to provide a neat solution to an otherwise puzzling set of facts about clitics, and because similar filters are needed in any case in universal grammar.

1.4 Problems with the Surface Structure Constraint

Examination of the whole range of clitic data in French reveals that there are a number of problems with this proposal. Among the class of minor problems is the fact that the chart appears to sanction ungrammatical sequences of clitics, such as (44),

(44) *Il me la leur y en parle

although, clearly, there is no imaginable well-formed structure underlying (44). Moreover, a large number of speakers accept only two object clitics in the preverbal space, and, when the 'ethical dative' is considered, some speakers admit as many as three. I am not aware that four have ever been attested apart from linguists' fabrications. In addition, except for the idiom y en avoir, y and en do not generally co-occur except in literary contexts. Although in those cases there are well-formed deep structures which do not surface as grammatical, the filter does not rule them out as possible surface forms. For example, the perfectly reasonable sentence in (45)a does not have a corresponding version which is easily accepted by native speakers where the underlined NPs have been replaced by their clitic counterparts.

- (45) a. Le directeur vous parlera de cette affaire dans son bureau.
 'The manager will speak to you about this matter in his office.'
- b. ??Le directeur vous y en parlera.

The chart does not reflect the marginal nature of sequences like these.

A more obvious problem noted by Perlmutter himself, is the postverbal position and different order of clitics in affirmative imperatives. In this construction, clitics follow the verb, and first- and second-person object pronouns follow any third-person accusative pronouns. The preverbal clitic order of (46) a is predicted by the filter, but their postverbal arrangement in (46) b is not.

- (46) a. Vous me la donnez.
 'You give it to me.'
- b. Donnez-la-moi!
 'Give it to me!'
- c. *Donnez-me-la!

(See Kayne (1975: 91) for arguments that moi in b is the clitic form of the pronoun, and not the uncliticised strong form.) The predicted order of c is ungrammatical. Neither of the two possible explanations offered by Perlmutter for these facts is very satisfactory. One is that a second surface structure constraint applies to affirmative imperatives. This constraint would exactly duplicate the work of the first constraint in stipulating co-occurrence restrictions, because, both as proclitics and enclitics, me, te, nous and vous are mutually exclusive, as are le, la, les, and lui, leur and so its only purpose would be to account for the different position of first- and second-person pronouns vis-à-vis third-person accusatives. A second, almost identical constraint, gives the impression that an important generalization is being missed. The other explanation is to posit a clitic flip rule applying AFTER the surface structure constraint had operated, reversing the order in (46)c to (46)b. This possibility is probably

worse than the other, for two reasons. First, it seems to render the notion of a surface structure constraint entirely vacuous. The input to a surface filter is by definition the output of the transformational component. If transformational rules can apply both before and after the operation of the surface structure constraint, it is hard to see how one could maintain that the constraint was different from a transformation, one whose formal properties would be difficult to imagine. If such a rule were claimed to be a 'stylistic' rule, operating after the transformational rules, it is difficult to see what the basis of this claim could be, as there is no element of 'choice' in the arrangement of clitics.

Second, a clitic flip transformation of the kind envisaged by Perlmutter would knock out some of the underpinnings for the arguments used to support the surface structure constraint. These arguments are based on particular combinatory possibilities and sequences of clitics on the surface which cannot be related to their deep structures by base rules or transformations without undesirable complications. To admit such things as interchange transformations applying AFTER the constraint is equivalent to admitting that the strange surface order of clitics can be accounted for WITHOUT a surface filter. To see that this is so, consider (47), the putative underlying order of (46)a.

(47) Vous-donnez-la-à moi.

A rule moving the clitics en bloc would give the intermediate structure (48).

(48) Vous-la-me-donnez.

Finally, the clitic flip rule, which causes third-person accusatives and first- or second-person datives to trade places, results in grammatical (46)a.

(46) a. Vous me la donnez.

It is obvious that once such a flip rule is sanctioned, the filter is not needed to guarantee correct clitic order. It is, after all, the position of first- and second-person dative pronouns in combination with third-person accusatives which causes the ordering problem in the first place. Other sequences of clitics assume the same position relative to each other preverbally as they do postverbally. Given an interchange rule, the need for a surface filter becomes less compelling, and its role is reduced to stating co-occurrence restrictions. In view of these implications then, the better alternative is the one requiring two separate but largely overlapping constraints, one for proclitics and the other for enclitics.

The modifications or additions to the proposed template which clitic order in affirmative imperatives seems to require might perhaps be accepted without too much protest, given the construction-particular environment triggering the change from normal ordering patterns. It is less easy to accept that the filter allows to pass unchecked, and therefore predicts as grammatical, combinations of first/second-person accusatives and third-person datives. That is, pairs like *me lui, *nous leur, or any other combinations of me, te, nous, vous with lui, leur are rejected by native speakers. Yet the surface structure constraint does not give any reason to think that these are in any way different from such grammatical sequences as me la, nous les, etc. It completely misses the generalization that if a first- or second-person accusative is in clitic position, a third-person dative clitic must remain postverbal and not cliticise.

Perlmutter believes that this is not a serious problem for his analysis, because there are, in fact, grammatical sentences which contain combinations of me, te, nous, vous with lui and leur, where the pronoun

in the first group is not an accusative but a so-called ethical dative. The syntax of these ethical datives is not well understood, in part because they are not used by all speakers. They do not correspond to anything like the notion 'indirect object', and can in fact appear with verbs which are not subcategorized for a following à NP. For example, the a sentence of (49) is ungrammatical because goûter ('to taste') does not take an à NP complement which is [+HUMAN]. The b sentence however, where moi is the ethical dative, is grammatical.

- (49) a. *Goûtez ce petit vin à Paul!
'Taste this wine for Paul/for Paul's sake!'
- b. Goûtez-moi ce petit vin!
'Just taste this wine.'

Ethical datives are limited to emphatic contexts in spoken language, so that the a sentence of (50) is bizarre because there is nothing particularly startling about the sea rising. But, as Leclère (1976) observes, the rapid inrush of the tide at Mont St. Michel makes (50)b perfectly natural.

- (50) a. ??La mer te monte.
'The sea rises' or 'Look, the sea rises.'

(Note: the ethical dative is not a sort of benefactive or adversative, which is why no translation like 'on you' or 'up to you' is provided. Using the ethical dative is rather like asking your interlocuter to witness either the veracity or the extraordinary nature of your statement.)

- b. Au Mont St. Michel, la mer te monte à une vitesse!
'At Mont St. Michel, the sea rises at a fantastic speed!'

Another distinguishing characteristic of this construction is that it is not compatible with detachment. Dative clitics which are indirect objects of verbs like parler do allow the detachment construction, as do clitics corresponding to à NP possessives, like 'un ami à moi'

(a friend of mine).

- (51) a. Elle te parle souvent, à toi.
'She often speaks to you.'
- b. Elle t'a encore cassé trois verres, à toi?
'Did she go and break another three of your glasses?'
- c. *Ici, la mer te monte à une vitesse, à toi!
'Here, the sea rises at a fantastic rate!'

Moreover, third-person ethical datives do not seem to exist.

- (52) *La mer lui monte à une vitesse!

while the first person requires some sort of plausible close connection between the pronoun and a participant in the event referred to. Thus,

(53) is very strange, while (54) is normal if spoken by Paul's mother.

- (53) ?*Au Mont St. Michel, la mer me monte à une vitesse.

- (54) Paul m' avait une drôle de mine.
'Paul looked a bit odd.'

(These examples are from Leclère (1976))

In short, these ethical datives are a marginal phenomenon, limited in distribution and of a marked stylistic nature. Their importance for Perlmutter is that they can be found together with virtually any other clitic, including lui and leur, as in (55).

- (55) Tu verras - elle va te leur présenter son idiot de petit-ami!
'You'll see - she's going to introduce her nutty boy-friend to them!'

Sentences like these convince Perlmutter that his filter should not, after all, be required to exclude combinations of me, te, nous, vous with lui, leur. Since the filter does allow sequences like te leur in (55), Perlmutter suggests that those sentences in which te leur is ungrammatical should be ruled out by what he calls 'non-global constraints'. The motivation for a non-global constraint would be the

grammaticality of a clitic sequence in one construction and the ungrammaticality of the same sequence in another construction. One could thereby conclude that the ungrammaticality was due to some sort of construction-particular constraint on clitics.

While Perlmutter may view these permitted sequences of normally incompatible clitics to be a natural consequence of his theory of surface filters, examination of a wider range of ethical dative data may well reveal that they are nothing more than a convenient coincidence. Recall the statement made earlier to the effect that ethical datives may be found with virtually every other clitic. Though Perlmutter rejects sentences like these, Leclère (1976: 93) notes that the sentences of (56) are quite natural.

- (56) a. Paul te m' a donné une de ces gifles!
'Paul gave me a real slap!'
- b. Au Mont St. Michel, la mer te vous monte à une vitesse.
'At Mont St. Michel, the sea rises at a fantastic rate!'

The a sentence contains an ethical dative te and an indirect object dative me. The b sentence contains two ethical datives. Unlike the clitics in (55), which occur in different columns in the chart, the clitics in (56) belong to the same set, and are supposedly mutually exclusive.

The point is this: if the surface filter is not to exclude some sequences which are ungrammatical everywhere except in an ethical dative construction, it should not exclude any sequences which are grammatical only in the ethical dative construction but nowhere else. Consistency demands therefore that the sequences of (56) be allowed to pass unhindered through the filter, just as that of (55) is allowed through. No modifications in the format of the filter are required to account for (55), but to account for (56) would imply a radical change, amounting to giving up the function of stating co-occurrence

restrictions by means of the chart. The presentation of clitics in columns is a way of saying, for example, that me, te, nous and vous are mutually exclusive. If examples like (56) must now be incorporated into the filter, as the logic of Perlmutter's argument demands that they must, the co-occurrence restrictions in non-ethical dative constructions may not therefore be stated in chart notation, and will have to be ascribed to 'non-global' or 'construction-particular' constraints, as were the normally ungrammatical *me lui, *te leur sequences.

Clearly, this conclusion is undesirable from Perlmutter's point of view, because it reduces the double function of the surface structure constraint to a single function. If co-occurrence restrictions cannot be adequately expressed, the constraint now becomes simply a statement of ordering.

Here, however, a methodological weakness in Perlmutter's treatment of French clitics becomes apparent. As Emonds notes, "he does not state any transformations that he claims cannot in principle account for the ordering restrictions . . ." (Emonds (1976: 225)). Instead, the basis for Perlmutter's claim that French clitic order cannot be dealt with transformationally is a demonstration that French clitic co-occurrence restrictions cannot be dealt with transformationally. The only examples used to support his claim are sentences like (35)-(40), which demonstrate no more than an incompatibility in preverbal position between clitics which are not incompatible postverbally. But the question of how these pronouns come to occupy positions to the left of the verb in a particular order with respect to each other, is left untouched. Some arguments about the impossibility of placing Spanish clitics in their correct order by rules are given, but clearly these do not automatically apply to French.

To fill in this logical gap in Perlmutter's argument, therefore, I will attempt in subsequent sections to demonstrate that there are indeed difficulties in stating clitic order transformationally. French clitics will be shown to be a good testing ground for several current proposals whose goal is to predict rule domains or the order of application of rules. These proposals, intended to be general in scope, will be demonstrated to be inadequate to account for the idiosyncracies of pronoun ordering, without substantial additions and revisions. Proposals dealing in particular with French clitic order will also be examined and shown to be less than ideal solutions to the problem.

Finally, I will present a solution to the question involving as few rules as possible and avoiding ad hoc devices. This solution will require a prior investigation of the deep structure form of French clitics. The order of all but one of the pronouns will be found to be a consequence of differences in their deep structures. The one pronoun which does not pattern like the others will be shown to be different from the other pronouns in several respects, and might therefore be predicted to behave in a syntactically particular way.

The purpose of this study will be to demonstrate that the surface filter generally assumed to be required for French clitics can be significantly reduced, without extending the range of rules or other formal devices already required by the grammar.

CHAPTER 2

2. General Proposals for the Placement of French Clitics: Preliminary Considerations

In the following chapters, I shall assume that the base rules generate object proforms in noun phrase positions, which may appear on the surface in their 'strong' form in environments such as those in (1).

(1) a. Conjoined NPs.

J'ai vu son cousin et elle en ville.
'I saw her cousin and her in town.'

b. As objects of a preposition

Après moi, le déluge!
'After me, the flood!'

c. After ne V . . . que

Elle ne veut parler qu'à toi.
'She wants to talk to you only.'

These positions are all contexts in which full NPs may appear.

The pronoun which occurs to the left of the verb is considered to be a preposed pronoun in 'weak', 'atonic' or 'clitic' form. Kayne (1975: 68-69) demonstrates that both direct and indirect object clitics are in complementary distribution with the NP-like strong forms.

Consequently, we would like to say, along with Kayne, that the pronouns eux, les and leur, for example, derive from a single lexical item that is spelled out differently depending on its position in the sentence, and on case marking.

Pronouns are assumed therefore to be introduced into basic structures as expansions of the NP node. This allows straightforward generation of sentences containing 'strong form' pronouns. But, as clitics appear in positions which cannot be filled by NPs, an additional mechanism is required to generate sentences containing these

"weak" pronouns.

Having considered and rejected a phrase structure solution which would generate clitics in the base already in surface position, Kayne (1975: Chapter 2) argues for and adopts a transformational rule of Clitic Placement which moves a pronoun from postverbal to preverbal position. Additional arguments for a transformational solution to the problem of accounting for the preverbal position of these pronouns are presented in Chapter 6. The final version of this rule is given as (2).

(2) W NP V X Pro Y
 1 2 3 4 5 6 → 1 2 5 + 3 4 6

This rule takes a pronoun generated by the base rules to the right of the verb, moves it over a variable, and places it, in clitic form, in a position between the subject noun phrase and the verb.

Kayne (1975: 201, n.161) acknowledges that this formulation of the rule is not entirely satisfactory. In particular, the presence of the NP constituent is non-explanatory, since this element is not affected by the structural change of the rule, nor does it serve as the 'landing site' for the displaced clitics, which attach instead to the verb.

The function of the NP constituent is to allow the right V to be picked out in case more than one V is present in the string on which the rule operates. What needs to be avoided is the attachment of clitics to past participles. These verbal elements are dominated by the node V, so that a clitic rule specifying movement of a proform from postverbal to preverbal position must ensure that a past participle V is not analyzed as the target V mentioned in the rule.

Kayne solves this problem by generating past participles as verbs under the VP node, while auxiliaries are generated as pre-VP elements dominated by the node V. The string in (3)a therefore has

the labelled bracketing in (3)b, since the string is generated by the phrase structure rule (3)c.

- (3) a. Jean a lavé l'auto.
'Jean washed the car.'
- b. $[_S [_{NP} \text{Jean}] \text{ } [_V [\text{a}] \text{ } [_{VP} [_V \text{lavé}] \text{ } [_{NP} [\text{l'auto}]]]]]$
- c. $S \longrightarrow NP \text{ Tense (avoir + é) VP}$

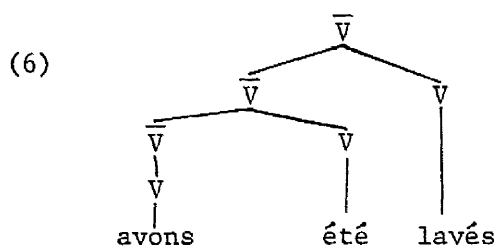
Because the auxiliary is assumed to be a V (a very plausible claim in light of the evidence adduced for it in Kayne (1975: 99, n.39)), clitics may attach to it. That they must do so, and must not attach to the V dominating past participles, can only be ensured, in Kayne's terms, by mentioning the NP constituent in the rule of Clitic Placement. Both auxiliary and past participle are members of the same category V; the correct V can be picked out only if further contextual indications are given. In this case, the subject NP (defined configurationally) happens to be followed immediately by the V to which clitics attach. Strings like $NP \text{ } V_1 \text{ } V_2 \text{ } NP$ therefore could be wrongly factorized by a rule of Clitic Placement which did not somehow indicate which V was selected as rule target. Without the NP, a rule containing a $\dots V \text{ } X \text{ } Pro \dots$ sub-part could analyze the variable as null, and attach clitics to V_2 . With the NP mentioned in the structural description, only V_1 will be selected, as desired.

A more satisfactory way of selecting the 'landing site' for moved pronominal elements is available, however. Emonds (1978) points out that Kayne's phrase structure rule (3)c has certain disadvantages. For example, past participles following avoir and être are the V elements of a VP constituent in this analysis, and should delete just as infinitival heads of VP constituents can delete in cases of null anaphora. But (5)b is not grammatical, though structurally it is parallel to (4)b.

- (4) a. Paul veut manger tout le gâteau, mais il ne peut pas manger tout le gâteau.
'Paul wants to eat all the cake, but he cannot eat all the cake.'
- b. Paul veut manger tout le gâteau, mais il ne peut pas.
- (5) a. Paul a mangé du gâteau, mais je n'ai pas mangé de gâteau.
'Paul ate some cake, but I didn't eat any cake.'
- b. *Paul a mangé du gâteau, mais je n'ai pas.

Consideration of this and similar problems leads Emonds to propose an alternative analysis of these verbal elements in French, in conformity with the bar notation framework for base rules suggested in Chomsky's (1970) Remarks on Nominalization. In his analysis, Emonds proposes that auxiliaries be generated as part of a 'verbal complex' constituent, intermediate between V and VP, which "permits the generation of two Vs in a single constituent, but not as sister constituents" (Emonds (1978: 152)). This verbal complex constituent is generated as \bar{V} , under the VP node. (Like several other linguists, including Selkirk (1977), Emonds adopts a 'mixed' notation, preserving the traditional labels NP and VP, presumably to avoid having to take a stand on precisely how many levels of structure have to be generated between the highest phrasal node and the barless node immediately dominating lexical material. We shall assume that the VP node is equivalent to \bar{V} , but will continue using VP for typographical convenience.)

The \bar{V} constituent in turn is expanded as a left-branching structure, giving the partial phrase marker (6) for (Nous) avons été lavés ((We) were washed).



Adoption of this analysis allows the target site for clitic movement to be specified without reference to unaffected contextual elements. Clitics can now move to the position immediately preceding the first V within the \bar{V} or VP constituent. Since this constituent contains both auxiliary and main verbs at the 'highest' level, and dominates the leftmost auxiliary at the 'lowest' level, all verbal elements will be located to the right of any preposed clitics, and past participles will be correctly excluded.

Assuming that Emonds' analysis of verbal complexes containing auxiliaries is essentially correct, and adopting a suggestion he makes concerning the specification of the target site for clitics, we can modify the rule of Clitic Placement to (7)a, omitting the end variables.

(7) a. Clitic Placement

VP [V X PRO Y]
 1 2 3 4 \longrightarrow 3 + 1 2 \emptyset 4 (where + indicates sister
 adjunction)

This modification in the form of the rule has the advantage of formalizing the generalization made in Radford (1977), which states that clitics attach to the leftmost V of the minimal VP containing them. Note that it presupposes that clitic movement is a VP-internal operation, implying that causatives have monoclausal structures as a result of Verb Raising or Faire-Infinitive.

Taking this formulation of the rule as a starting point, we shall investigate the question of whether preverbal sequences of clitics can be generated in their correct order without appealing to Perlmutter's surface structure constraint.

2.1 The 'Straightforward' Approach

By 'the straightforward approach', I understand an application of Kayne's modified rule (7)a to postverbal pronouns, with no

restrictions on the interpretation of the variable. The variable may therefore contain more than one instance of the category PRO (which we assume to be equivalent to NP[+ PRO]), as well as one or more instances of the category V.

Consider what happens when rule (7)a is applied to the b strings in (8)-(9) below.

- (8) a. Paul a envoyé cette lettre à son député.
'Paul sent that letter to his MP.'
- b. Paul-a envoyé-la-à elle.
Paul-sent - it - to her.'
- (9) a. Paul m'a envoyé cette lettre.
'Paul sent me that letter.'
- b. Paul-a envoyé-la-à moi.
'Paul-sent -it-to me.'

Two possible modes of application of Clitic Placement are available. The pronouns might move en bloc, so that a single operation of the rule was sufficient to move both pronouns in front of the verb. Or they might move one at a time, in two applications of the rule, with the leftmost pronoun presumably moving first.

Either mode of operating would produce the grammatical (8)c.

- (8) c. Paul la lui a envoyée.
'Paul sent it to her.'

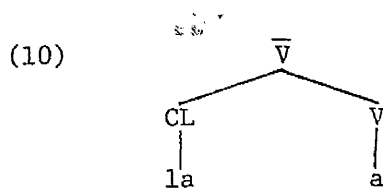
With the rule moving pronouns en bloc, the direct and indirect object clitics occupy the same position relative to each other before the verb as after it. The direct object la, generated in deep structure in direct object position, and as the leftmost member in any sequence of objects, remains the furthest to the left when the pronouns come before the verb.

If the pronouns are moved separately, the same alignment results. We assume that a one-at-a-time operation moves la into

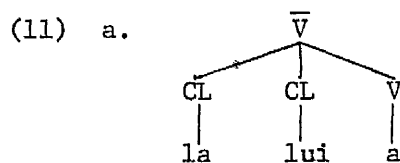
position first, **sister** -adjoined

immediately to the *left* of

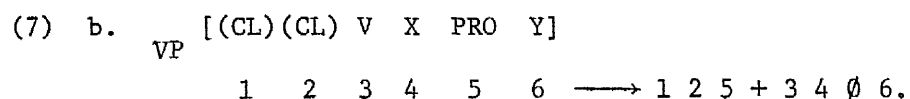
the V node, as in (10).



Subsequent applications of Clitic Placement insert clitics again to the immediate right of the verb, 'displacing' any clitics already in preverbal position. The resulting derived constituent structure is assumed to be as in (11)a.



Thus, whichever way Clitic Placement operates on (8)b, the result is a sentence with the clitics arranged in correct order. The operation of Clitic Placement is thus in some ways akin to a morphological process of affixation. It attaches a single clitic to the leftmost verbal complex constituent \bar{V} of a VP, and if a clitic is already in place immediately before the V, it infixes 'new arrivals' directly before the V in these \bar{V} [CL V] strings. This process of infixation can be specified in the form of the rule, by indicating that the first V of a VP may be preceded by one or two clitics. Since certain verbs have idiomatic or inherent clitics attached to them in the lexicon, the leftmost V in the \bar{V} dominating these verbs has clitics to its left in basic structure in any case. Thus (7)a can be further modified to (7)b.



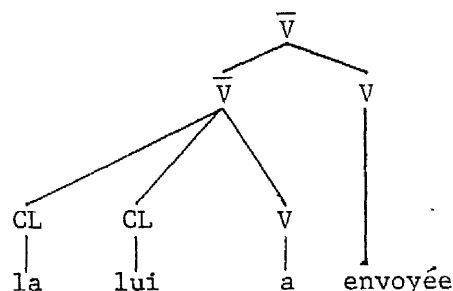
The derivation of these structures resulting in \bar{V} [CL CL V] strings does not appear to violate any established principles governing the form and functioning of transformations. The label PRO on the postverbal element in the structural index of (7)b is understood to be a feature on those constituents which are generated as proforms by the base rules and which are dominated by categories such as NP and PP. The output of the rule is not in violation of the A-over-A Principle. Clitics attach to a \bar{V} constituent as sisters of the leftmost V; any number of clitics may be contained within this constituent without violating the A-over-A Principle, because these proforms belong to categories distinct from the \bar{V} category which is the target for the rule. It is not the case that elements of a category A are being attached to other elements of the same category A, but rather than two or more elements of category A are attached to category B, forming an ever larger B category.

It seems unlikely that proforms cliticise to the highest \bar{V} in a phrase marker. Sentences like (12), cited by Kayne as an indication that clitics and Vs function as a constituent, appear to show that clitics attach to the \bar{V} immediately dominating the leftmost V in a string.

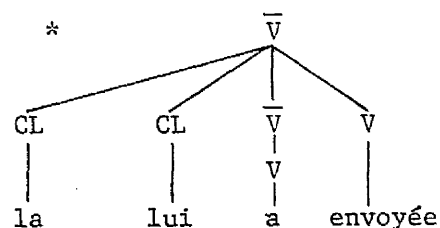
- (12) a. Paul m'a bousculé et m'a poussé contre Marie.
 'Paul bumped into me and pushed me against Marie.'
 b. Paul m'a bousculé et poussé contre Marie.

That is, clitic and auxiliary may be deleted, without the head of the \bar{V} being deleted. A more precise derived structure for (11) then is (11)b, while (11)c is implausible in light of the evidence of (12).

(11) b.



(11) c.



However, the method of applying the rule in separate applications to the structure (9)b, gives an ungrammatical sentence. The la, which keeps its position relative to the indirect object lui in both en bloc or one-at-a-time movement in (8)c, must give up that position when the rule applies to (9)b. Otherwise, the ungrammatical (9)c is produced.

(9) c. *Paul la m'a envoyée.
'Paul sent it to me.'

The indirect object in (9)d must now come first in the string of clitics, though it was the second member of such a string in (8)c.

(9) d. Paul me l'a envoyée.

Of course, sentence (9) would cease to be problematic if Clitic Placement selected the rightmost pronoun in any postverbal string as the one to be affected first by the rule, but (8) would then be the source of ungrammatical strings like (8)d.

(8) d. *Paul lui l'a envoyée.

To avoid the illicit sequences of clitics produced by both interpretations of the working of Clitic Placement, one could envisage a further rule to switch pronoun order. That is, just in case a third-person direct object clitic le la or les is separated by a reflexive clitic or a first- or second-person indirect object clitic (me, te, se, nous, or vous) from the verb, as in (13), a clitic interchange rule would rearrange the order of the pronouns.

$$(13) \quad \left\{ \begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array} \right\} - \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{se} \\ \text{nous} \\ \text{vous} \end{array} \right\} - V$$

The validity of such a rule, however, is questionable. It is otherwise unmotivated, and it applies to only a few members of a larger category of proforms. It requires the specification of the terms in a set of terms which may undergo a rule, and therefore seems to be equivalent to using an arbitrary rule feature--a device which Kayne (1975: 146-149) argues against.

If rules like clitic interchange rules are rejected as unsanctioned in a restricted theory of transformations, one could then try to block surface clitic orders like those in (9)c by stating the structural index of Clitic Placement so that the correct clitic order resulted. This would involve building a condition into the structural description of the rule to the effect that if a pronoun from the second list in (13) above were present as the second pronoun in a postverbal string, i.e., as an indirect object, then the rule must "pass over" any third-person direct object pronoun in first position in the string, and apply to the second pronoun.

Besides being entirely unexplanatory, however, such a proposal is theoretically undesirable. It is equivalent to incorporating disjunction into the structural change of rules. But as Bresnan

(1976: 8 n.) notes: "The use of disjunction in transformations has been explicitly rejected. . . ." She indicates further that "the use of disjunctions in transformations [indicates] a loss of generalization, in that it [permits] transformations in principle to apply to arbitrary sets of categories having nothing in common" (Bresnan (1977: 264)).

It seems obvious then that a 'straightforward' approach to the application of Clitic Placement to strings of postverbal clitics will produce some ungrammatical sequences of clitics. Some refinements in our understanding of how the rule is to be interpreted will evidently be required to ensure that the rule's output is grammatical.

2.2 Interpretations of the Variable

2.2.1 The Abbreviatory Variable Convention

The 'straightforward' approach just discussed made no particular assumptions about what material might be contained within the variable X mentioned in the structural description of Clitic Placement.

A more restricted interpretation of what categories may be contained in the variable is given in Smith, Pullum and Wilson (1977), who define two classes of variables. An "essential" variable is unconstrained, and may contain any number of clause boundaries and constituents, while an "abbreviatory" variable may contain only elements irrelevant to the statement of the rule. In a sequence which they describe as A . . . B, the ellipsis is understood not to contain any instance of either A or B.

It is immediately obvious, however, that if the variable in (7) is interpreted as an abbreviatory variable, then this refinement of the notion 'variable' does not provide a solution to the problem of clitic order in French. Given the underlying structure for sentence (8), repeated here as (14).

(14) Paul-a envoyé-la-à elle,

the correct la-lui clitic order will be produced. The pronoun corresponding to lui will not be chosen first by Clitic Placement because the variable would then contain the pronoun la. But the same procedure applied to (9), given again as (15),

(15) Paul-a envoyé-la-à moi

will result in la being the first pronoun to be cliticised, which means that under our interpretation of the placement operation, la will be 'moved over' by the arriving me, giving the incorrect *la-me order.

The abbreviatory variable convention will not therefore prevent ungrammatical sequences from being produced by the grammar. The lexical item la, categorized as a Pro, must be included in the variable if the correct me la order is to appear before the verb. This same item la must be excluded from the variable to ensure that la comes before lui in the string la lui. Clearly then, a more sophisticated interpretation of the variable is necessary--one which does not entirely preclude terms, like Pro, which are affected by the structural change of rules.

2.2.2 The Variable Interpretation Convention

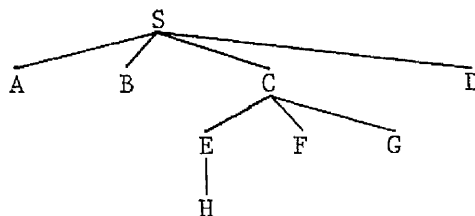
When the direct object pronoun la occurs as the first cliticisable element to the right of the verb, with any member of the set me, te, se, nous, vous to its right, it must somehow be 'passed over' in any iterative application of the rule of Clitic Placement, and must only be affected by this rule after this cliticisable pronoun has been moved, in order to ensure that it surfaces in its correct preverbal order. Wilkins (1979, 1980) has developed a general convention on the functioning of syntactic transformations which has some

relevance to this problem.

Her approach is related to the form and functioning of Clitic Placement in two ways. The first is that only terms which are crucially affected may be included in the structural description of a reordering transformation. Thus the variables W, X and Y of (2) would be eliminated from the statement of Kayne's rule. The second is a condition on variable material whereby for any given two terms of a structural description, A and B, the operation may relate these two terms only where no instance of an A or a B intervenes between the target A and the target B. She therefore claims that: "A transformation may not move a term over variable material where that variable material contains an item of the same category as a term of the structural description of the transformation" (Wilkins (1980: 713)). This claim does not in itself constitute any more than a restatement of the abbreviatory variable convention, which, as has been shown, predicts exactly the wrong order for clitic sequences of direct and indirect object pronouns, when the indirect object is first or second person, or reflexive. However, Wilkins provides a refinement of this generalization by giving a precise definition of the notion "contain" alluded to above. Her refinement of this notion makes it clear how phrase markers are to be analyzed. The analysis of a phrase marker is understood to consist of the highest most direct line between the nodes which correspond to the non-variable terms of the structural description of a given transformation (Wilkins (1980: 715)). This highest most direct line between the crucially affected nodes is called the grossest constituent analysis.

Wilkins explains this idea as follows. Given the phrase marker (16), (= (14) in Wilkins (1980)),

(16)



"If the structural description of a transformational rule were to mention A-D, then a gross constituent analysis of X (i.e. for A-X-D) with respect to the phrase marker in (16) would be B-C. Neither B-E-F-G nor B-H-F-G would qualify as a gross constituent analysis since for both these possible analyses there would be another analysis, namely B-C, which is "more direct", because it has fewer constituents. If the structural description of a rule were to mention B-G, then with respect to (16) there would be two gross analyses of X, namely E-F and H-F. The analysis E-F would be the grossest constituent analysis, since there is no other gross analysis higher in the phrase marker.

This notion for the appropriate analysis of phrase markers is now defined as follows:

Definition

A gross constituent analysis of X with respect to phrase marker P and with respect to A-X-B of the structural description of a transformation T, but not including the nodes which correspond to A or B, = $(C_1, C_2 \dots C_n)$, where C_1 is a constituent and for every other analysis $(C'_1, C'_2 \dots C'_K)$, then $K \geq n$. If for each C_j in a gross constituent analysis $X = (C_1 \dots C_{j-1}, C_j, C_{j+1} \dots C_n)$ there is no gross analysis $C_1 \dots C_{j-1}, C'_j, C_{j+1}, \dots C_n$ such that $C'_j \neq C_j$ dominates C_j , then $(C_1, \dots, C_j, \dots C_n)$ is the grossest constituent analysis of X." (Wilkins (1980: 715))

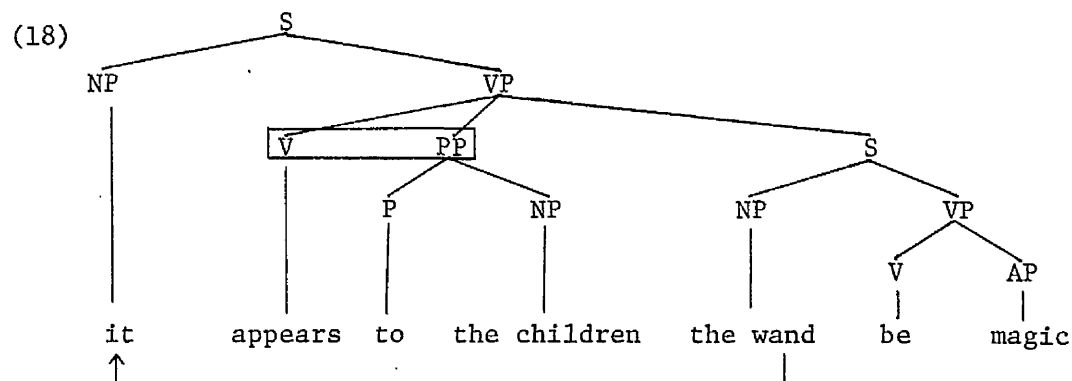
This definition, along with the illustration in (16) of what nodes can be considered as 'contained' in a variable, goes part of the way towards solving the clitic order problem. Wilkins makes it clear that the variable in a reordering rule which affects the categories A and B may well contain an instance of A or B, just so long as this category is not in the grossest constituent analysis of the variable material between the A and B affected by the rule.

The example given to illustrate this possibility is sentence (17)b.

(17) a. It appears to the children that the wand is magic.

b. The wand appears to the children _____ to be magic.

This sentence, the result of a Raising rule, has as its subject an NP, the wand, which has "crossed" another NP, the children, in moving from embedded subject position. The variable material between the targets of the rule therefore contains an instance of one of the targets mentioned in the statement of the rule. Its position in the phrase marker, however, is of critical importance. This NP (the children) does not lie in the highest most direct line between the matrix subject NP, which corresponds to target A of the rule, and the embedded subject NP, corresponding to target B of the rule. Instead, this NP (the children) is embedded one level further "down" than the NP the wand, and does not thereby constitute a blocking category for the movement in question.



The enclosed nodes constitute the grossest constituent analysis for the rule of Raising, stated by Wilkins as (19).

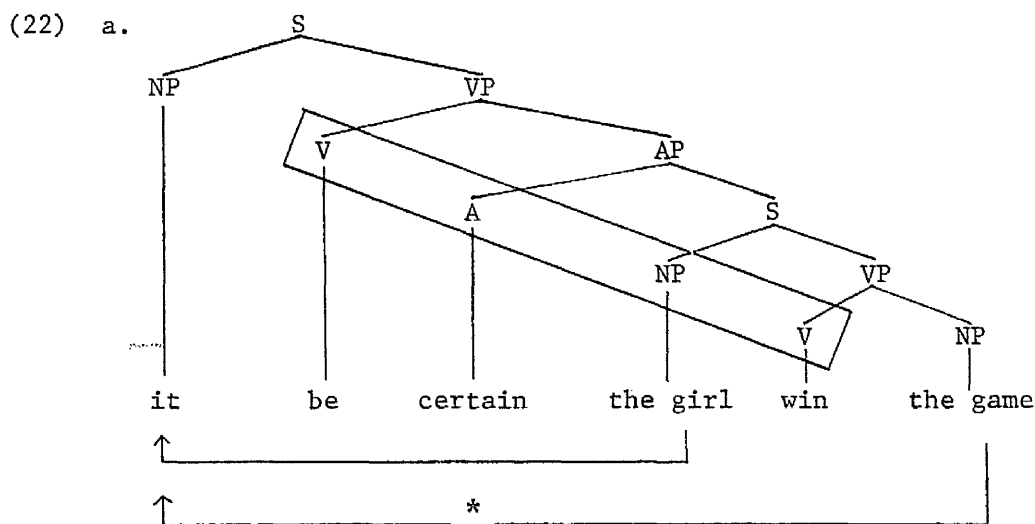
- (19) it ——— $S[NP] \longrightarrow 2 - \emptyset$ (Wilkins (1979: 23))

No NP is contained in this analysis, and so the wand is able to move to the matrix subject position.

A similar Raising movement is not allowed in (20), though, because here the grossest constituent analysis does contain an NP node which blocks movement of the target NP.

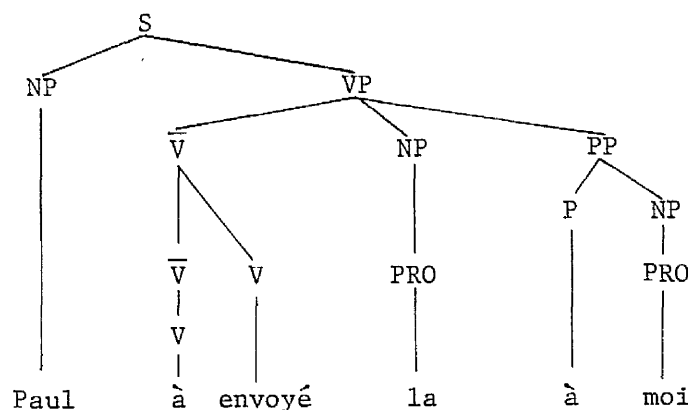
- (20) It is certain the girl will win the game.

- (21) a. *The game is certain (for) the girl $\begin{Bmatrix} \text{to} \\ \text{will} \end{Bmatrix}$ win.
b. The girl is certain to win the game.



The same generalization seems to carry over to an \bar{X} notation. The phrase marker (22)a can be recast as (22)b.

(23)



According to the definition given by Wilkins, there are two gross analyses of the variable in the Clitic Placement rule, if we assume that the pronoun moi has been selected as a rule target. One of these is Pro P, and the other NP P. Since the node NP dominates the node Pro, and is therefore at a 'higher' level in the phrase marker than Pro, the string NP P is the grossest constituent analysis of the variable. Since the affected terms of the rule are V and Pro, and since no instance of V or Pro intervenes in the grossest constituent analysis of the material between these terms, then the rule is able to move the pronoun moi before it moves la. The output of the rule in this case will be the desired sequence me la.

The Variable Interpretation Convention therefore allows for the possibility that the second instance in a string of constituents of a category involved in a rule may be the one chosen to be moved by that rule. There may be a Pro which, in terms of left-to-right precedence, occurs first in a string, but which is not chosen as a rule target, because it is at a greater depth of embedding than a Pro which occupies a position further to the right, and which does not therefore occur in the grossest constituent analysis of the variable.

But because a Pro may be 'passed over' in favour of another Pro target does not imply that this Pro must be passed over. The example given by Wilkins to show that the variable in the rule of Raising may contain an NP at a lower depth of embedding than the NP

which is raised (i.e. (17)b) is not in fact directly comparable to the Clitic Placement facts in question here. Recall that the rule of Raising given by Wilkins as (19) contains $S[NP]$ as term 2. In the notation she uses, $S[NP]$ does not mean 'an NP which is also an S', but rather " $S[. . . NP . . .]$ ", or, in other words, any NP dominated by S, possibly immediately dominated, but not necessarily so" (Wilkins (1979: 24)). The S boundary is included in the rule to "prevent the it from being replaced by an NP in the same clause. For instance, the NP the children in [(17)a] must not be analyzed as the NP of the subject raising rule" (Wilkins (1979: 24)).

In the phrase marker (18) therefore, only one of the two NPs appearing after the it is eligible to be moved by this rule of Raising. As the children is not dominated by S, it is not a possible rule target. Both Pro's in (23), however, are possible rule targets for Clitic Placement. And though the Pro moi may be selected as the Pro to undergo reordering by the placement rule, there is nothing which prevents la from being selected first--leading to the wrong preverbal order of clitics.

The Variable Interpretation Convention therefore has nothing to say about which one of two or more possible targets will correspond to the second term in the structural description of a rule. In a footnote, Wilkins in fact states that "the terms of the rule predict what can occur in the variable, not vice versa. . . . It will not be the variable which determines what can occur as term 2" (Wilkins (1979: 212)).

Even if term 2 of the rule were required to be moi in (9)b, then by the same token it would have to be lui in (8)b. The outcome of Clitic Placement would be in this case the incorrect *lui-la sequence.

So, though this Convention permits the second Pro in (9)b to be selected first by Clitic Placement, it does not require that this be the selected Pro. Thus both grammatical and ungrammatical strings of clitics are produced when Clitic Placement is governed by the Variable Interpretation Convention. It is in any case not clear that Pro is a category like NP or PP, as Pro is more generally understood as a feature on constituents rather than a category. As the Variable Interpretation Convention interprets categories and not features, the analyses outlined above which allowed a Pro to intervene between a \bar{V} and a selected Pro rule target may well be invalid.

We conclude therefore that this convention is of no use in a selection of rule targets for Clitic Placement which ensures correct surface order.

2.3 The Minimal String Principle

Strings of postverbal pronouns in underlying structure present ambiguous targets for the application of Clitic Placement. De Haan (1979, 1981) formulates a Minimal String Principle "as a condition that restricts ambiguous application of transformations" (De Haan (1979: 175)). I shall therefore examine this principle and attempt to determine if it can help to clarify the question of French clitic order.

De Haan notes that more than one proper analysis of a transformation is often applicable to a given string. What he means by a "proper analysis" is "a factorization of a terminal (sub-) string of a phrase marker in agreement with the requirements of the structural description of the rule . . ." (De Haan (1979: 153)). Within this proper analysis are subparts, called crucial terminal substrings (=CT), defined by the terms involved in the rule together with the variables intervening between such terms. Where two or more such crucial terminal substrings are factorizations with respect to a phrase marker,

then the Minimal String Principle provides a motivated means of choosing between them.

(24) Minimal String Principle

If CT and CT' are crucial terminal substrings of a phrase marker with respect to a given rule, and if CT properly includes CT', then the structural change of the rule is defined on CT'.

Application of this principle to the string underlying (8)c

- (8) c. Paul la lui a envoyée.
'Paul sent it to her'

requires us to determine the proper analyses of the string with respect to the structural description of Clitic Placement, repeated here as (7)c for convenience, with end variables to conform to De Haan's notation, and with no preverbal clitics already in place, as in (7)a.

- (7) c. W V X PRO Y
1 2 3 4 5

Two proper analyses are possible for (8)b, repeated here with e elements corresponding to variables dominating no lexical material.

- (8) b. e Paul a envoyé e la à elle e
- Proper Analysis 1. 1 2 3 4 5
- Proper Analysis 2. 1 2 3 4 5

The crucial terminal substrings will contain material between items 2-4 in this structural description of Clitic Placement, so that $CT_1 = \underline{a \text{ envoyé } e \text{ la}}$, while $CT_2 = \underline{a \text{ envoyé } e \text{ la à elle}}$. It is obvious that CT_2 properly includes CT_1 , since the items à elle are 'left over' when the two strings are compared. According to De Haan's principle,

therefore, the structural change of the rule is defined on the string which is properly included in a longer string, and therefore on CT_1 . The pronoun la therefore is eligible for movement by Clitic Placement before elle, and will occupy a position immediately to the left of V in intermediate structure. The next application of the rule will displace la further to the left, creating the correct la-lui order of clitics. The Minimal String Principle therefore seems to guarantee the correct surface structure order of clitics, for this pair at least.

When applied to the string underlying (9)d, however, exactly the wrong order is predicted.

- (9) d. Paul me l'a envoyée.
'Paul sent it to me.

As with (8)b, there are two proper analyses definable on the string (9)b which underlies (9)d.

- (9) b. e Paul a envoyé e la à moi e
- Proper Analysis 1. 1 2 3 4 5
- Proper Analysis 2. 1 2 3 4 5

The crucial terminal substrings here are $CT_1 = \underline{a \text{ envoyé e la}}$, and $CT_2 = \underline{a \text{ envoyé e la à moi}}$. According to the principle which selects the shorter string to be affected first by the rule, la should be chosen as the first eligible candidate for movement by Clitic Placement. With moi moved next, the resulting clitic order is the incorrect *la me.

De Haan recognizes that the Minimal String Principle as stated above will make some wrong predictions about the applicability of rules. He notes, for example, that the principle applied to (17)a,

- (17) a. It appears to the children that the wand is magic, will take the children as the target NP (since he ignores the S bracket around

the NP in the structural index of Wilkins' rule of Raising), producing the ungrammatical (17)c.

(17) c. The children appear to ____ that the wand is magic. The 'shorter path' between the affected terms it and NP of this rule is the crucial terminal substring it appears to the children, and since this substring is properly included within the other possible substring it appears to the children (that) the wand, the rule would be predicted to apply to the former string.

De Haan therefore incorporates the notion "grossest constituent analysis" into his definition of the Minimal String Principle, inserting the clause "and if the term to be moved in CT' is contained in the grossest constituent analysis of CT" before the statement that the structural change of the rule is defined on CT'.

This extra condition effectively solves the problem of getting me and la into their proper preverbal positions. In the proper analyses of (9)d, the element to be moved, Pro, does not occur in the grossest constituent analysis of the longer string CT₂. The constituents NP and P form the grossest constituent analysis of the variable material between the terms affected by Clitic Placement (cf. the discussion of phrase marker (23)).

The Minimal String Principle then requires that the longer string CT₂ with respect to (9)d be chosen as the string to be affected by Clitic Placement. The pronoun la may therefore be included in the variable material between V and Pro, and with moi moving before la, the correct me la order is predicted.

However, the condition which allows me and la to be placed correctly before the verb also affects the placement of la and elle. Like moi, elle occurs after the direct object la. The category label Pro dominating la will not occur in the grossest constituent analysis

of the variable material between the verb a envoyé and the pronoun elle. The selection of crucial terminal substrings with respect to Clitic Placement will therefore be different from that predicted by the principle before the above condition was added. Elle now will be chosen as the first target for the rule, and the output of two applications of the rule will be the incorrect *lui la order.

We conclude therefore that the Minimal String Principle, like the Variable Interpretation Convention, fails to make the correct predictions about clitic order in French.

2.4 The Locality Principle

Koster (1978) examines a number of previously proposed conditions on rules, and observes that a number of them fall into a similar pattern. The Specified Subject Condition and the Superiority Condition (Chomsky (1973)) both disallow the 'involvement' of two elements when a third element intervenes, except under highly specified circumstances. Koster abbreviates these conditions in the following way.

(25) No rule involves X, Y in:

. . . X . . . Z . . . Y . . . ,

unless Z = . . .

The fact that this pattern recurs in different conditions suggests that a more general principle can be formulated. Koster states a preliminary version of this principle essentially as in (26).

(26) The Locality Principle

No rule involves a_{i+1} , Z (where a c-commands or is parallel to Z) in:

. . . a_{i+1} . . . a_i . . . Z . . . a_i . . . a_{i+1} . . . ($i \geq 1$)

unless. . .

(Koster (1978: 137))

Koster makes it clear that the Locality Principle is a condition on rules, applying to all rules that involve an antecedent (a) and a consequent (Z). A 'consequent' is defined as follows:

(27) Consequent

A node Z is a consequent if:

1. it does not dominate lexical material
2. it is an anaphor
3. it is a (non-interrogative) Wh-phrase,

and Koster notes that this class 'presumably has to be extended, though it will suffice for present purposes (Koster (1978: 65)). This principle is proposed as a universal principle which defines the structural configurations in which a and Z can be linked by a rule. Considering only subordinate structures (and not coordinate structures), the typical rule configuration is understood to be characterized by the notion "c-command", (28).

(28) C-command

A node A c-commands a node B iff the first branching node dominating A dominates B, and A does not dominate B.
(Koster (1978: 65))

The subscripts in (26) (i.e. $i, i+1$) indicate relative distance of the a's from Z. Thus, a_i is the first (closest) antecedent c-commanding Z; a_{i+1} , which c-commands a_i in turn, is the second closest possible antecedent for Z, and so on (Koster (1978: 137-138)).

Koster emphasizes that the Locality Principle is not an intervention constraint. That is, a_i does not necessarily intervene between a_{i+1} and Z. Linking of a_{i+1} to Z is impossible, no matter what the relative position of a_i is: it may be to the left or to the right of Z. As a condition on rule applicability, it claims that, in the unmarked case at least, a rule involving a, Z may only select the

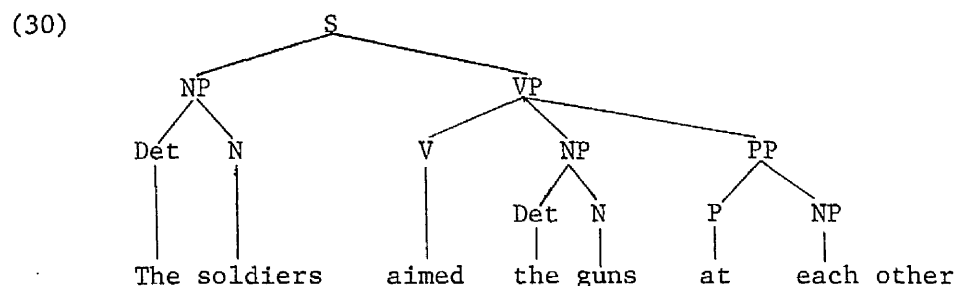
minimal pair a , Z , i.e. the a and Z that are closest in terms of phrase structure (op. cit.: 138). The Locality Principle is claimed, therefore, to reduce the ambiguity of rule application.

Koster observes immediately that several "unless" conditions have to be imposed on the principle, because as stated in (26) it is too strong. For example, it would predict that (29) is ungrammatical.

(29) The soldiers aimed the guns at each other.

a_{i+1} a_i Z

Both NPs, the soldiers and the guns are possible antecedents of the anaphor each other. In the associated phrase marker (30),



the c-command relationships are readily observed. The NP the guns c-commands each other, while the NP the soldier c-commands the NP the guns. Thus the conditions on antecedents and consequents outlined by Koster are fulfilled: a_i is the closest antecedent c-commanding Z , and a_{i+1} , the second closest possible antecedent for Z , c-commands a_i . The Locality Principle should then block this sentence, since there is an a_i which ought to prevent the linking of a_{i+1} (the soldiers) and Z (each other).

To overcome this problem, Koster introduces the notion of a "prominence" hierarchy. He assumes that lexical categories like verbs assign the functional labels SU (subject), IO (indirect object), DO (direct object) PO (prepositional object) and Adjunct, to phrases in their projection (i.e. the expansion of the phrase structure rules

for the assigning category) (op. cit.: 19). Functional labels are assigned only to argument NPs; these NPs can be compared in a prominence hierarchy if they are co-arguments (i.e. if their functional labels are assigned by the same verb). The prominence hierarchy is outlined in (31).

(31) The Prominence Hierarchy

NP_i is more prominent than NP_j if NP_i and NP_j are co-arguments, and $Functional\ Label_i > Functional\ Label_j$ according to the following hierarchy: $SU > IO > DO (PO)$, where $> =$ is more prominent than".

With these definitions in mind, the Locality Principle is qualified as in (32).

- (32) . . . , unless a_{i+1} (or Z) is more prominent than a_i
Sentence (29) is now permitted by the Locality Principle.

The NP the guns is a direct object, and therefore lower on the prominence hierarchy than the subject. Despite the presence of an a_i closer to the consequent Z than the antecedent a_{i+1} in this sentence, a_{i+1} can nevertheless be linked to Z because it is "more prominent" than a_i .

In general, therefore, if a_{i+1} , a_i and Z are co-arguments, the linking of a_{i+1} to Z is blocked only if a_i is at least as prominent as a_{i+1} (De Haan (1979: 193)).

In order to determine whether the Locality Principle can be used to solve the problem of French clitic order, consider sentence (33), which is (9) recast in Koster's notation.

- (33) Paul me l' a envoyée e_i e_j .
 a_{i+1} a_i Z Z

The indices are presumed to be assigned in the base to all nodes dominating lexical material; the class of consequents which includes the e elements in (33) above, receive their index from a co-indexing rule, given in (34).

(34) Co-indexing

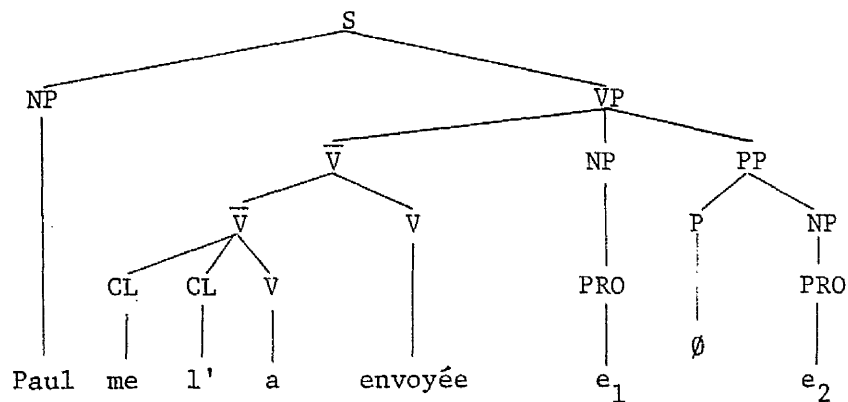
$$X_J^i \dots Y^i \longrightarrow X_J^i \dots Y_{\underline{J}}^i,$$

(where X c-commands Y , and X and Y are both αN and βV)

(i.e. where X and Y both have the same categorial status)
(Koster (1978: 65))

As a first observation, we should note that the c-command relationship does not hold in a strict sense between the relevant nodes mentioned in both the co-indexing rule and the Locality Principle. We assume a derived structure (35) for sentence (33), where the P has been deleted by a rule.

(35)



We also assume that PP now constitutes a non-branching node, following deletion of the indirect object preposition \hat{a} . (cf. Kayne (1975: 103-104) for deletion of \hat{a} after Clitic Placement.) In addition, we will ignore the fact that the clitics do not c-command their antecedents. The nodes dominating the clitics in (35) will therefore be taken to constitute no barrier to establishing the required relation between the antecedent a_1 and the consequent Z , for purposes of co-indexing and of determining structural configurations to which the

Locality Principle is applicable.

The arrangement of the clitics in (33) now appears to conform to the predictions of the Locality Principle. The clitic me, labelled a_{i+1} because it is the second closest possible antecedent to Z, can nonetheless be linked to Z because the antecedent a_i (i.e. the clitic l'), though closer to Z, is not as high on the prominence hierarchy as me. L' is a direct object, while me is an indirect object. Indirect objects, according to Koster, are more prominent than direct objects, so that an intervening direct object clitic does not block the linking of me to its consequent. Koster offers no rationale, however, for saying that indirect objects are more 'prominent' than direct objects. He merely asserts that they are, and so his 'explanation' is somewhat less than explanatory.

Conversely, a reversed clitic order *la me would be predicted by the principle to be ungrammatical. Here, the more prominent me would prevent the linking of la to its consequent.

It is interesting to note that the Locality Principle also predicts the correct clitic order when other pronouns are involved. The pronoun en, for example, has at least two sources in underlying structure. It can correspond to a prepositional complement in a quantified noun phrase, as in (36).

- (36) a. Elle a donné trois de vos lettres à lui.
'She gave three of your letters to him.'
- b. Elle lui en a donné trois.
'She gave him three of them.'

Or it can correspond to a prepositional complement of the verb phrase, as in (37).

- (37) a. Elle a parlé à Jean de vos problèmes.
'She spoke to Jean about your problems.'
- b. Elle lui en a parlé.
'She spoke to him about them.'

proves to be an obstacle to a total explanation of the facts. Though the predictions made by the principle could conceivably be "patched up" through recourse to a 'clitic interchange' rule, the ad hoc nature of this device, and its dubious theoretical justification, make this an undesirable step to take.

2.5 The Superiority Condition

Among the general constraints on the functioning of grammatical rules discussed in Chomsky (1973), only the Superiority Condition seems to be of any relevance to the question of clitic placement in French. Other conditions, such as the Subject Condition, the Specified Subject Condition and the Tensed-S Condition, deal with 'involvement' of two terms across a sentence boundary. Since we are considering movement of pronominal elements within the verb phrase, and presupposing therefore that causative constructions are simplex in derived structure, such inter-sentential constraints do not apply.

The Superiority Condition is formulated in (39).

(39) No rule can involve X, Y in the structure

. . . X . . . [a . . . Z . . . -WYV . . .] . . .

where the rule applies ambiguously to Z and Y, and Z is superior to Y.

A number of modifications to Chomsky's original definition of the condition will have to be made if it is to be applicable to the cliticisation of French pronouns. First, the category a, normally understood to be a cyclic category S or NP, will be ignored here. Clitic movement goes on within S boundaries, and the terms Z and Y involved in Clitic Placement do not form part of an NP constituent.

The second required change is that dominance relations alone be considered relevant in determining applicability of rules, and that precedence relations not be taken into account, unless there is

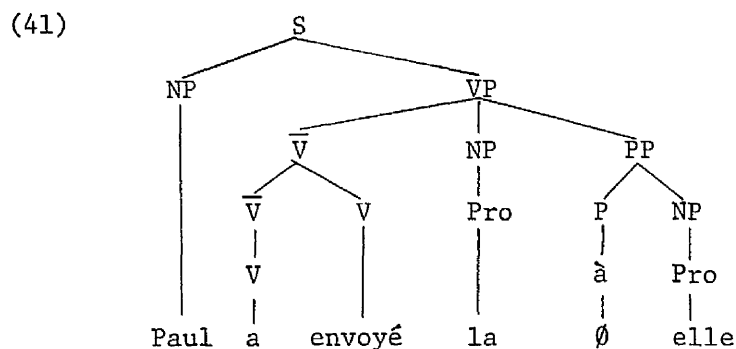
no superiority relationship between the terms. Chomsky's condition is an intervention constraint. It forbids moving a term across another term to the left which is superior to the moved term. But since we know that the direct object pronouns le/la/les occur in the Z position of (39), but that they do not block movement of other clitics across them, we could consider that the postverbal linear order of pronouns had less influence on the choice of the Pro to be moved by Clitic Placement than their hierarchical relations with each other.

With these modifications in mind, we can establish the superiority relationships in a given structural configuration. Chomsky defines superiority in the following way.

- (40) . . . A is superior to B if every major category dominating MMC(A) dominates MMC(B) as well but not conversely, where MMC(X) is the minimal major category dominating X (X itself, if X is a major category.) (Chomsky (1973: 246,n.)).

By "major category", Chomsky means N, V, A and the categories that dominate them (cf. Chomsky (1965)).

If we assume that the category PP is a major category, since this category dominates NP which in turn normally dominates the major category N, then the phrase marker (41) corresponding to (8)b, shows that the direct object la is superior to the indirect object.



The minimal major category dominating both la and elle is presumably NP, unless Pro were itself considered a major category. The major category above NP[la] is VP, which dominates NP[elle], but the major category above NP[elle] is PP, which does not dominate NP[la].

If the superior category must be chosen first in such a structure by Clitic Placement, then la will move before lui, giving the desired la lui order. If, for some reason, PP was not considered a major category, then neither la nor elle would be superior to the other. Linear precedence would then be the deciding factor in determining which Pro was to be the first target of Clitic Placement.

Since exactly the same structure is assumed for the string underlying (9)b as for (8)b, however, the same superiority relationship obtains, and the same direct/indirect clitic order is predicted. In this case, however, it is not correct. The more superior la must not cliticise before the inferior me.

Again then, a condition designed to make clear what categories may serve as targets for transformational rules fails to pick out the correct sequence of iterative applications for the rule of Clitic Placement to ensure that clitics surface in the right order.

2.6 Trace Theory

Among the claims made by proponents of trace theory is the claim that there are parallels between the configurations a language allows for constructions involving bound anaphora and structures derived through movement rules. As Pullum and Borsley (1980) point out, "phrases that have been moved . . . are claimed to stand in the same sort of structural positions in relation to the 'traces' they control as antecedents do in relation to certain anaphoric elements such as reflexive pronouns . . ." (op. cit.: 74).

In order to establish that the relation between a moved constituent and its deep structure position in a phrase marker is

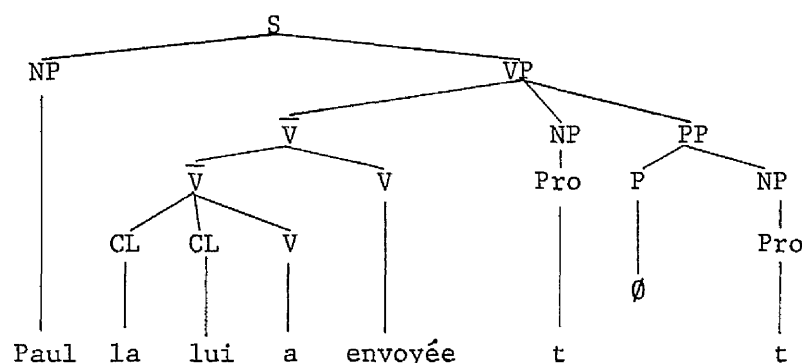
similar to that between an anaphor and its antecedent, this first relation must be encoded. It is assumed therefore that elements moved by a transformational rule leave behind in the premovement location an empty node *t*, called a trace. Phrase markers containing traces in surface structure are then presumed to share structural features with phrase markers containing anaphors and their antecedents.

Pullum and Borsley (1980: 79) observe that the structural conditions on bound anaphora have been generally assumed to be characterized by the c-command relation (cf. (28)) or the asymmetrical c-command relation. (A node A asymmetrical c-commands a node B iff A c-commands B but B does not c-command A.)

We should expect therefore that moved elements will be in positions in the surface structure phrase marker such that the first branching node dominating the moved phrase also dominates the trace left behind in the premovement site, but that the traces themselves will not necessarily c-command the moved elements.

The phrase marker corresponding to sentence (8)c in trace notation is indicated in (42)a.

(42) a.



The first branching node dominating the moved phrases la and lui is \bar{V} , itself dominated by another \bar{V} . This node is dominated in turn by the branching node VP. It is only this node which dominates the traces of la and lui. In other words, in structures containing clitics in French, these proforms do not c-command their

traces. And only one trace c-commands its clitic; the trace corresponding to lui is dominated by a branching node PP which does not itself dominate the clitics.

One reaction to the observation that the predicted c-command relation does not hold between clitics and their traces could be to relax the requirement that the relation be one of c-command and require instead only a 'kommand' relation between these elements. In this relation, a node A kommands a distinct node B iff neither dominates the other and the minimal constituent belonging to a cyclic category that contains A also contains B. (The cyclic categories are NP and \bar{S} .) Now the minimum cyclic constituent containing the clitics is \bar{S} (not shown in (42)), which obviously contains the traces as well. But as both traces are dominated by the cyclic category NP, no kommand relation holds in this right-to-left direction.

Another reaction to the obvious lack of a c-command relation between clitics and traces is to redefine c-command for particular cases. Such a proposal is made by Kayne (1980) to allow the relation to hold between clitics and their vacated positions. He suggests that in the derived structure $V[CL\ V]$, the lexical node V dominating CL not "count" in the definition of c-command. In our mixed bar notation, the node \bar{V} which we consider to dominate the string $\bar{V}[CL\ V]$ would not have to count for purposes of this definition.

A less 'ad hoc' proposal is made in Herschensohn (1981). She assumes that pronominal clitics are attached to the verbal complex by Clitic Placement, and that these clitics assign an index to the \bar{V} constituent. This condition, according to Herschensohn, "permits the proper c-command relation to obtain between the clitic and its trace" (op. cit.: 259, n.39).

Additionally, Chomsky (1981), commenting on the relation between the clitic l' and the antecedent PRO in (43)

- (43) je l'ai vu PRO
'I saw him'

makes the assumption that some mechanism exists to co-index the object PRO with the clitic l' (Chomsky (1981: 84 and 276)).

These proposals by Kayne, Herschensohn and Chomsky appear therefore to ensure that the node \bar{V} dominating the clitics is no barrier to establishing a modified c-command relationship between clitics and their traces. But there still remains the problem of clitic order.

The discussion of clitic movement under the assumptions of the 'straightforward' approach made it clear that there was no simple relationship between the deep structure order of proforms and the surface structure order of clitics. There is therefore no simple correspondence between clitics and their surface structure traces. In (42)b the clitics la and lui stand in the same order preverbally as their post-verbal traces.

- (42) b. Paul la_1 lui_2 a envoyée t_1 t_2 .

But (44), corresponding to (9)d, shows a different alignment of clitics and traces.

- (44) Paul me_2 l'_1 a envoyée t_1 t_2 .

Assuming that these pronouns have been moved from their deep structure positions by some version of the very general movement transformation "Move NP" (or perhaps the later rule of "Move a"), and that some convention ensured that the pronouns cliticised to the verb and did not surface elsewhere, the only way of guaranteeing correct surface order without appeal to a filter is by means of one or more of the 'conditions' outlined in Chomsky (1973), Chomsky and Lasnik (1977), and elsewhere.

None of these independent constraints, however, are applicable to the surface structure order of clitics in French. As was pointed out in Section 2.5, the Tensed-S Condition forbids involvement of two constituents across a sentence boundary when that sentence contains a tensed verb. In simplex sentences, movement of proforms takes place within the verb phrase, and not across an S boundary, so that the Tensed-S Condition (later, the Propositional Island Constraint) is clearly inapplicable here. A similar observation holds for the Specified Subject Condition, since the proforms originating as complements of a verb in a simplex sentence do not cross the subject of that verb when they cliticise. Confinement of clitic movement within the verb phrase also implies that the Principle of Subjacency has no role to play in the ordering of clitics relative to each other. Later reformulations of these conditions within the "On Binding" framework appear to be equally inapplicable to ordering problems. The Opacity Condition, for example, outlined in Chomsky (1980), seems to permit the presence of clitics and their traces so long as the anaphors (i.e. the traces) are bound with the \bar{S} . The modifications proposed by Herschensohn (1981) and Kayne (1980) with respect to the definition of c-command seem to ensure that the traces are properly bound, since there is a category \bar{V} c-commanding the traces and co-indexed with them in \bar{S} (cf. Chomsky (1980: 10)). But no ordering of elements relative to each other follows from this condition, since its effect is simply to sanction the presence of anaphors, and not the order of their antecedents (the clitics).

There appears therefore to be no mechanism within the trace theory of movement rules to rule out impermissible clitic orders or to sanction permitted ones, without further appeal to a surface filter. Any requirement that clitics must stand in a particular order pre-verbally corresponding to the postverbal order of their traces will

be flouted by one of the sentences (42)b or (44). Clitics whose source is a subpart of a subject noun phrase will also complicate the question, since the first trace in surface structure is related to the last clitic in any sequence, as (45) indicates.

- (45) a. L'auteur de ce livre l'a vue.
 'The author of this book saw her.'
- b. L'auteur t_1 l'_2 en_1 a vue t_2 .

And as Pullum (1979a) points out, finding the right trace in a structure containing more than one, for purposes of establishing valid 'binding' relations, is far from being a simple indexing procedure.

We conclude therefore that the general rule of Move NP, constrained by conditions on rules of grammar governing the relations of moved constituents and their traces, is unlikely to provide a satisfactory account of why clitics display preverbal ordering patterns which are not always consistent with the postverbal order of their corresponding proforms.

2.7 Conclusion

The proposals outlined in this chapter are designed to provide some principled basis for predicting the order of application of transformational rules in general. No proposal, however, is capable of preventing the generation of sequences of compatible clitics arranged in the wrong order.

In the next chapter therefore, hypotheses about clitic order made by Emonds (1976), Herschensohn (1980) and Fiengo and Gitterman (1978) will be examined to determine if the preverbal order of French pronouns can be explained by analyses specific to the grammar of French.

CHAPTER 3

3. Previous Analyses of French Clitic Order

Within the framework of generative grammar, proposals have been made to account for the preverbal order of French pronouns without appealing to the surface structure constraint advocated by Perlmutter.

Emonds (1976), for example, attempts to place French clitics in the correct order without appealing to the 'positive output constraint' suggested by Perlmutter, because he feels such a device is an excessively powerful addition to the mechanisms available in generative grammar.

Herschensohn (1980) offers an analysis which, she claims, avoids some of the deficiencies of Emonds' rules. And Fiengo and Gitterman (1978) propose a highly original and complex set of interacting rules and conditions which are designed to explain the apparently idiosyncratic arrangement of French clitics.

In this chapter, these three analyses are examined. All will be shown to be problematic, because they make certain false assumptions, require an excessively complex and implausible array of rules, or simply fail to make correct predictions.

3.1 Emonds' Analysis of Clitic Placement

Emonds (1976) disagrees with Perlmutter's contention that grammatical theory must be widened to incorporate the device of a positively specified output constraint, and points out a methodological weakness of Perlmutter's treatment of French clitics: he does not state any transformations that he claims cannot in principle account for clitic behaviour. Emonds proposes therefore to present a fragment

of grammar from which ordering restrictions among clitics automatically follow, given "independently justified base rules and clitic placement transformations" (Emonds (1976: 225)). He is not concerned with stating co-occurrence restrictions; these will have to be dealt with by means of negatively specified output constraints, which he does not investigate.

It is not to the point here to review the arguments Emonds uses to justify his analysis of clitics or to assess the validity of the structure preserving hypothesis within which he formulates his rules. What is interesting is to compare the apparatus needed to generate correct sequences in a framework which rejects positively specified surface structure constraints as unnecessary in grammatical theory, with the sort of rule required in a grammar which allows a surface filter. For example, Kayne (1975: 83) seems to accept the need for a clitic chart, and can therefore state a single rule of Clitic Placement in a simple way (Kayne (1975:201)).

(1) Clitic-Placement

W-NP-V-X-Pro-Y

1 2 3 4 5 6 → 1 2 5 + 3 4 6

Pro is either [+ dative] or [+ accusative], and W, X and Y are variables, with the scope of the variable X limited in Kayne's framework by certain general constraints on transformations. This rule explicitly relates all those pronouns which have a postverbal deep structure source, including non-intrinsic y and en, with their preverbal clitic counterparts. No ordering specifications need to be built into the rule because those unacceptable combinations over-generated by the rule will be discarded by the surface filter. Emonds, on the other hand, requires no fewer than three different rules of clitic placement to get these pronouns in their correct order. One

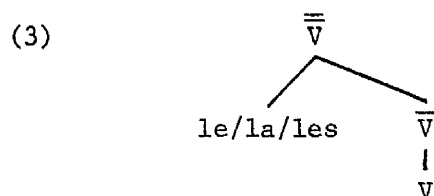
rule affects only third-person direct objects (le, la or les), and is a local transformation, placing the pronoun which is immediately post-verbal in underlying structure into immediately preverbal position. As can be seen from (2), the rule requires access to information in the form of syntactic features assigned to the strong form deep structure pronoun.

(2) Le, La, Les Rule (Emonds (1976: 233))

$$X - V - \begin{bmatrix} \text{Pro} \\ +\text{III} \\ -\text{REFL} \\ \alpha\text{PLUR} \\ \beta\text{FEM} \end{bmatrix} - Y \longrightarrow 1 - \begin{bmatrix} \text{DEF} \\ \alpha\text{PL} \\ \beta\text{FEM} \end{bmatrix} +2 - \emptyset$$

In Herschensohn's (1980) interpretation of the effect of this rule, the derived structure after this operation is something like

(3).



Once these direct object pronouns, if there are any, have been moved, Pronominal Clitic Placement (4) will apply to move any remaining pronoun into the pronoun slot generated as an empty node in deep structure by the phrase structure rules. There are in fact two such slots justified by the existence of intrinsic idiomatic y and en, which have no plausible deep source, and of intrinsic reflexives, like s'évanouir ('to faint') and s'en aller ('to go away') which again have no plausible postverbal source, and must be generated by the base rules. The first slot is labelled CL, and can be filled by intrinsic y and en: Emonds says nothing about the target slot for non-intrinsic y and en corresponding to à/dans/sur etc. NP and de NP respectively. The second slot is labelled PRO, and it is this one which is reserved for personal pronouns not moved by (2). For some reason, Emonds does not take note

of the fact that a third deep structure clitic node could be justified, based on the existence in French of certain idioms containing direct object clitics which have no plausible deep structure source. Idioms like 'l'échapper belle' ('to have a narrow escape') and 'se la couler douce' ('to take life easily') would seem to justify positing yet another empty node, though Emonds does not exploit this possibility in his rule (4).

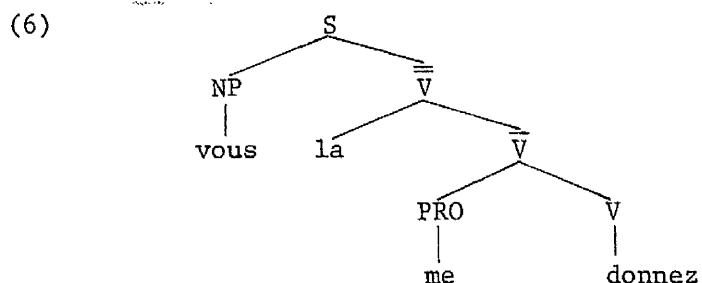
(4) Pronominal Clitic Placement (Emonds (1976: 233))

$$X - \left[\begin{array}{c} \bar{V} \\ [PRO \Delta - Y] \end{array} \right] + Z - \left[\begin{array}{c} (\hat{a}) - PRO \\ NP \end{array} \right] - W \longrightarrow$$

$$1 - \left[\begin{array}{c} 5 \\ - FEM \end{array} \right] - 3 - \emptyset - \emptyset - 6$$

Assuming that the PRO of the structural description was moi, the derived structure after application of both (2) and (4) to the underlying structure (5) would presumably be something like (6).

- (5) Vous - donnez - la - à moi.
'You - give - it - to me.'



Because the PRO slot is an expansion of the \bar{V} node in Emonds' base rules, reproduced in (7) below,

$$(7) \quad \bar{V} \longrightarrow \left\{ \begin{array}{c} \bar{V} \\ (PRO) - (CL) - TENSE \end{array} \right\} - V$$

the item moved into this position will necessarily be closer to the verb than an item moved by the local rule (2), because the target

position for this local rule does not have to be a clitic node generated in a preverbal position by the base rules. Emonds correctly predicts therefore that the output of (2) and (4) taken together will produce the correct order if the moved PRO of (4) is lui or leur. If it is me, te, nous or vous, however, the wrong ordering prediction is made. In order to produce grammatical sequences therefore, Emonds proposes a third clitic movement rule, which he calls Clitic Interchange, whose job is to reverse the position of le, la, les and me, te, nous or vous.

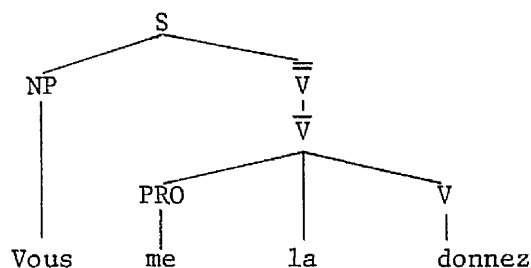
(8) Clitic Interchange

$$\left\{ \begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array} \right\} - \left[\begin{array}{c} \overline{\text{V}} \\ \left[\begin{array}{c} \text{PRO} \\ +\text{REFL} \end{array} \right] \end{array} \right] - (\text{CL}) + \text{V} \overline{\text{V}} \rightarrow \emptyset - 2 + 1 - 3$$

(The feature [+REFLEXIVE] is assigned by the base rules to all non-third-person pronouns).

An interesting anomaly follows from these three clitic movement rules. As Herschensohn (1980) points out, the third-person direct object clitics are not dominated in derived structure by a clitic node. The effect of applying Clitic Interchange to the intermediate structure (6) will be to move la under the $\overline{\text{V}}$ node, but no provision is made for labelling it, as (9)a shows. The optional CL node specified in the rule can be filled, it seems, only by y or en. (I am assuming that term 3 in the structural change of (8) refers to (CL) + V.)

(9) a.



If the base rules had expanded the \bar{V} of this sentence as PRO-CL-V, we would expect to be able to produce sentences like (9)c which contained an additional clitic. That is, corresponding to (9)b, we would expect to find that (9)c was grammatical. In fact, this sentence is marginal in status, and not accepted by all speakers because of its accumulation of clitics.

- (9) b. Vous me la donnez en classe.
'You give it to me in class.'
- c. ??Vous me l'y donnez.
'You give it to me there.'

Yet Emonds' grammar predicts that the acceptability of (9)c should be no different from that of (9)b, as the only difference between the two is that in c the independently justified CL slot has been filled.

3.2 Herschensohn's Analysis of Clitic Placement

Herschensohn (1980) feels that sentences like (9)c are more than just questionable; while admitting that some speakers might find these acceptable, she nonetheless labels them ungrammatical. The fact that the Le, La, Les Rule and Clitic Interchange allow clitics to be attached preverbally without being in clitic slots is therefore considered a serious flaw in Emonds' analysis, because the CL slot is thereby made accessible to y and en in a three-clitic combination. She proposes a revision in Emonds' rules to block the generation of sentences like (9)c. As a first step she classifies all the pronouns, as does Emonds, with the syntactic features FEMININE, PLURAL, III person, II person, and REFLEXIVE, and points out the need to mark direct object pronouns for gender including those of first and second person. (Emonds' classification does not distinguish third-person masculine direct objects (le, les), from first- and second-person direct object pronouns, even though those may trigger gender agreement

with a past participle whereas the masculine direct objects do not). Herschensohn then adds a further feature GEND (gender) to these five features. This additional feature allows Herschensohn to place clitics preverbally by using two rules instead of three, like Emonds. She can do away with the Le, La, Les Rule, but still needs an Interchange rule to reorder sequences like *les me, *la te, *le nous, which her clitic placement rule generates. It is clear from the rules proposed to replace Emonds' that this added feature performs a valuable function: the rules are formulated so that two pronouns with the feature [-GEND] will not co-occur preverbally. Only le, la and les are marked as [+GEND]; all the other pronouns are given the feature [-GEND]. As these remaining pronouns are all mutually exclusive preverbally (except in the ethical dative construction), framing the rules to exclude two [-GEND] pronouns automatically accounts for co-occurrence restrictions between the clitics.

At this point, it might be helpful to look at relevant parts of Herschensohn's feature classification,

(10)		<u>GEND</u>	<u>FEM</u>
	le	+	-
	la	+	+
les	{eux	+	-
	{elles	+	+
	lui	-	
	leur	-	
	soi	-	
	moi	-	
	toi	-	
	nous	-	
	vous	-	

If the [GEND] feature is to be interpreted as in (11),

- (11) A pronoun is marked with the feature [+GEND] only if the clitic form of the pronoun is morphologically marked for gender,

then the feature assignment for les is wrong. Les is not morphologically marked for gender, though le and la are. Les should be assigned the feature [-GEND]. The fact that les can trigger either masculine or feminine gender agreement is of no consequence here; so can soi, moi, toi, nous and vous, which are all [-GEND].

If on the other hand, the [GEND] feature is to be interpreted as something like (12)

- (12) A pronoun is marked with the feature [+GEND] only if the clitic form of the pronoun corresponds to a strong form which is morphologically marked for gender,

then les in (10) is correctly marked as [+GEND], but lui and leur are incorrectly marked as [-GEND]. As clitics, these pronouns can have either masculine or feminine reference, and so when translated mean 'to him, to her, to it'; to them (m. or f.). But they correspond to strong forms which are unambiguously distinguished for gender, as is obvious when, for example, a ne . . . que construction strands the pronouns postverbally. The clitics in the a sentences of (13)-(16) correspond to the strong forms in the b sentences morphologically marked for gender.

- (13) a. Je lui parlerai.
'I'll speak to him.'
- b. Je ne parlerai qu' à lui.
'I'll only speak to him.'
- (14) a. Je lui parlerai.
'I'll speak to her.'
- b. Je ne parlerai qu' à elle.
'I'll only speak to her.'
- (15) a. Je leur parlerai.
'I'll speak to them (m).'
- b. Je ne parlerai qu' à eux.
'I'll only speak to them (m).'

- (16) a. Je leur parlerai.
'I'll speak to them (f).'
- b. Je ne parlerai qu' à elles.
'I'll only speak to them (f).'

If (12) is a guideline for feature assignment therefore, it is hard to see why lui and leur are not marked as [+GEND]. If on the other hand, (11) is the guideline, it hard to see why les is marked [+GEND].

It is clear that Herschensohn's purpose in assigning the GENDER feature is to pick out le, la, les as a natural class. If features are assigned on the basis of (11) or (12) however, and I see no alternative to these, then the groups of clitics marked as [+GEND] are le, la, on the one hand, and le, la, les, lui, leur on the other. Assigning [+GEND] to these groups rather than to le, la, les causes Herschensohn's rules to make the wrong ordering predictions. For example, her rule of Clitic Placement (17)

$$(17) \quad X - \bar{V} \quad [\text{(PRO)} - \text{(CL)} - V] - Z - \text{NP} [(\hat{a}) \text{PRO}] \overset{2}{Y} - W \longrightarrow$$

$$1 - \left[\left(\bar{V} \left[\begin{array}{c} \text{PRO} \\ +\text{GEND} \end{array} \right] \right) - \text{PRO} - 4 \right] - 5 - t_0^2 - 7$$

will not allow two [-GEND] postverbal PROs to advance to clitic position, since the first clitic has to be marked [+GEND]. This is the desired effect if le, la, les are so marked; but if les must be marked [-GEND], the rule would not permit the grammatical (18) to be generated, assuming the underlying structure (19).

- (18) Elle me les donne.
'She gives them to me.'

- (19) Elle - donne - les - à moi (Assuming feature marking by guideline (11)).
[-GEND] [-GEND]

If le, la, les, lui, leur are all to be marked as [+GEND] then the rule generates the ungrammatical (20)a.

- (20) a. *Il te lui présentera.
'He will introduce you to her.'
- b. Il-présentera - toi - à elle (Assuming feature marking by
[-GEND] [+GEND] guideline (12)).

It is crucial to this analysis therefore that just le, la, les be selected to fill the slot labelled PRO, [+GEND]; any other combination of pronouns causes incorrect predictions to be made. But the assignment of this feature is completely arbitrary, because the only plausible criteria for feature assignment fail to pick out le, la, les to the exclusion of all other pronouns. Until Herschensohn can provide some motivated feature assignment process which selects just the direct object third-person pronouns, her analysis will have no explanatory value.

These analyses of clitic placement within the framework of the structure preserving hypothesis succeed in doing without any sort of surface filter to order clitics correctly. But Emonds requires a total of three transformations, two of them moving only le, la, les, and these have to be supplemented by negative output constraints to prevent ungrammatical sequences like *me vous, *me lui, etc. Herschensohn requires only two rules, and even manages to incorporate co-occurrence restrictions in her clitic placement rule--but her analysis is based on dubious feature assignment. What is evident is that the cost of doing away with a surface structure constraint is an addition to the number and complexity of transformational rules needed to account for the exceptional nature of clitic ordering and co-occurrence.

3.3 Fiengo and Gitterman's Approach to Clitic Ordering

Fiengo and Gitterman (1978) present a comprehensive proposal which they claim accounts not only for the correct order of clitic pronouns, but also for the co-occurrence restrictions which hold between them. Their analysis assumes the Structure-Preserving

Hypothesis, and though it is said to be neutral with respect to a choice between the Standard Theory, the Extended Standard Theory, and the Revised Extended Standard Theory, it is presented as "an expression of a recent tendency to reduce the expressive power of grammatical rules severely in favour of a highly articulated system of universal principles" (Fiengo and Gitterman (1978: 116)). The universal principles which they maintain can explain the syntactic problems posed by French clitics are the "second position" hypothesis and the "A-before-A" principle.

In the following sections, I will give a synopsis of their approach, outlining their assumptions and rules, and including some sample derivations. I will then point out several ways in which their approach is deficient or makes incorrect predictions.

3.3.1 Second Position and A-before-A

Fiengo and Gitterman make the initial assumption that the basic form of object pronouns is the strong form, so that all object pronouns which appear before the verb originate as postverbal tonic pronouns, to be "weakened" in the course of their derivation. The movement undergone by these strong pronouns is to "the position following the first constituent in a S (not \bar{S})" (op. cit.: 118). They note that movement to this second position in a sentence does not seem to be confined to French, referring to a general discussion by Zwicky (1977) to support their claim that "it is quite likely that other languages besides French should be analyzed in this fashion" (Fiengo and Gitterman (1978: 115)). They speculate that cliticisation and movement to second position might be identical on a universal basis, but only defend the specific claim that French contains a cliticisation process which moves pronouns into second position.

Because the rules they propose only move PRO forms one at a time, second position will constantly be redefined by an algorithm which analyzes the outputs of transformations and places the symbol 2 after the first constituent in S. "Cliticisation would then be thought of as replacing 2 with a pronoun. Given the structure CCCC + PRO C, the algorithm will yield C2CCC + PRO C; cliticisation will yield C PRO CCCC; and the algorithm will yield C 2 PRO CCCC" (Fiengo and Gitterman (1978: 120 n.)).

An immediate advantage of this analysis is an explanation of why pronouns are enclitic in affirmative imperatives but proclitic in negative imperatives and in declarative sentences. If it is assumed that there is a rule which deletes the second-person subject in imperative sentences, and that this rule precedes the cliticisation process, then second position in affirmative imperatives will be to the right of the verb, while in the other sentence types it will be to the left. The first position in negative imperatives will be filled by the negative particle ne, while in declaratives, the subject noun phrase will occupy first place. No rule will be required therefore in this analysis to postpose clitics in affirmative imperatives: clitics will remain postverbal if position two follows the verb. Thus in (21), (22), the a sentences represent the underlying structure, and the b sentences show the pronoun occupying second position.

(21) a. Ne-2-donnez-pas-le livre-à moi.

b. Ne me donnez pas le livre.
'Don't give me the book.'

(22) a. Donnez-2-le livre-à moi.

b. Donnez-moi le livre.
'Give me the book.'

The second position hypothesis allows the cliticisation process to be stated extremely simply. The rule is given as (23),

(23) Cliticise,

to be interpreted as the fronting of [+PRO] elements to second position. The rule applies to strings of the form

(24) X 2 Y +PRO Z,

where 2 is second position, moving +PRO to 2.

When more than one postverbal pronoun occurs in a string, the question of which one to front is resolved by appealing to a condition which they call the A-before-A Condition. In cases where the structural description of a transformation may refer ambiguously to nodes A_j or A_k in a phrase marker, where A_j precedes A_k , the condition will require that A_j be selected. Fiengo and Gitterman use this condition on rule applicability to explain why pairings of any clitics from the me te se nous vous lui leur list are not allowed, and to explain why it is only the direct object pronoun which is cliticised. Given (25), which Fiengo and Gitterman assume to be the deep structure underlying (26),

(25) Il-présente-moi-à lui.
'He introduces-me-to him'

the A-before-A Condition will select moi as the target for rule (23), because as direct object it is generated to the immediate right of the verb. If rule (23) is not allowed to reapply, as Fiengo and Gitterman explicitly assume (op. cit.: 132), the only output will be (26).

(26) Il me présente à lui.

Neither a nor b in (27) will be produced, given this set of assumptions.

- (27) a. *Il lui présente moi.
b. *Il me lui présente.

3.3.2 Rules Required for Cliticisation

A number of other assumptions are made by Fiengo and Gitterman in their analysis of clitic order. For example, they note that enclitic pronouns normally appear in their strong, stressed form, but that the third-person object forms lui, elle, eux appear in weakened, unstressed form: le, la, les when they are direct objects, and lui, leur when indirect objects. They postulate therefore a rule of Third Person Weakening which changes any third-person strong pronoun found on the immediate right of the verb to its weak form, whether the sentence is imperative or not. An underlying structure like (28) will be converted by this rule to (29).

(28) Il-donne-lui-à moi.
'He gives it to me.'

(29) Il-donne-le-à moi.

Furthermore, they assume that weak pronouns cliticise before strong ones, revising rule (23) to (30), using a parenthesis notation which is to be interpreted as applying first to weak pronouns, and then to strong ones, for a total of two clitic movements.

(30) Cliticise (-STRONG)

The intermediate stages then in the derivation of (28), (29) will be as follows. Weak Cliticisation will move le to the position following il, as in (31).

(31) Il-le-donne-à moi.

The position-locating algorithm will redefine this string and insert the symbol 2 between il and le. Finally Strong Cliticisation will move moi to second position, where it will be weakened by a general rule, and à will be removed by a rule of Preposition Deletion.

The result will be the grammatical string (32).

(32) Il me le donne.

In discussing the derivation of (33),

(33) Il m'y voit.
'He sees me there.'

Fiengo and Gitterman propose that adverbial y may be generated as the first constituent following the V node in underlying structure.

(34) Il-voit-y-moi.

While admitting that there is no strong motivation for this particular arrangement, they note that "under certain structural conditions, an adverb may intervene between a verb and its object . . . we assume that these structural conditions are stated not in the structural description of adverb placement but on the output of a maximally simple rule of adverb placement . . . nothing prevents the generation of [(34)] as an intermediate structure" (Fiengo and Gitterman (1978: 125)). On the basis of sentences like those in (35), where adverbs appear before direct objects, structures like (34) are justified.

- (35) a. Il voit toujours Jean ici.
'He always sees Jean here.'
- b. Il prend déjà son cahier.
'He's already taking his notebook.'

This position for y allows Third Person Weakening to apply to this pronoun, so that a weak and a strong pronoun now follow the verb voit. With Weak Cliticisation of y, and Strong Cliticisation of moi and Preposition Deletion of à applying in that order, sentence (33) is derived.

But, given that the rule of adverb placement may position y after moi, as in (36),

(36) Il-voit-moi-y,

Third Person Weakening will not be able to apply, and two strong pronouns will be found after the verb, only one of which can be moved by Strong Cliticisation. This pronoun will be moi, as predicted by the A-before-A Principle. Fiengo and Gitterman assume that when moi moves, it leaves a trace, which prevents y from being immediately postverbal, and therefore from being eligible to weaken. The trace is strictly speaking irrelevant in any case, since the two Cliticisation rules are ordered, so that even if a strong pronoun was weakened in a derivation after another strong pronoun had moved, this newly-weakened pronoun would not become eligible for movement. If there are no suitable candidates to undergo Weak Cliticisation, Strong Cliticisation applies, and no more clitic movement is then possible.

Thus, once moi has moved in (36), the intermediate structure (37) remains, with no rule applicable to y.

(37) Il me voit t y. (where t = the trace of moi)

Fiengo and Gitterman relate the ungrammaticality of (37) to the fact that the pronoun y is never stressed. They observe that if a pronoun appears to the right of the verb, it must carry stress, usually emphatic stress. The exceptions are pronouns appearing inside prepositional phrases, and third-person objects. Assuming that the latter pronouns are lexical dependents of the verb, Fiengo and Gitterman propose a filter to mark (37) as ungrammatical. This filter will disallow any string containing an unstressed, bare pronoun, which is not immediately preceded by a preposition.

- (38) * . . . [c] [X] $\left[\begin{array}{l} +\text{PRO} \\ -\text{NOM} \\ -\text{STRESS} \end{array} \right] [Y] . . .$

(No basis is given for the assignment of a feature [STRESS] to a pronoun, and it does not seem likely that it can be a syntactic feature.)

The subject pronouns je, tu, etc. are able to appear without emphatic or contrastive stress, and weakened lexical dependents of verbs, like le in (39),

- (39) Frappez-le!
'Hit it!'

may appear because they are assumed to not have a category symbol on them in derived structure, being now part of the verb. But y, which never receives emphatic or contrastive stress, will be subject to the filter if it does not cliticise. Sentence (37) will be rejected because it contains an unstressed pronoun which is not a lexical dependent of the verb and which is not preceded by a preposition.

The process of becoming a lexical dependent of the verb is called Rebracketing by Fiengo and Gitterman, and the weakening of third-person postverbal pronouns, which converts lui, elle and eux to le, la, les, and lui, leur, is assumed to be a reflex of a rule of Rebracketing. With an underlying structure like (40), therefore, Rebracketing will yield (41) as an intermediate structure.

- (40) Donnez-lui-à moi.
'Give it to me.'

- (41) [_V [_V Donnez] -le] -à moi.

String (41) contains two constituents labelled V. By virtue of the A-over-A Condition, the containing V rather than the contained V will be analyzed as the first constituent in the string by the algorithm

which defines second position, and so the symbol 2 will be placed to the right of the constituent donnez-le in (41). Strong Cliticisation of moi yields (42), and Preposition Deletion gives the grammatical (43).

(42) Donnez-le-moi-à.

(43) Donnez-le-moi.

If le were not rebracketed on to the verb, second position would be between donnez and le in (41), and Cliticisation of moi to this position would give (44).

(44) *Donnez-moi-le.

To explain why moi/me is not the rightmost clitic when en is the direct object pronoun, Fiengo and Gitterman refine their Third Person Rebracketing rule. They note initially that with an underlying structure (45) containing en, one would expect a derivation parallel to the one outlined above,

(45) Donnez-en-à moi.
'Give some to me.'

If en rebrackets to the verb, moi will cliticise to the position following en, giving (46).

(46) *Donnez-en-moi.

But (46) is not grammatical. The correct sequence of clitics is as in (47).

(47) Donnez-m'en.

Fiengo and Gitterman avoid producing (46) by analyzing en in such a way that it is unable to undergo Third Person Rebracketing. This rule is stated as follows:

(48) $v[. . .] a[[+THIRD]] \longrightarrow v[v[. . .] a[[+THIRD]]]$

It states that a third person constituent a becomes a lexical dependent of a lexical category V. Viewing this operation from the standpoint of the X-bar theory, they propose that a category may not become a lexical dependent of another category unless the bar specification of the category which is to become dependent is equal to or less than that of this other category. They then analyze en as having two distinct sources, both as an NP standing in place of de N, and as a PP, standing in place of de \bar{N} . The labelled bracketing of en would then be as in (49).

(49) a. \bar{N} [en].

b. \bar{P} [en].

This analysis leads to the following statement by Fiengo and Gitterman: "Thus, en contrasts with lui, moi, y, in that lui and moi are dominated by \emptyset -bar [i.e. lexical] categories (N) and y, in the relevant cases, by the \emptyset -bar category ADV, while en is not dominated by N, but by \bar{N} or \bar{P} " (op. cit.: 131).

Given the general condition on rebracketing items as lexical dependents of other items, the rebracketing of en as a lexical dependent of V will be disallowed. The second position algorithm will now locate position two between donnez and en in (45).

In order to move moi into this position, Fiengo and Gitterman make two proposals, opting for the second. Their initial idea is that Cliticisation will not apply to en in (45), since it is already the second constituent. Strong Cliticisation would then be able to move moi into this position, giving (47). This solution is rejected however, because of sentences like (50), which have the following underlying order:

(50) Présentez-moi-à lui.
'Introduce me to him.'

If Strong Cliticisation could not apply to moi here, it could apply to the strong pronoun lui, giving the ungrammatical (51).

(51) *Présentez-lui-moi (à).

They decide, therefore, that Cliticisation may in fact apply "vacuously," i.e., in such a way that the linear order of constituents is not affected. The application of Strong Cliticisation to (50) will then yield (52) as an intermediate structure.

(52) Présentez-moi à lui.

No further Cliticisation rules may apply, because lui is [+STRONG], leaving (52) as the surface string, which is in fact correct.

Vacuous application of Strong Cliticisation to en in (45), though, would leave moi where it is in underlying structure, to the right of en. In order to ensure that moi moves between donnez and en, therefore, a further rule is proposed, in (53).

(53) Hopping

Cliticise / X 2[+THIRD] Y — Z.

This rule is to be interpreted as moving a +PRO into second position if a [+THIRD] constituent immediately follows 2. Moi in (45) can undergo this Hopping rule, and moves into second position. There is considered to be a gap between donnez and en into which moi can hop because en is not allowed to rebracket as a lexical dependent of the verb. The [+THIRD] constituent triggering the rule of Hopping is en. Thus it is not Strong Cliticisation but Hopping which moves moi between donnez and en in (47). The rule of Hopping is required because of the decision to allow vacuous application of Strong Cliticisation in (45).

The same Hopping rule is responsible for the surface order of clitics in (54).

- (54) Il le lui donne.
'He gives it to him.'

With the deep structure configuration (55),

- (55) Il donne lui à lui,

Third Person Rebracketing gives (56),

- (56) Il _v[_v[donne]le] à lui.

Weak Cliticisation gives (57),

- (57) Il le donne à lui.

Strong Cliticisation gives (58),

- (58) Il lui le donne à.

And Hopping and Preposition Deletion yield (54).

In order to account for the weakening of strong pronouns observable in various environments, Fiengo and Gitterman posit three rules of derived constituent structure (59) which make pronouns into lexical dependents of verbs and of other pronouns, and a rule of general weakening, (60).

- (59) a. $\sim +\text{PRO} \longrightarrow +\text{PRO} [+ \text{PRO}]$
 b. $+V \longrightarrow +\text{PRO} [+V]$
 c. $+V \longrightarrow [+V] +\text{THIRD}$
 $+ \text{PRO}$

- (60) +STRONG \longrightarrow -STRONG / $\frac{\quad}{+PRO}$

if +PRO is a lexical dependent.

These rules reapply after every transformation.

Rule (59)a accounts for the rebracketing of postverbal pronouns when these precede another pronoun, such as en or y. In the derivation of Donnez m'en, for example, an intermediate stage Donnez-moi-en is produced by Hopping. Rule (59)a will make moi into a lexical dependent of en in this environment, and rule (60) will convert moi to

me. Similarly, an intermediate stage in the derivation of (61) is assumed to be (62).

(61) Elle me donne un livre.
'She gives me a book.'

(62) Elle moi donne un livre.

Rule (59)b will rebracket moi on to donne, and rule (60) will weaken the pronoun to me. Rule (59)c is a restatement of Third Person Rebracketing.

A revision of some of the rules presented so far is required to prevent some of them from applying to third-person reflexive pronouns. If the sentences in (63) are parallel in underlying structure,

- (63) a. Il-présente-soi-à moi.
'He introduces himself to me.'
- b. Il-présente-lui-à moi.
'He introduces him to me,'

then the application of Third Person Rebracketing and Weakening, followed by Weak then Strong Cliticisation, would give (64).

- (64) a. *Il me se présente.
b. Il me le présente.

Only (64)b is grammatical; the grammatical counterpart to (64)a is (65).

(65) Il se présente à moi.

By adding to the structural description of Third Person Rebracketing the specification that only [-REFLEXIVE] pronouns undergo the rule, Fiengo and Gitterman are able to ensure that moi remains postverbal in (63)a. Since Rebracketing does not make soi a lexical dependent of présente in this string, only Strong Cliticisation will apply to move soi. Weak Cliticisation will be inapplicable. And if Hopping is stated so that only [-REFLEXIVE] pronouns could meet the structural description of the rule, the intermediate string (66),

produced by Strong Cliticisation, would not be affected by Hopping.

(66) Il-se-présente-à moi.

The derivation stops at this point, yielding the correct pronoun order of (65).

This outline then presents the essential points of Fiengo and Gitterman's proposal. Through the interaction of three rules of cliticisation to second position (Weak Cliticisation, Strong Cliticisation, and Hopping), a rule of stress reduction (Weakening), and three rules of Derived Constituent Structure ((59)a, b and c), they claim to be able to account for clitic ordering and co-occurrence restrictions in French.

In the next section, I shall examine some of their assumptions in detail in order to determine whether this is a valid claim.

3.3.3 Problems for Fiengo and Gitterman's Analysis

A number of inconsistencies, misanalyses and inaccuracies are revealed by a close examination of Fiengo and Gitterman's proposals. The following problems will be dealt with here:

1. The Category Status and Position of ne.
2. The Determination of Second Position.
3. The Intervention of Adverbs between Verb and Objects.
4. The Derived Constituent Structure of Clitics.
5. The Category Status and Bar Specification of en.
6. Pro PPs and Feature Assignment.
7. Ethical Datives and Three-Clitic Sequences.
8. The Deep Structure position of y and Derived Constituent Structure Rules.
9. The Feature [\pm STRONG].
10. A False Prediction of the A-before-A Principle.

3.3.3.1 The Category Status and Position of ne

Fiengo and Gitterman assume that the clitic element ne is the first constituent in any negative imperative (op. cit.: 118). It is generated preverbally in the base, and any postverbal pronouns cliticise to second position, following ne. In negative declaratives, ne is already in second position in underlying structure, and is displaced rightward by arriving clitics. Fiengo and Gitterman give the following derivation of (67).

(67) Il ne le frappe pas.
'He doesn't hit him.'

- (68) a. Il ne frappe pas lui : (Underlying structure)
b. Il le ne frappe pas : (Following CLITICISE)
c. Il ne le frappe pas : (Following a rule which cliticises NE to second position)

Another cliticisation rule is therefore required to put ne back into the position it had in the underlying string. If ne is specified as a cliticisable element labelled (-PRO), then it will be fronted to second position after all (+PRO) elements have been cliticised, given the interpretation of the parenthesis notation in (30).

No indication of the category status of this element is given in Fiengo and Gitterman's study, other than the statement that it is (-PRO). If it is a (-PRO), then it is not subject to the rules of derived constituent structure given in (59). Ne therefore has an independent category status, and is not made a lexical dependent of the verb with which it appears. Fiengo and Gitterman require this to be the case, in order to derive negative imperative sentences with preverbal clitics. In (69), ne must not rebracket to the verb if it is to count as the first constituent of this underlying string.

(69) Ne - 2 - frappez-pas-lui.
'Don't hit him.'

If ne did rebracket, as the result of the application of the rule (59)b, repeated here,

(59) b. +V \longrightarrow +PRO [+V],

then by the logic of the A-over-A Principle, the first constituent in the string would be the V containing both ne and frappez (cf. Fiengo and Gitterman (1978: 129 n.)). Second position would then be located after frappez, with the result that lui would cliticise in the wrong place.

(70) a. *Ne frappez-le pas.

Hence, ne must not rebracket, and must remain a separate constituent, not affected by the rules of derived constituent structure, in order to derive the correct (70)b.

(70) b. Ne le frappez pas.

This fact has implications, however, for negative affirmative sentences containing third-person direct and indirect object clitics. Consider first derivation (71), given by Fiengo and Gitterman, and relabelled and renumbered here, and contrast it with (72), its negative counterpart.

(71) Il la lui donne.
'He gives it to her.'

Deep Structure	Il donne elle à lui
Derived Constituent Structure	Il [[donne]la] à lui
Rule (59)c	
Weak Cliticisation	Il la donne à lui
DCS Rule (59)b	Il [la[donne]] à lui
Strong Cliticisation	Il lui [la[donne]] à
DCS (59)b, and Weakening	Il [lui[la[donne]]] à
Hopping	Il la [lui[donne]] à
DCS (59)b	Il [la[lui[donne]]] à
Preposition Deletion	Il [la[lui[donne]]]

Note that after Strong Cliticisation has moved lui in front of [la[donne]], the rule of derived constituent structure which comes into force is not (59)a but (59)b. Fiengo and Gitterman make it an explicit assumption that "the application of DCS rules must be

constrained in such a way that once they have assigned a lexical category to a string, another application of the DCS rules cannot re-analyze that string. The entailment will be that a DCS rule will be unable to make an element a dependent of an element which is itself a dependent. The DCS rules will only make elements dependents of entire lexical categories" (Fiengo and Gitterman (1978: 146 n.)). If lui had been made a lexical dependent of la by rule (59)a, then the rule of Hopping would not subsequently have been able to apply. If the string had contained [la[lui]] as a Pro constituent, Hopping would have selected the largest +PRO constituent to be affected by the rule, by virtue of the A-over-A Condition, as Fiengo and Gitterman (p. 143) point out. Since Hopping is required to reverse the lui-la order of pronouns in the derivation, this assumption about the application of derived constituent structure rules is important.

The negative version of (71) is (72).

- (72) Il ne la lui donne pas.
'He doesn't give it to him.'

Deep Structure	Il ne donne pas elle à lui
Derived Constituent Structure Rule (59)c	Not Applicable: blocked by <u>pas</u>

Fiengo and Gitterman assume that pas is generated in the position following the verb, but also say that the underlying position of pas is difficult to establish, and that there are "other possibilities" (p. 118 n.). Let us assume that pas does not form an obstacle to the application of Third Person Rebracketing, perhaps because pas is itself made a lexical dependent of the verb by some rule of derived constituent structure. We will consider therefore that the derivation can go ahead, and that elle will rebracket and weaken to la despite the presence of pas which should act as a phonological barrier.

DCS Rule (59)c	Il ne [[[donne]pas]la] à lui
Weak Cliticisation	Il la ne [[donne]pas] à

As we have already established that ne does not rebracket to the verb, DCS rule (59)b does not now apply.

Strong Cliticisation
DCS (59)b
Hopping

Il lui la ne [[donne]pas] à
Il [lui[la]] ne [[donne]pas] à
Not Applicable

Rule (59)b now applies to make lui a dependent of la, since la is not itself a dependent of the verb donne. Hopping will not be able to apply here, because the highest +PRO constituent will be chosen by the A-over-A Principle. This constituent is the whole of the [lui[la]] phrase, which already occupies position 2. After Preposition Deletion and the Ne-Cliticisation rule then, the surface structure is the string *Il ne lui la donne pas, with the clitics in the wrong order.

Another possible analysis of this sentence gives results which are no better. If we assume that pas does effectively block the rule of Third-Person Rebracketing from applying to elle, then Strong Cliticisation will produce (73).

(73) Il elle ne donne pas à lui.

Since elle does not become a lexical dependent of the -PRO ne, the general rule of Weakening cannot apply to change elle to la. Furthermore, the rule of Hopping will apply now to this string, placing lui between il and elle in (74).

(74) Il lui elle ne donne pas à.

After Preposition Deletion and Ne-Cliticisation, DCS (59)b and (60), the surface string will be the ungrammatical (75).

(75) *Il ne lui la donne pas.

The way to avoid these unwanted results is to assume that the element ne rebrackets to the verb, and that it becomes a lexical dependent of the verb. In that way, rule (59)b would be able to apply after Weak Cliticisation in derivation (72), so that la could

rebracket to the verbal complex [ne[donne]], giving [la[ne[donne]]]. Now, after Strong Cliticisation fronts lui, and after lui rebrackets to this verbal complex, Hopping will, as desired, be able to apply, yielding the correct la-lui surface order.

But if ne rebrackets to the verb here, it will also do so in imperative sentences. The first constituent of such sentences would then be understood to be the ne-V sequences, so that second position would follow the verb. Clitics would then attach themselves to the wrong side of the verb in negative imperatives, resulting in the production of sentences like (70)a, repeated here.

(70) a. *Ne frappez-le pas.

Unless some motivated reason for disallowing rebracketing of ne in imperative sentences while allowing it in affirmatives can be suggested, it is clear that incorrect positioning or incorrect sequences of clitics will result from Fiengo and Gitterman's analysis.

3.3.3.2 The Determination of Second Position

The problem outlined above for negative imperatives could be avoided 1. if ne was not considered a constituent itself, but part of a larger verbal complex, and 2. if some other element could count as the first constituent in such sentences.

A plausible alternative candidate for first constituent is the subject NP of imperative sentences. We could assume that this NP is present in intermediate stages of the derivation of imperatives, and is deleted after all movement rules had taken place. This assumption would be in keeping with the framework of rules proposed in Chomsky and Lasnik (1977), in which base rules and movement rules precede all deletion rules. The deep structure for (70)b would then be

(70) c. Vous - ne - frappez-pas-lui.

The derived constituent structure rule (59)b would then give (70)c'.

(70) c'. Vous [ne[frappez]] pas lui,

and second position will occur between vous and ne frappez. Clitics will then appear preverbally in negative imperatives, as desired.

In affirmative imperatives, however, clitics will also appear preverbally if a subject NP is present throughout the derivation. If second position is located before the verb, strings like (76) will be produced,

(76) *Le frappez!
'Hit him!'

instead of the grammatical (77),

(77) Frappez-le!

Again, unless some principled reason can be given for deleting the subject NP in affirmative imperatives earlier in the derivation than for negative imperatives, then ne will have to be considered as the first constituent in these sentences, a clitic element which does not rebracket to the verb.

Fiengo and Gitterman (p. 18) in fact state explicitly that they assume the existence of a rule deleting the subject of imperatives, and that the application of this imperative rule precedes the application of the cliticisation rules. Determination of second position thus takes place after the rule deleting imperative subjects. Second position, however, must be determined before another deletion rule. In a footnote (p. 119), Fiengo and Gitterman seem to espouse Chomsky and Lasnik's (1977) rule of Equi-NP Deletion, which must, it is argued, apply after the syntactic transformations. Thus in (78)a (=8) in F and G), the phonologically unrealized element PRO is nonetheless considered the first constituent.

- (78) a. Mes amis promirent à Marie de _S [PRO le faire].
 'My friends promised Marie to do it.'

It is not clear, therefore, at what point in the derivation of sentences the algorithm which is designed to locate position 2 is supposed to operate. In imperatives it operates on terminal strings of constituents, while in Equi sentences it operates on intermediate strings. If deletions follow all movement rules, as they do in the framework of Chomsky and Lasnik (1977), then second position will be after the PRO element in Equi sentences and after the subject in imperative sentences. This latter assumption, of course, leads to ungrammatical strings like (76).

There is some arbitrariness therefore in this analysis as to what counts as a constituent, and what stage in the derivation is appropriate for determining second position.

3.3.3.3 The Intervention of Adverbs Between Verb and Objects

Fiengo and Gitterman's analysis predicts that sentences containing certain adverbs along with direct and indirect object clitics cannot be derived. This implication of their analysis can be illustrated by adding an adverbial element to a sentence whose derivation is given by Fiengo and Gitterman (p. 136). Their sentence (90), given here as (79)a, is derived as follows (with appropriate changes).

- (79) a. Donnez-le-leur.
 'Give it to them.'

Deep Structure	Donnez-lui-à eux
Derived Constituent Structure Rule	[[Donnez]lui] à eux
(59)c	
Weakening	[[Donnez]le] à eux
Strong Cliticisation	[[Donnez]le] eux à
DCS (59)c, and Preposition Deletion	[[[Donnez]le]leur]

If this sentence is changed by adding the adverb donc (so, then, therefore) in its natural position immediately to the right of the verb, before any NP objects, the derivation above cannot proceed in parallel fashion.

- (79) b. Donnez-le-leur donc!
'Give it to them then!'

Deep Structure	Donnez-donc-lui-à eux
DCS (59)c	Not Applicable; blocked by <u>donc</u>
Weak Cliticisation	Not Applicable
Strong Cliticisation	Donnez-lui donc à eux.
DCS Rule (59)c	[[Donnez]-lui] donc à eux
Weakening	[[Donnez]-le] donc à eux
Hopping	Not Applicable

The derivation blocks at this point, leaving no way to derive Donnez-le-leur donc. The clitic le has become a lexical dependent of the first constituent donnez, and does not count as a constituent in second position. The structural description of Hopping is therefore not met, and eux is left stranded, unable to cliticise.

And so the generation by base rules of a non-pronominal element between a verb and its object(s) is sufficient to prevent the derivation of direct-indirect object clitic sequences. It would be futile to suggest that adverbs are not generated to the immediate right of verbs, as Fiengo and Gitterman require that y be placed in this position in basic structure to ensure that it surfaces in the right position (cf. the discussion of (33)). Yet verb and third-person pronoun must be contiguous to allow the rebracketing and weakening rules to operate, and these must operate to ensure the presence of one weak and one strong pronoun after the verb, to be affected by the two rules of Weak and Strong Cliticisation. An intervening adverbial element upsets this interaction of rules, and blocks the derivation before the correct surface order is obtained.

Another example of adverbial interference with the rules is given below in (80).

- (80) a. Il parle à ses amis (donc) de cela.
'He speaks to his friends about it (then).'
- b. Il-parle-à eux-(donc)-en. (Underlying Structure)

If the adverb donc is not present, eux can rebracket to en by rule (59)a, and both pronouns will be fronted together, since they form a single constituent, giving the grammatical Il leur en parle. If the adverb is present, (59)a will not apply, and so Strong Cliticisation followed by Hopping produce the ungrammatical *Il en leur parle donc.

3.3.3.4 The Derived Constituent Structure of Clitics

The hypothesis that clitics move to second position in an S requires various mechanisms to ensure that clitics are correctly aligned. Pronouns are moved by three cliticisation rules; they are made lexical dependents by derived constituent structure rules, and are weakened from tonic to atonic form by a rule of Weakening. Two of the rebracketing processes involve the verb node; otherwise no mention is made of the verb as a rule target.

It is therefore almost accidental in Fiengo and Gitterman's analysis that French clitics cluster around the verb. Furthermore, their rules predict that clitics are dominated by several different nodes in derived constituent structure, according to the type of rule invoked to get the clitic into second position.

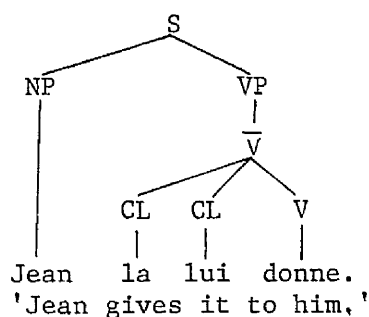
Kayne (1975: 82-102) provides arguments for the claim that object clitics and verb sequences form a single constituent, dominated by a V node. The pronoun is not attached as a sister to the verb, both dominated by VP. Instead, Kayne points out, the pronoun and the verb are more closely bound together. Among the properties of clitic + verb sequences indicating that they act as a single constituent are the following, the first five of which hold of postposed object clitics in imperatives as well.

Properties of Clitic + Verb Sequences

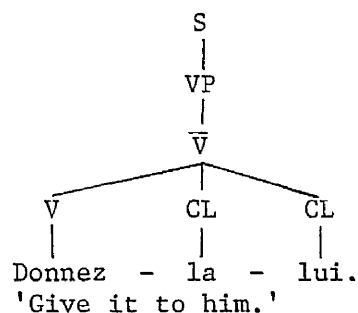
- nothing except other clitics can intervene between clitic + verb;
- the clitic cannot be modified;
- the clitic cannot be contrastively stressed;
- clitics cannot be conjoined;
- clitics may not occur without a verb;
- the rule of Subject Clitic Inversion is unaffected by intervening object clitics, and so its formulation does not have to be altered to accommodate clitics attached to the verb node
(Subject Clitic Inversion contains a subpart . . . SCL V . . . in its structural description, and produces a string . . . V SCL . . .);
- the rule of Leftward Tous Movement is similarly unaffected by object clitics. This rule moves a quantifier over a directly preceding verb . . . V Q . . . \longrightarrow . . . Q V . . . ; in sentences like Elle va tous les lire (She is going to read them all), the rule moves tous over verb and object clitic, not simply over the verb;
- the rule of Auxiliary Deletion, under certain conditions, deletes object clitics along with the auxiliary.

The derived constituent structure of these clitic + verb sequences should therefore be as indicated in the phrase markers (81)a and b below, with the object clitics in b dominated by \bar{V} just as in a.

(81) a.



b.



Fiengo and Gitterman, on the other hand, predict a variety of dominance patterns for clitics. They assume that clitics are dominated in deep structure by the category N, except for en, which they analyze as either an \bar{N} or a \bar{P} , and y, which is analyzed as an ADV or as a \bar{P} . But they do not make it clear what category immediately dominates these pronouns in deep structure. It appears from their explanation of the functioning of their rules of Cliticisation (p. 119 and p. 133) that the rules are "to be interpreted as the fronting of +PRO elements to second position" (Fiengo and Gitterman (1978: 119)). This seems to indicate that the category labels dominating pronouns are marked with a [+PRO] syntactic feature, as in (82).

- (82) a. \bar{N} [+PRO]
 |
 en
- b. N [+PRO]
 |
 moi, le, etc.
- c. ADV [+PRO]
 |
 y
- d. \bar{P} [+PRO]
 |
 en, y

In discussing the dominance patterns of en (pp. 131-132), Fiengo and Gitterman claim that en may rebracket onto the verb if it has been moved by Cliticisation, "since the Cliticisation rule does not front \bar{N} or the prepositional phrase node."

The implication of this statement is that a moved pronoun is immediately dominated by the node V, since its postverbal dominating node has been left behind. The resulting derived constituent structure would then be mapped as in (83).

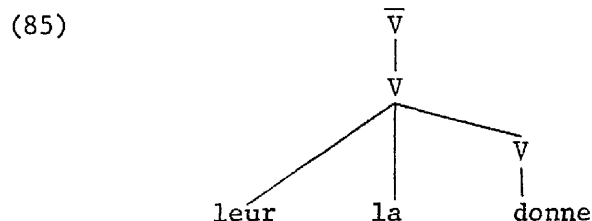
- (83) a. \bar{V}
 |
 V
 en / V
 |
 parle
- b. \bar{V}
 |
 V
 me / V
 |
 parle
- c. \bar{V}
 |
 V
 y / V
 |
 parle
- cf. Jean en parle. Jean me parle. Jean y parle.
 'Jean speaks about it.' 'Jean speaks to me.' 'Jean speaks there.'

The clitics, in other words, are assumed to have no category label dominating them other than V.

If clitics, once moved, were subject to no further transformational processes, the lack of a specific category label differentiating them from verbs in derived structure would be of no consequence. However, the rules of Weak and Strong Cliticisation produce sequences of clitics in the wrong surface order, and a further rule of Hopping is required to operate a clitic interchange. For example, the two Cliticisation rules produce the intermediate string (84), with leur-la in the wrong order.

- (84) *Il leur la donne.
 'He gives it to her.' (cf. the discussion of (54))

At the point of application of Hopping, the derived constituent structure of the relevant part of this string will be as in (85).



There is now no +PRO category for the rule of Hopping to select as a target. Hopping, like other rules, operates on syntactic categories, and not on individual lexical items. This string will be analyzed as a V, and so not be subject to the rule. No mechanism has been provided to transfer the syntactic feature [+PRO] to the V node, and even if this were done, the A-over-A Principle would ensure that the highest V carrying that feature be selected as a target for Hopping, which would then apply vacuously.

The claim that pronouns do not front category labels leads therefore to the production of ungrammatical strings like (84). To avoid this, the deep structure of postverbal pronouns in (82) must be revised.

Fiengo and Gitterman have argued (pp. 130-131) that postverbal en must not rebracket onto preceding verbs or onto following pronouns. Otherwise, incorrect clitic sequences result. They block the rebracketing process by appealing to a principle which states that "a category which has a bar specification n may not be a lexical dependent of a category with bar specification less than n . . ." (Fiengo and Gitterman (1978: 138)).

Given the assumptions about dominating categories made explicit in (82), this principle will prevent the rebracketing of en. But if en, like all other pronouns, is immediately dominated by PRO, it will be subject to the rebracketing rules of (59).

As a consequence, derivations like the following will go ahead.

(89) Deep Structure	Il-donne-en-à elle 'He gives some to her'
Derived Constituent Structure	Il [[donne]en] à elle
Rule (59)c	
Weakening	Il [[donne]en] à elle (No morphological consequences of <u>Weakening</u> for <u>en</u>)
Weak Cliticisation	Il en donne à elle
DCS Rule (59)b	Il [en[donne]] à elle
Strong Cliticisation	Il elle [en donne]] à
DCS Rule (59)b, Weakening, Prep. Deletion	Il [lui[en[donne]]]
Hopping	Il en lui donne
Surface Structure	*Il en lui donne

The derivation is parallel to that of (71). If en had remained [+STRONG] as a result of failing to rebracket, Strong Cliticisation would have moved it in front of donne, and Hopping would have moved elle, giving the correct sequence in (90).

(90) Il lui en donne.

Similar incorrect clitic orders result if en rebrackets to a following pronoun. Fiengo and Gitterman give (91) below (their (113)a) as a possible underlying structure preceding Cliticisation.

(91) Il voit $\overline{\text{N}}$ [en] ADV[y].

Application of Strong Cliticisation to this structure would give (92).

(92) Il en voit y.

And Hopping produces (93).

(93) Il y en voit.

As we have argued, however, the category symbol on en and y must be PRO, as in (94).

(94) Il voit _{PRO}[en] _{PRO}[y].

If DCS Rule (59)a applies, the resulting structure will be (95).

(95) Il voit _{PRO}[en [y]].

If DCS Rule (59)b applies, the result will be (96).

(96) Il [[voit] en] _{PRO}[y] \longrightarrow Il _v[[[voit]en]y].

Taking (95) first, Cliticisation will move the higher PRO in front of voit. Hopping will not subsequently apply, since the higher PRO is already in second position. The surface string produced is the ungrammatical (97).

(97) *Il en y voit.

If (96) is the output of the DCS rules, Weak Cliticisation will move en in front of voit, and Hopping will move y in front of en, again giving the incorrect sequence in (97).

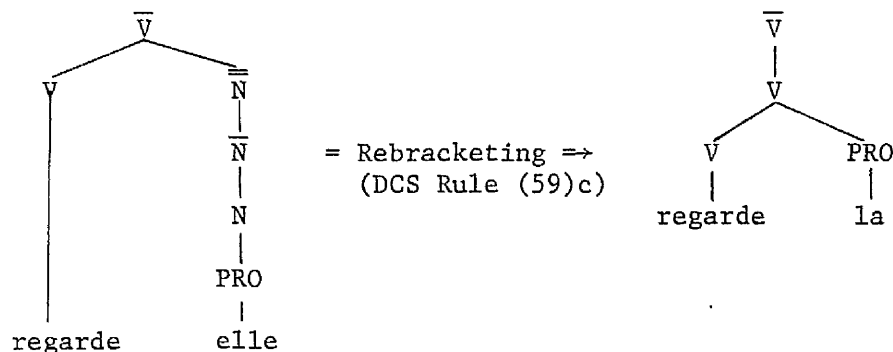
Wrong clitic sequences are therefore produced by both possible assumptions about the constituent structure of cliticisable pronouns. Considering [PRO] as a feature on categories or as a separate category leads to unfavourable results. Furthermore, the rules involved in moving pronouns to clitic position produce widely different dominance

Here, the category PRO is attached directly to \bar{V} , whereas in (99), PRO is still dominated by N, \bar{N} and $\bar{\bar{N}}$ before being dominated by \bar{V} .

In contrast, third-person direct and indirect objects are attached to V, not to \bar{V} or to N.

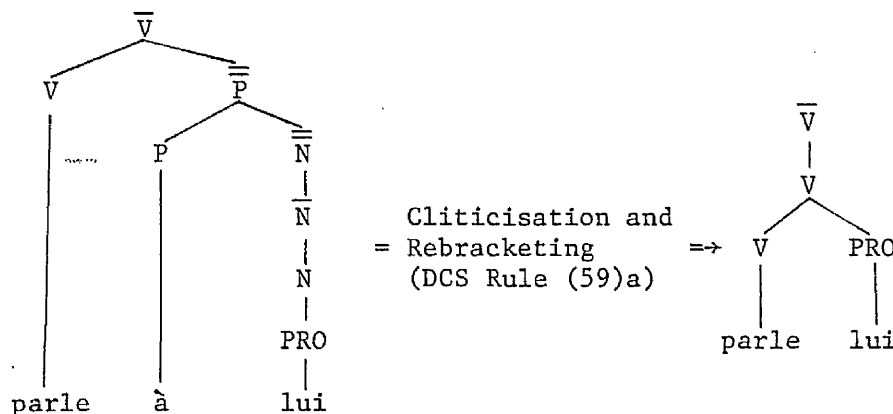
- (102) Regarde-la.
'Look at her.'

Deep Structure



- (103) Parle-lui.
'Speak to him.'

Deep Structure



Some of these dominance patterns for clitics are wrong. For example, first- and second-person direct objects are said to have the same surface structure as full object NPs, since they are $\bar{\bar{N}}$ s attached directly to the verb phrase. Yet they share with all other clitics the properties outlined by Kayne (i.e. they cannot be conjoined, separated from the verb, interrupted by other lexical items, etc.). First- and second-person objects are attached to different nodes in

in the phrase marker from third-person objects, yet, as Y.C. Morin (1979) points out, "all evidence supports the assumption that all enclitics appear in the same structures, whether they are underlyingly a direct object, . . . an indirect object, . . . a first person . . . or a third person . . ." (Y.C. Morin (1979: 303)). For example, the position of non-mobile adjectives, such as donc, bien, supports the claim that all clitics are attached to a V node. These adjectives appear immediately after the verb, as in (104).

- (104) Regarde donc la fleur. .
'Look at the flower then

In (105), donc may only appear after the clitics. Fiengo and Gitterman's analysis predicts that for moi (direct object) at least, and perhaps too for indirect object moi, donc should be able to appear after regarde.

- (105) a. Regarde-la donc.
b. Regarde-moi donc.
c. Parle-moi donc.
- (106) a. *Regarde donc moi.
b. *Parle donc moi.

We conclude therefore that this analysis assigns the wrong constituent structure to French clitics.

3.3.3.5 The Category Status and Bar Specification of en

Fiengo and Gitterman claim that the category dominating en is not the same as that which dominates other pronouns. In particular, they say that "en contrasts with lui, moi, y in that lui, moi are dominated by . . . N and y, in the relevant cases, by the . . . category ADV, while en is not dominated by N, but by \bar{N} or \bar{P} " (Fiengo and Gitterman (1978: 131)). Furthermore, they state that en is both an NP, standing in place of de N, and a PP, standing in place of de N (op.cit.: 131).

The only uncontroversial claim here is that en can stand in place of de N and thus be considered a Pro PP. In (107)b, en replaces de Toronto.

- (107) a. Elle vient de Toronto.
'She comes from Toronto.'
- b. Elle en vient.
'She comes from there.'

But it is hard to see why they should claim that de N constitutes an NP. No phrase structure rule in \bar{X} theory expanding NP (or \bar{N}) in French has ever, to my knowledge, indicated that de and N were the sole constituents of the phrase. If N (with no bars) signifies a bare noun, with no determiner and no other modifier attached, the de N stands for sequences like de arbre (of tree), de crayon (of pencil), de maison (of house). These do not in any way constitute a full noun phrase of French, and so the conclusion that a substitute for such sequences constitutes an NP (or \bar{N}) is clearly in error.

In fact, en may substitute for a bare N or for \bar{N} (i.e. one bar) under certain conditions, as I point out in a following chapter. But it never substitutes for de N or de \bar{N} , as Fiengo and Gitterman claim.

Moreover, their statement that lui, moi are dominated by N is not supported. Earlier, in fact, they point out that full NPs and strong pronouns like lui and moi are very similar in distribution and behaviour (op. cit.: 121). The only exceptions to this observation are third-person pronouns which do not appear in strong form postverbally when they are objects of the verb. And these are assumed to originate as strong forms which are weakened by rules of rebracketing and weakening. These syntactic parallels then between full NPs and strong form pronouns seem to indicate that these pronouns are themselves full NPs. Furthermore, pronouns have no determiners, and are not adjectivally modified in any way. In other words, there is no

justification in X-bar theory for a specifier node to be generated to the left of the head, or for any intermediate level of categories with fewer bars than the phrase node to which modifiers can be attached. Pronouns like moi and lui, in fact, substitute for full NPs, and never for subparts of NPs, which is what the specification of them as N-substitutes indicates.

Fiengo and Gitterman's claim then is totally wrong. En is not a Pro NP, but is instead a Pro N or a Pro \bar{N} . Lui and moi are not Pro Ns, but Pro NPs.

These conclusions have serious implications for Fiengo and Gitterman's analysis. Nothing will now prevent en from becoming a lexical dependent of a preceding verb or a following pronoun. The consequences of this rebracketing of en is that en will surface with another pronoun between it and the verb (cf. the discussion of (89)-(97)).

To illustrate how this revised analysis of the bar specification of en and other pronouns affects the preverbal position of en, consider the sentence (108) and the derivation (109).

(108) Il lui en donne.
'He gives him some.'

(109) Deep Structure:	Il-donne-en-à lui
DCS (59)b and Weakening	Il-[[donne]-en] à lui
(Since the verb node and <u>en</u> have no bars on their category labels, <u>en</u> will rebracket onto the verb.)	
Weak Cliticisation and DCS Rule (59)b	Il [en[donne]] à lui
Strong Cliticisation and DCS (59)b	Il [lui]en[donne]]]à
Hopping and Preposition	Il en lui donne
Deletion	
Surface Structure	*Il en lui donne

It is obvious then that Fiengo and Gitterman's distinction of bar specification between en on the one hand and the non-PP pronouns on the other, is necessary to make the rules work. But since en in fact is not an NP, it has fewer bars than these other pronouns which substitute for full \bar{N} s, and will not stand apart from these Pro NPs

when rebracketing rules operate. As a result, it will rebracket when it is postverbal, and therefore be moved by Fiengo and Gitterman's rules to positions in surface structure which it does not in fact occupy.

3.3.3.6 Pro PPs and Feature Assignment

Two of the rules posited by Fiengo and Gitterman mention the feature [+THIRD PERSON] in their structural descriptions. Derived constituent structure rule (59)c rebrackets onto the verb a [+THIRD, -REFLEXIVE] pronominal element which immediately follows it. And the rule of HOPPING cliticises a pronoun to second position if a [+THIRD] constituent immediately follows second position.

It is clear that Fiengo and Gitterman intend that pronouns which do not, in their analysis, belong to the category N, be able to meet the structural descriptions of these rules. The 'adverbial' y, labelled ADV, and en or y (which substitute for prepositional phrases) labelled \bar{P} , both trigger the rule of Hopping, for example. In derivations of Il y en voit, given by Fiengo and Gitterman, different rebracketing possibilities permit both of the following intermediate strings.

- (110) a. Il y voit en.
b. Il en voit y.

Strong Cliticisation and Hopping apply to (110)a to generate the correct surface structure, while Hopping alone applies to (110)b to give the same result.

Since Hopping moves a PRO to second position, if a [+THIRD] item follows position two, y and en are obviously considered as [+THIRD] person items here.

According to Kayne (1975: 108) the feature of grammatical "person" is an inherent property only of NPs, or perhaps Ns. Adverbial and prepositional phrases are not marked with this feature. Since

Fiengo and Gitterman assume that the feature [+THIRD] is part of the specification of adverbial y and prepositional y and en, one has to presume some sort of feature transfer from the nouns which form part of the adverbial and prepositional phrases replaced by y and en to these pronouns. In other words, the feature [+THIRD] inherent in the NPs contained in phrases like à la maison and de la ville will be attached to the substitutes of these phrases y and en.

This feature cannot be considered to be an inherent feature of these pronouns, however, because under certain limited conditions, y and en can refer to first- or second-person pronouns, as in (112).

- (112) a. Je pense à toi_i et j'y_i penserai toujours.
'I think about you and I will always think about you.'
b. Il a parlé de toi_i et il en_i a dit du bien.
'He talked about you and he said some good things about you.'

In these sentences then, y and en will be marked with the feature [+SECOND] person.

Consider now the derivation, in Fiengo and Gitterman's framework, of (113)b.

- (113) a. Il a dit du bien de toi à mes amis.
'He said some good things about you to my friends.'
b. Il leur en a dit du bien.
'He said some good things about you to them.'

Strong Cliticisation applies to the deep structure (114) to produce (115).

(114) Il-a-dit-du bien-en-à eux.

(115) Il en a dit du bien à eux.

The movement of eux to preverbal position would normally be ensured by Hopping. But Hopping is only triggered by items in second position which are [+THIRD]. If [+SECOND] items could trigger this rule, Fiengo and Gitterman would have no explanation of why me, te, nous,

vous, lui and leur are incompatible in preverbal position.

Both a and b in (116) are ungrammatical; the grammatical versions of these sentences in (117) contain postverbal indirect objects.

- (116) a. *Il te me présente.
'He introduces you to me.'
- b. *Il te lui présente.
'He introduces you to her.'
- c. *Il me te présente.

- (117) a. Il te présente à moi.
- b. Il te présente à elle.

In underlying structure, both postverbal pronouns remain [+STRONG].

- (118) Il-presente-toi-à {^{moi}
elle}

Weak Cliticisation will not apply, and Strong Cliticisation moves toi into second position.

- (119) Il-te présente-à {^{moi}
elle}

If this string met the structural description of Hopping, the ungrammatical (116)c would be produced. Since te is [+SECOND], no Cliticisation rule will affect moi or elle, and they will remain postverbal, as desired.

In (115), en is [+SECOND], and will not therefore trigger Hopping. There is now no rule available to move eux into preverbal position. In other words, the grammatical sentence (113)b cannot be generated.

3.3.3.7 Ethical Datives in Three-Clitic Sequences

Fiengo and Gitterman derive ethical datives from an underlying prepositional phrase introduced by pour. Either Strong Cliticisation or Hopping will be responsible for moving the pronoun before the verb. Their example (122)c, given as (120)a below, will have the underlying

structure (120)b.

- (120) a. Paul te fabriquera une table à Marie en vingt minutes.
'Just watch Paul make a table for Marie in twenty minutes.'
- b. Paul fabriquera une table à Marie en vingt minutes pour toi.

Here, Strong Cliticisation will move toi in front of the verb.

In another of the examples given in the text, Hopping moves the ethical dative, because Strong Cliticisation has moved the indirect object pronoun.

- (121) Tu vas me lui casser la figure.
'You're going to punch his head in (for me).'

The underlying structure and intermediate stages in the derivation are given in (122).

- (122) a. Tu vas [_S tu casser la figure à lui pour moi].
b. Tu vas [tu lui casser la figure à pour moi].
c. Tu vas [tu me lui casser la figure à pour].
d. Tu vas me lui casser la figure.

In (121), la figure could be replaced by la. The derivation would then proceed as follows in (123).

- (123) a. Tu vas [_S [tu casser la à lui pour moi].
b. Tu vas [tu la casser à lui pour moi]. (Weak Cliticisation)
c. Tu vas [tu lui la casser à pour moi]. (Strong Cliticisation)
d. Tu vas [tu la lui casser à pour moi]. (Hopping of la)

No further cliticisation can take place once stage d in (123) has been reached. In c, both la and moi meet the structural description of Hopping, so the A-before-A Principle selects la as the pronoun to be moved. The result is that the sentence (124) cannot be generated, though it is perfectly grammatical in those registers using ethical datives.

- (124) Tu vas me la lui casser.

Fiengo and Gitterman have three cliticisation rules; all three are required to align la and lui properly. If any ethical dative is present in the underlying strings as well, it will not surface pre-verbally. It will remain stranded, and sentences like (124) are predicted to be impossible.

3.3.3.8 The Deep Structure Position of y and the Derived Constituent Structure Rules

Fiengo and Gitterman argue (p. 125) that adverbial y may be positioned by an adverb placement rule to the immediate right of the verb, before any objects which the verb might have. They also allow for the possibility that before Cliticisation rules apply, y may be placed after direct objects. To illustrate this dual possibility, they give both (125) and (126) as underlying structures for Il y en voit (He sees some there).

(125) Il voit en y.

(126) Il voit y en.

They also note that (126) may be structurally ambiguous. Two rules of derived constituent structure may apply to this string. Y may rebracket onto en or onto the verb, giving (127)a or (127)b.

(127) a. Il V[voit] $\overline{\overline{N}}[y[\overline{N} \text{ en}]]$

b. Il V[V[voit]y] $\overline{\overline{N}}[\text{en}]$

Neither (125) nor (126), (127) poses any problems for their analysis. In (125), en does not rebracket, given their assumptions about its bar specification, and Strong Cliticisation followed by Hopping yield Il y en voit. In (126), (127), Weak Cliticisation, Strong Cliticisation and finally Hopping produce the same grammatical sentence, with y and en correctly aligned.

It does not seem to matter, therefore, on which side of the object y is generated, as grammatical strings result from rule

interaction on both deep structure pronoun orders.

However, when pronouns other than en are present in deep structure, ungrammatical strings result. Moreover, incorrect sequences are produced whether y is generated to the right or to the left of the object. Consider first sentence (128).

- (128) Il m'y voit.
'He sees me there.'

If y intervenes between voit and moi in underlying structure, the application of derived constituent structure rules predicts that the string will be ambiguous between structures a and b in (130).

- (129) Il voit y moi. (Underlying Structure)

- (130) a. Il [[[voit]y]moi].
b. Il [[voit][y[moi]]].

The a string is subject to Weak Cliticisation of y followed by Strong Cliticisation of moi, which will produce (128). But the b structure is subject only to Cliticisation of the larger PRO constituent, which consists of two bracketed pronouns. Once fronted, the pronouns will not undergo Hopping, because again, by the logic of the A-over-A Principle, only the constituent [y[moi]] can be moved. Since it is already in second position, Hopping is inapplicable as there is no non-dependent pronoun to hop. The result will be the illicit sequence *y me in *Il y me voit.

Generating y after moi in deep structure would allow the production of Il m'y voit, as desired. But generating y after lui in deep structure allows the grammatical (131) to surface from only one of the two possible structural analyses of the underlying string.

- (131) Il l'y voit.
'He sees him there.'

Assuming the deep structure (132), DCS Rules (59)a and c will produce (133) a and b.

(132) Il voit lui y.

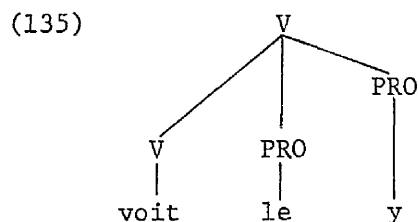
(133) a. Il [voit [le[y]]].

b. Il [[[voit] le] y].

Weak Cliticisation will move the constituent [le[y]] in a; once fronted, it will not be subject to Hopping, and the string (131) will result. The structure in (133)b will be subject first to Weak Cliticisation. Since both le and y are weak because they are lexical dependents, the question arises of which pronoun moves first. Fiengo and Gitterman assume that the A-over-A Principle, which they claim takes precedence over their proposed A-before-A Principle, will ensure that y is selected first. Hopping would subsequently produce the correct l'y sequence. But they fail to notice that A-over-A has nothing to say about the selection of pronouns in this case. This principle selects the containing category A in a configuration such as (134).

(134) A [. . . A[. . .] . . .].

Here, there are two PRO categories both contained in a V. A PRO category is not embedded within a higher PRO category. Instead, two PRO categories are embedded under a V category, as in (135).



A rule mentioning the V node in its structural index would select the whole phrase, but a rule mentioning the PRO node is not constrained by this principle to select one PRO or the other. The A-over-A Principle is simply irrelevant here.

But the A-before-A Principle is not. It will select le as the target for Weak Cliticisation, and yield the intermediate string (136).

(136) Il le voit y.

Hopping will now give the ungrammatical string (137).

(137) *Il y le voit.

Once again, Fiengo and Gitterman's rules predict sequences of clitics which are incorrect. Wherever y is generated in deep structure or positioned by an adverb placement rule, ungrammatical strings will be produced.

3.3.3.9 The Feature [±STRONG]

In the framework being examined, all pronouns are strong at the level of deep structure. On the basis of the fact that the atonic forms of lui, elle, eux are found when those pronouns are in final position, while the strong forms of moi, toi, nous and vous are found in this identical final position, Fiengo and Gitterman propose rules to rebracket and weaken immediately postverbal pronouns which are [+THIRD], [-REFLEXIVE]. The morphological alternation illustrated in (138) seems to justify such a rule.

(138)	<u>STRONG</u>	<u>WEAK</u>
	lui ~	le
	elle ~	la
	eux } ~	les
	elles }	
	à lui } ~	lui
	à elle }	
	à eux } ~	leur
	à elles }	

The only pronouns which do not show morphological alternation are y, en, nous and vous. The latter two may appear in non-clitic position under stress or as prepositional objects; they can be considered to be strong when they are not clitics and weak when they are. But y and en are always clitics. They never appear conjoined, or under emphatic or contrastive stress. They show no morphological alternation, and so do not have a strong form. They must both

therefore be weak.

It is impossible then to justify Fiengo and Gitterman's assumption that both of these pronouns are underlyingly strong and that y, but not en, becomes weak in most derivations. En, with its supposedly superior bar specification, never becomes a lexical dependent and thus avoids being weakened. But y, generated next to verbs and other pronouns, rebrackets onto these categories and becomes weak by the rule of Weakening. En and y are then assumed to differ in strength, and Fiengo and Gitterman make essential use of this distinction in their derivations of Il y en voit from the deep structure Il-voit-y-en. Weak Cliticisation of y, and Strong Cliticisation of en yield the sequence en y. Hopping reverses them to give the correct y en order.

But if both pronouns are weak, only two rules will be available to move them. Weak Cliticisation followed by Hopping will give *Il en y voit, and no further rules are available to reverse the order.

The only justification for the distinction in strength between y and en seems to be that it allows the rules to work. It is therefore an ad hoc distinction and must be rejected.

3.3.3.10 A False Prediction of the 'A-before-A' Principle

Y.C. Morin (1979) gives the following example to show that the A-before-A Principle selects the wrong underlying pronoun to be cliticised in some cases. Fiengo and Gitterman use this principle to explain why only moi is chosen to be fronted in (139).

(139) Il-présente-moi-à toi.
'He introduces me to you.'

The first of the two eligible pronouns is moved. The pronouns do not rebracket to form a single constituent, and Hopping will not be applicable. Thus the only rule which applies is Strong Cliticisation which yields the grammatical (140).

(140) Il me présente à toi.

Y.C. Morin (1979: 296) points out that with certain "inherently pronominal" verbs, the indirect object may be selected, with the direct object pronoun remaining postverbal. In (141), b is possible, since me is not incompatible with third-person direct object clitics.

Sentence c is rejected because of the incompatibility of me and te preverbally. Fiengo and Gitterman's A-before-A Principle would predict that the direct object toi, generated immediately following the verb in underlying structure (142), ought to be fronted, as in d. Instead, the grammatical resolution of this problem is e, where moi has been cliticised.

- (141) a. Je m' imagine mal Paul à cet âge-là.
'I can't quite imagine what Paul was like at that age.'
- b. Je me l' imagine mal à cet âge-là.
- c. *Je me t' imagine mal à cet âge-là.
'I can't quite imagine what you were like at that age.'
- d. *Je t' imagine mal à moi à cet âge-là.
- e. Je m' imagine mal toi à cet âge-là.

(142) Je- imagine- mal- toi- à moi- à cet âge-là.

(Y.C. Morin (1979: 296)

The A-before-A Principle then is inadequate, because it forces the wrong choice of pronouns for sentences like those in (141).

3.3.3.11 Summary

The problems outlined in the previous ten sections constitute a serious indictment of Fiengo and Gitterman's analysis. The theoretical underpinnings of their approach--the notion of second position and the A-before-A Principle--have been shown to be either seriously flawed or inadequate to handle certain data. No consistent definition of "constituent" is offered to allow second position to be unambiguously determined at a given level of structure. The wrong category status

and bar specification is assigned to certain lexical items. Clitics are predicted to have widely different derived constituent structures according to the type of rule responsible for their clitic status. Certain pronouns, like y, are generated in unnatural deep structure positions. And many three clitic sequences containing ethical datives simply cannot be produced in the correct order. Derived constituent structure rules rebracket only strictly adjacent items, and cannot operate if adverbial elements, for example, intervene between target items. The array of rules of cliticisation, derived constituent structure and weakening merit Herschensohn's remark that this treatment of clitics is "involute", and "scarcely represents a learnable model" (Herschensohn (1980 ; 218 n.)).

I suggest, therefore, a simpler approach to the problem of French clitic order. This approach will be based on a certain understanding of the deep structure of pronouns in French, which will be examined in the following chapters.

CHAPTER 4

4.1 The Pronoun En

This chapter considers the syntactic category of the pronoun en by investigating the internal structure of those noun phrases which can serve as antecedents for this proform. The hypothesis that all noun phrases allowing syntactic control of en must contain an underlying preposition de, whether or not this preposition appears on the surface, will be found to lack support. Milner's (1978) 'Ubiquitous-De' hypothesis will be similarly demonstrated to be highly implausible and to entail certain undesirable consequences.

It will also be shown that en can be controlled by more than one syntactic category. A further point made in this chapter is that superficially similar noun phrases vary in surface structure according to their ability to serve as an antecedent for en.

4.2 En and the Internal Structure of Noun Phrases in French

4.2.1 En as a Pro-PP

En is the pronominal form corresponding to a prepositional phrase introduced by de.

Reflecting its Latin antecedent inde (from there, thence), en can indicate origin, as in (2).

- (1) Je viens de Montréal.
'I come from Montreal.'

- (2) J'en viens.
'I come from there.'

The PP complement of a verb subcategorized for de can serve as an antecedent for en.

- (3) Je m'inquiétais de son départ précipité.
'I was worried about her sudden departure.'

- (4) Je m'en inquiétais.
'I was worried about it.'

Agentive phrases in some passive constructions begin with de rather than par; these too are pronominalized by en:

- (5) Heureux le roi que aime son peuple, qui en est aimé.
(Grevisse (1964: 436))
'Happy is the king who loves his people and who is loved by them.'

The pronominal version of an infinitival sentential complement preceded by de is also en, as in (6)-(7).

- (6) Jean parle de revenir demain.
'John is talking about coming back tomorrow.'
- (7) Jean en parle.
'John is talking about it.'

Assuming that the derived structure of (6) is (8),

- (8) NP₁ - V - de - NP₂,

where NP₂ is expanded as S, then all of the sentences above illustrate the fact that en is the pronominal form of de + NP sequences, and that here, at least, en is a Pro PP, as claimed by Kayne (1975: 105ff.).

4.2.2 Sources of en within the NP

In (1)-(7), en corresponds to prepositional phrases attached directly to VP. The controller of en may also be a PP dominated by an NP. In other words, its source may be a PP complement to the direct object NP, as in (9), as well as the quantified part of a partitive construction, as in (10).

- (9) a. J'ai lu un compte-rendu de son livre.
'I read a review of her book.'
- b. J'en ai lu un compte-rendu.
'I read a review of it.'
- (10) a. Il a vu trois de ces chefs d'etat.
'He saw three of those heads of state.'

- b. Il en a vu trois.
'He saw three of them.'

The internal structure of the direct object in (9) is a noun complement structure something like $NP[NP PP]$, and in (10) the partitive construction, at the point of application of Clitic Placement, resembles $NP[Q PP]$, where Q is a quantifier. It is obvious, then, that en is a Pro-PP here too--the pronoun form of de NP sequences.

The observation that en is a Pro-PP in sentences like (1)-(10) leads naturally to the hypothesis that en is always a Pro-PP, a claim made, among others, by Kayne (1975), and Rouveret and Vergnaud (1980). Example (11) below, however, would appear to refute this claim.

- (11) a. J'ai pris des photos.
'I took some photographs.'

b. J'en ai pris.
'I took some.'

This sentence does not contain a de NP sequence in surface structure; despite this lack of an obvious PP in the a sentence, en is nonetheless the appropriate proform in b.

The problem posed by (11) could be resolved if the indefinite determiner des was itself categorized as a prepositional phrase. There is some evidence to support this view, held by Gross (1968). First, des is historically the contraction of de and the definite article les; if in fact this determiner is synchronically prepositional, then the appearance of en in (11) is immediately explained. Second, the absence of des after the preposition de might follow from the prepositional nature of des. Gross's (1967) 'rule of cacophony' would forbid any sequence of two de's by eliminating one of the prepositions, with the definite article component being deleted by a separate rule. The statement of this rule of cacophony requires des to be represented as de + les at some level of analysis: probably as $Det[P Det]$. Finally, indefinite NPs in a negative sentence are

preceded by de, and not des as in (12).

- (12) Je n'ai pas pris de photos.
'I didn't take any photographs.'

If this difference results from a process of definite article deletion rather than from deletion of the whole indefinite article and replacement by de, then des could plausibly be argued to consist of de + les.

None of these arguments, however, is convincing. Diachronic evidence is not a sure indication of how native speakers analyze elements of their language now; Gross's rule of cacophony could just as effectively be stated as de des → de ∅; and I know of no compelling reason to choose a reduction over a suppletion analysis of des → de after negatives.

On the other hand, Kayne (1975: 117) gives four arguments for considering des photos in (11) as an NP. Phrases like these appear after verbs subcategorized for a direct object NP, as in (11); they appear in other NP positions (subject, object of a preposition other than de); they may satisfy the structural description of the passive transformation and be subject of a passive sentence; and they appear in a left-dislocation construction, such as (13),

- (13) Des photos, il en a pris.
'Some photos, he took'

where normal PPs do not as readily occur.

- (14) *?Du puits, Thomas a retiré le chat.
'From the well, Thomas pulled the cat.'

A fifth argument against the PP status of des NP is provided by the following example (cf. Gaatone (1976)).

- (15) a. J'ai lu des extraits de ce livre.
'I read some extracts of this book.'
b. J'en ai lu des extraits.
'I read some extracts of it.'

If des extraits de ce livre was a PP, then de ce livre would be a PP contained within a larger prepositional phrase, and so made inaccessible to cliticisation and extraction by virtue of the (absolute version of) the A-over-A Principle. Sentence (15)b is therefore incorrectly predicted to be impossible, a result which is avoided if des extraits is analyzed as an NP.

4.2.3 The Internal Structure of Indefinite and Quantified NPs: The Hidden Partitive Hypothesis

But if des N is dominated by NP instead of PP, the claim that en always has a PP source would have to be modified, because en appears in (11) to correspond to the noun phrase des photos. Closer examination though reveals that en must correspond to something less than the whole of such indefinite NPs. Consider (16).

- (16) a. Elle a pris des photos formidables.
'She took some smashing photographs.'
- b. Elle en a pris des formidables.
'She took some smashing ones.'

It is obvious that the controller of en in (16)b is not the whole of the noun phrase.

An indication of just what the antecedent of en might be is provided by the following sentences, given in Milner (1978: 171).

- (17) a. J'en ai des propres, de chemises bleues (qui) . . .
I-of them-have-some-clean, -of-shirts-blue (which) . . .
'I have some clean ones, blue shirts, which. . . .'
- b. J'en ai du bon, de vin blanc d'Alsace.
I-of it-have-some-good, -of-wine-white of Alsace.
'I have some good white wine from Alsace.'

These right-dislocated structures are not normal in standard literary French and properly belong to a 'popular' or conversational register. Nevertheless, they may serve to support the hypothesis that the noun which is the head of an indefinite noun phrase is not bare, but is preceded, at some underlying level, by the preposition de. The fact

that the nominal element in the sentences of (17) is introduced by de when it is detached from the rest of the noun phrase can be accounted for by assuming that de is generated by the base rules before the N of an indefinite NP. In other words, if the base structure of the NP in (17)a was

- (18) a. $NP[des \quad PP[de \text{ chemises bleues propres}]]$,

reflecting the base structure (18)b

- (18) b. $NP[des \quad PP[de \bar{N}]]$

common to all indefinite NPs in French, the operation responsible for (17)a could be stated as a simple detachment transformation. (As Kayne (1975: 125) points out, detachment in French is not a straightforward extraction transformation, since it involves the appearance of a pronoun, en in this case, corresponding to the detached element.

Furthermore, detachment seems to be 'transparent' to the A-over-A Principle, which would otherwise prohibit the extraction of the PP de chemises bleues in (18) from within a more inclusive PP.)

Additional support for the claim that the internal structure of indefinite NPs contains a PP comes from the interaction of Clitic Placement with relative clauses. Kayne (1975: 117) shows that en, but not a direct object clitic pronoun, may be the head of a relative clause. Thus there is no b version of (20) corresponding to (19)b.

- (19) a. J'ai des livres, qui sont très intéressants.
'I have some books, which are very interesting.'
- b. J'en ai, qui sont très intéressants.
'I have some, which are very interesting.'
- (20) a. J'ai acheté ces livres, qui sont très intéressants.
'I bought those books, which are very interesting.'
- b. *Je les ai achetés, qui sont très intéressants.

Given the relative clause configuration (21)

(21) NP[(P) NP [. . .] S [. . .]]

it is possible to explain the ungrammaticality of (20)b. The pronominal form of ces livres is an NP contained within a larger NP, and so may not move out of its containing noun phrase. If en is a PP in (19), corresponding to the underlined part of an NP whose structure is NP[des pp [de livres]], then en is not subject to the limitations on movement imposed by the A/A Principle, and may be extracted from configuration (21).

Syntactic behaviour similar to that of indefinite NPs is observable in quantified noun phrases. Despite the lack of a surface de in the a sentences below, their detached counterparts in b all display de before the noun, and in c, the pronominalized part of the NP surfaces as en. The examples are from Gaatone (1980: 188).

(22) a. Elle a vendu deux maisons.
'She sold two houses.'

b. Elle en a vendu deux, de maisons.

c. Elle en a vendu deux.
'She sold two of them.'

(23) a. J'ai vu certains oiseaux.
'I saw certain birds.'

b. J'en ai vu certains, d'oiseaux.

c. J'en ai vu certains.

(24) a. Qu'il n'a pas voulu voir un autre médecin!
'How he wished not to see another doctor!'

b. Qu'il n'a pas voulu en voir un autre, de médecin!

c. Qu'il n'a pas voulu en voir un autre!

(25) a. Elle a plusieurs chats.
'She has several cats.'

b. Elle en a plusieurs, de chats.

c. Elle en a plusieurs.

The appearance of en corresponding to the detached noun in the b sentences and to the 'missing' noun in the c sentences, can be accounted for if all quantified noun phrases are generated in the base with a prenominal de, whether or not a de figures in surface structure. If the antecedent for en is a noun preceded by de, then the en of the b and c sentences above can be considered to be controlled by the same syntactic category which controls en in sentences (1)-(7), i.e. the category PP. The additional de preceding the detached noun in the b sentences will be discussed in Section 4.3.4, which deals with the Rightward-Detachment Construction and the Ubiquitous-De Hypothesis.

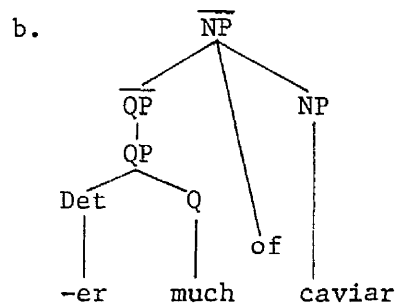
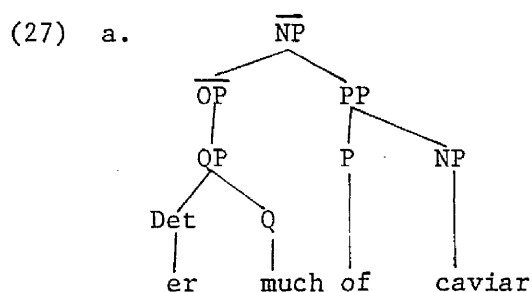
Given that indefinite and quantified noun phrases in French all contain an underlying de which precedes the nominal, plusieurs chats could be represented in base structure as (26)

(26) a. NP [QP [plusieurs] de NP [N[chats]]],

which is equivalent to (26) b.

(26) b. NP [QP [plusieurs] PP [de chats]].

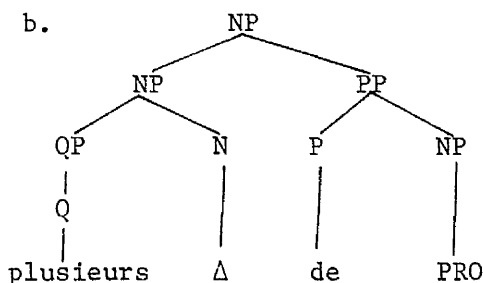
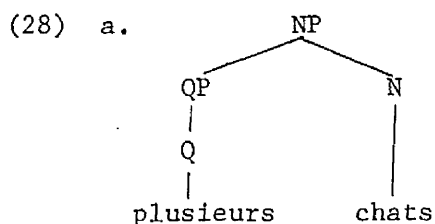
Kayne (1975), Gross (1968, 1977) and Milner (1978) are among those who have proposed similar structures for quantified and indefinite noun phrases. Such structures are similar to those outlined in Bresnan (1973), who hesitates between an insertion and a deletion analysis for the of which may appear in such phrases in English. Thus she offers both a and b of (27) as underlying structures for the phrase more caviar.



and hypothesizes, to account for the distribution of the preposition in English, that of may be inserted between a Q and a Det in an NP, or alternatively, be removed from between a Q and an N. De in French, however, does not present such a symmetrical pattern. It appears in all quantified expressions except when the quantifier is positively marked for the syntactic feature of [number], i.e. after all numerals and some 'adjectival' quantifiers like certaines, plusieurs (several) and aucun (no, not any). If all quantified expressions are to be assigned a similar underlying structure, then it would seem more plausible in French to assign de to all such NPs as part of their basic form, and to delete it under easily stateable conditions, rather than insert it in a variety of contexts stateable only as a disjunction of syntactic features (i.e., after non-count measure quantifiers, like un peu (a little), un litre (a litre), or after non-adjectival quantifiers unmarked for number, like plus de vin (more wine), plus de verres (more glasses)).

4.2.4 The Empty-N Hypothesis

As an alternative to the hypothesis that de precedes the nominal in all quantified and indefinite noun phrases in French, one could propose that the en which appears in the b and c sentences of (22)-(25) above has as its source a structure different from the one underlying the a sentences. That is, the object NP plusieurs chats in (25)a could be represented by the structure in (28)a, while en . . . plusieurs of b and c could be represented as in (28)b.



On this analysis, the b and c sentences of (22)-(25) would not be derived from the a sentences, but would arise from a different underlying structure containing an empty head noun and a prepositional phrase whose NP constituent is a PRO form. Pronominalization of the de + PRO sequence would yield en, which would be fronted by Clitic Placement. An interpretive rule would presumably establish co-reference between the empty noun and the noun phrase PRO form, perhaps at a stage in the derivation preceding the process which incorporates de and the noun to create the pronominal form en.

It is not at all clear, however, that this is a plausible state of affairs. For example, the quantifier plusieurs requires the head noun of its NP to be plural. The proposed empty N node would then have to be syntactically specified as [+plural] in order to ensure that the inherently plural plusieurs was not modifying a noun unspecified for the syntactic feature of number. In the case of indefinite noun phrases whose nominal element serves as antecedent for en, as in (29), the putative empty node will have to be syntactically complex, marked with the features [+singular] and [+feminine], in order to ensure the correct morphological form of both the determiner and the adjective.

- (29) Paul a une grande maison, mais je n'en ai qu'une petite.
'Paul has a large house, but I have only a small one.'

One way of guaranteeing that the empty N node assumed to be generated in the second conjunct was assigned the correct syntactic features in (29) is to assume a feature transferring rule. The empty N could be given the relevant features by transfer from the noun maison in the first conjunct, so that normal article and adjective agreement could go ahead, producing the feminine singular forms une and petite.

Even granted that this is a possible derivation of (29), it is obvious that an antecedent which is syntactically present is required to make the proposal workable. Without the presence of the noun maison in the immediately preceding conjunct (or, at least, in the immediately preceding discourse), the empty noun node could have been marked with the wrong features, or no features at all, and there would be no means of ensuring that article and adjective assumed the correct morphological form.

But this construction, in which en corresponds to a missing nominal element in a quantified or indefinite NP, is not limited to cases of syntactic control of en. What Hankamer and Sag (1976) call pragmatic control seems to be possible in these 'missing nominal' constructions. That is, the context for an utterance like (30) does not have to be linguistic.

- (30) Je vois que vous en avez acheté une rouge.
'I see that you bought a red one.'

If I had been discussing a colleague's possible purchase of a desk lamp, and only the colour was undecided when the discussion ended, then (30) would be appropriate for me to utter on my next visit to his office. The non-linguistic environment (i.e. the presence of a new red desk lamp) contains enough information to allow the referent of en to be determined. But this non-linguistic environment does not carry transferable syntactic features. Only nouns, and not intended referents, are marked with features like [+singular] and [+feminine].

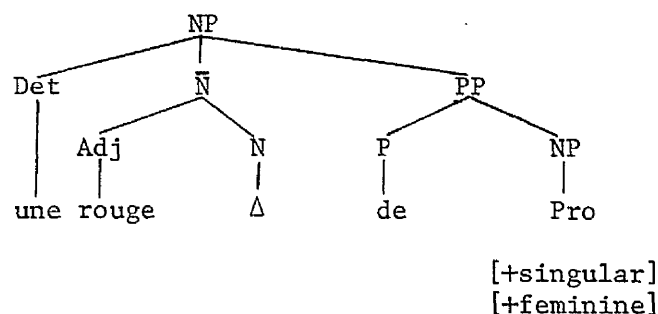
To account for the morphological marking of une rouge in (30), we might suppose that the relevant syntactic features are present on the PRO-NP of the prepositional phrase, at a stage where the sequence de + NP[PRO] has not been morphologically processed as en. These features might then be transferred by a rule to the empty N head

of the noun phrase. The PRO form can be assumed to be a complex of syntactic features, here marked as [+singular] and [+feminine] in exactly the same way as other pragmatically controlled anaphors acquire the syntactic features necessary to ensure that they surface with the right morphological marks. The word she in (31), for example, presumably has the grammatical features [+feminine] and [+singular] because its intended referent, assumed to be someone not mentioned in the previous discourse, is a female individual.

(31) John says that she will be late for tomorrow's meeting.

In a similar way, the PRO form in the structure (32), which in the empty N hypothesis under examination would underly en . . . une rouge in (30), could be pragmatically assigned the features [+singular] and [+feminine].

(32)



The empty noun could then acquire features by transfer from the PRO form, in structures like (31), or from an antecedent lexical noun, as in (29). Alternatively, we could suppose that the PRO form in these structures acquired the relevant syntactic features from an antecedent in the linguistic or non-linguistic context, and that they are subsequently assigned to the empty node.

This analysis is undermined by the fact that in some of these 'missing nominal' constructions, the pronoun en is not obligatory. The same situation eliciting the comment in (30) could have prompted the utterance of (33).

- (33) Je vois que vous avez acheté une rouge.
'I see that you bought a red one.'

Without an antecedent noun in the linguistic context, or a PRO form which could be specified with the required syntactic features, it is impossible to account for the feminine singular form of the article and the adjective in (32).

We conclude, therefore, that the 'Empty-Noun' hypothesis is wrong, and that some other structure must underlie the b and c sentences of (22)-(25). It seems logical that these sentences should contain a noun phrase whose head is not empty, but instead a PRO form able to be marked with syntactic features. This PRO form then provides the information necessary for the correct morphological marking of une rouge in (33). This same PRO form may then be realized, in certain conditions, as a zero element, and in most cases, as the pronoun en.

This conclusion further entails that the PP node, assumed to have been generated along with the empty N in (28)b and (32) to account for the appearance of en, is supererogatory, and would serve as the source for sequences of two ens, which are always ungrammatical. If a PRO form is the head of a noun phrase which further contains a de PRO prepositional phrase, there is nothing to prevent both PROs from surfacing as en, producing sentences like (34).

- (34) *Je vois que vous en en avez acheté une rouge.

We assume then that quantified and indefinite NPs in French do not contain either an empty head noun or a prepositional phrase with a PRO-NP as a sister category of the NP node. Instead, we will continue to examine the claim that the en which appears when these phrases lose their nominal element arises through the morphological conversion of a sequence of de + PRO dominated by the head noun.

4.2.5 Evidence for the Hidden Partitive Hypothesis

It will be recalled that the claim that all instances of en are Pro-PPs leads to the postulation of structures like those in (18)b and (26)b, in which the head noun of indefinite and quantified noun phrases is preceded by de. Support for structures containing an underlying de in noun phrases which show no surface de comes from the interaction of the Clitic Placement transformation and the A-over-A Principle. The sentences in (36) corresponding to those in (35) are grammatical.

(35) a. J'ai ramassé beaucoup de crayons.
'I picked up a lot of pencils.'

b. J'ai ramassé plusieurs crayons.
'I picked up several pencils.'

(36) a. J'en ai ramassé beaucoup.
'I picked up a lot (of them).'

b. J'en ai ramassé plusieurs.
'I picked up several (of them).'

If en in (36)b was not a PP, because it had not substituted for a surface PP, and was therefore considered to be a Pro-NP, then (36)b would be a violation of the absolute version of A/A. An NP cannot be extracted from an NP containing it, in this absolute formation. The fact that en is extractable in (36)b is an argument that it is not an NP. Furthermore, the failure of en to move out of the PP complement of the verb penser in both sentences of (38) provides an argument for the PP status of en in both a and b.

(37) a. J'ai pensé à beaucoup de choses.
'I thought about a lot of things.'

b. J'ai pensé à plusieurs choses.
'I thought about several things.'

(38) a. *J'en ai pensé à beaucoup.

b. *J'en ai pensé à plusieurs.

If en in (38)b was not a PP, we would expect that it could be extracted from the PP containing it. If en is always a PP, however, the A/A Principle provides an immediate solution to the problem of why it may not cliticise in this sentence.

It seems, therefore, that a number of syntactic facts-- detachment, possibility of cliticisation by en, ability to extract en from certain containing phrasal categories--can be accounted for by positing an internal PP structure to all quantified and indefinite NPs, whether or not the preposition is realized in surface structure. This claim, which postulates a partitive-like structure for NPs like plusieurs choses, une lettre and des autos, may be called the Hidden Partitive Hypothesis (cf. Selkirk (1977)).

4.3 The Simple Noun Phrase Hypothesis

4.3.1 Syntactic Category Differences Between 'Simple' and 'Partitive-like' NPs

The position argued in this section is that the Hidden Partitive Hypothesis is an incorrect analysis of the facts in French. Instead, we assume that the base form of indefinite NPs like des photos does not contain an underlying de, and can be represented simply as (39).

(39) NP [Det[des] \bar{N} [photos]].

Similarly, quantified NPs having no surface de, like une lettre, will not have one in underlying structure either, and can be represented as (40).

(40) NP [Q_P [Q [une]] \bar{N} [lettre]].

One advantage of this approach is obvious: with no de in deep structure, there is no longer any need for a de-deletion rule to remove the preposition from a particular subclass of quantified

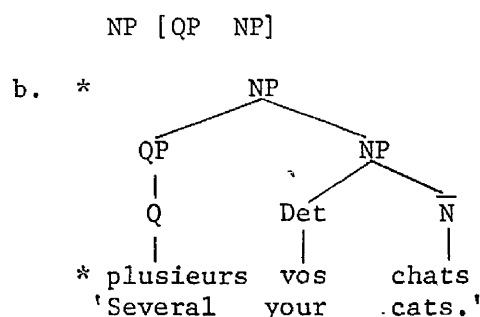
expressions just in case a detachment operation failed to apply.

Another advantage is that the category status of the nominals contained in quantified and indefinite noun phrases can be clarified.

The Hidden Partitive Hypothesis requires en to be considered a PRO-PP, wherever it occurs. As the phrase structure expansion of the category PP is P NP, it has been assumed that the nominal element in those phrases which can serve as syntactic antecedents for en is an NP.

The structures given in (18) and (26) reflect this assumption. But there is no reason to assume that these nominals are full noun phrases. They cannot occur with a determiner to the right of the quantifier, for example, as would be predicted by the structure (41).

(41) a. Quantified Noun Phrase Structure



These nominals are dominated not by NP, but by the node \bar{N} , which allows adjectives and other modifiers to be attached to the noun, but excludes determiners. If determiners are present in the NP, they are to the left of any quantifiers, and are presumably generated in the QP to give phrases like 'mes plusieurs chats' (my several cats).

If de does precede such nominals then, the category status of the resulting de + noun sequence would not be PP, since de + \bar{N} does not constitute a prepositional phrase. In a later section, in fact, I show that such sequences are generated by a special noun-compound phrase structure rule, and that de + \bar{N} here does not serve as an antecedent for en. The Hidden Partitive Hypothesis therefore requires both de NP and de \bar{N} sequences to serve as sources for en, despite

evidence that de \bar{N} never controls en. The Simple NP Hypothesis avoids this problem by denying that de appears in the underlying structure of all NPs which can be antecedents of en, claiming instead that the surface structure of de-less quantified and indefinite NPs mirrors their underlying structure in that de does not precede the noun at any level of structure.

If the en associated with quantified and indefinite NPs is not a Pro-PP, but is dominated by some other category excluding NP, then the conclusions reached on the basis of examples (35) and (36) are not valid. The ability to extract crayons from the NP plusieurs crayons in (36)b was taken as evidence for the PP status of en, and of its antecedent crayons, since if crayons was an NP, then extraction of the pronoun corresponding to en would not have been permitted by the (absolute version of the) A-over-A Principle. The extractibility of en here does not prove its PP status though; it only shows that en is not dominated by the category NP.

It will be shown in the following section that the inability to extract en from containing prepositional phrases does not mean that all instances of en are dominated by the category PP.

A third reason for considering these phrases without surface de as simple noun phrases is that these NPs resist separation of their constituents to a greater extent than partitive-like quantifiers. Thus, adverbial quantifiers with de, like beaucoup, peu and plus are more mobile than adjectival quantifiers without de, like certaines and plusieurs, as well as numerals. Hence the pattern observed in (42), (43).

- (42) a. J'ai lu beaucoup (peu) de livres.
 'I've read a lot of (few) books.'
- b. J'ai beaucoup (peu) lu de livres.

- (93) a. J'ai lu certains (deux) livres.
 'I read certain (two) books.'
- b. *J'ai certains (deux) lu livres.

No member of the class of quantifiers without de may be displaced in this way--a fact which is not surprising if these quantifiers have their source in a syntactic configuration different from one that does permit the launching of floating quantifiers.

Another difference between 'simple' and 'partitive' quantified phrases is that their quantifiers would seem to belong to different syntactic categories. This difference may be stated in terms of X-bar notation. Assuming that a phrasal category XP dominates at least two constituents of category X, then X may be loosely defined as the base element X which immediately dominates lexical material, and \bar{X} as X plus modifiers or complements but without specifier. I leave open the question of whether a separate $\bar{\bar{X}}$ category is required in addition to XP, as suggested, for example, in Jackendoff (1977).

Applying this notation to the phrases in question allows observations of differences in both the quantifying and quantified elements of the NP. On the quantifying side, the category Q is never modified adverbially in those NPs without de. Thus the sentences in (44) are ungrammatical.

- (44) a. *Il a très certains amis.
 'He has very certain friends.'
- b. *Il a d'autant plusieurs amis que j'ai plusieurs amis.
 'He has as many several friends as I have several friends.'

The quantifier phrase QP which occurs as the left constituent in this type of NP can presumably be expanded to (det) Q directly, without any attachment of categories to the intermediate \bar{Q} stage.

On the other hand, certain lexical items of the category Q may be adverbially modified in those phrases where de does appear. The sentences in (45) are grammatical.

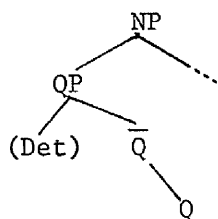
- (45) a. Il a très peu d'amis.
'He has very few friends.'
- b. Il a d'autant moins d'amis qu'il est plus riche.
(?) 'He has as many fewer friends as he gets richer.'

The QP in this type of NP must therefore allow the intermediate level \bar{Q} of the category Q to be expanded to account for such adverbial modification. When the QP is a measure phrase, such as un kilo or une foule (a crowd), provision must be made as well for the possibility of adjectival modification of these elements. I am assuming here, along with Akmajian and Lehrer (1976), that NP is a possible expansion of the node QP, and is the source of measure phrases such as those in (46).

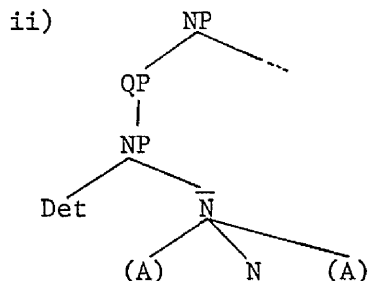
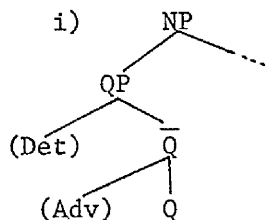
- (46) a. Je voudrais un bon kilo de pommes de terre.
'I'd like a good kilo of potatoes.'
- b. Une foule énorme d'enfants est arrivée.
'An enormous crowd of children arrived.'

This syntactic asymmetry between what we are calling 'simple' noun phrases without de and 'partitive-like' noun phrases with de can be represented as in (47).

- (47) a. Simple NP



- b. Partitive-like NP



On the quantified side too there are syntactic differences. The nominal part of simple noun phrases is not an NP. No determiner, possessive adjective, or demonstrative ever appears before these nominals, but they may be modified or take complements. They are therefore phrases minus specifiers, hence \bar{N} . Sentence (48)a is incorrect with any specifier directly before the nominal; without the specifier, b is correct.

- (48) a. *J'ai vu certains mes/les/ces très bons amis.
'I saw certain my/the/these very good friends.'

b. J'ai vu certains amis.

These facts lead to the postulation of (49) as the underlying structure for simple quantified NPs.

- (49) NP [QP \bar{N}].

The nominal elements in partitive-like constructions, however, display the full range of NP characteristics. As pointed out by Akmajian and Lehrer (1976), nouns are traditionally characterized by their ability to take possessives, determiners, and numeral modifiers (and to occur in the singular and plural). After the de in this type of construction, these specifiers may appear before the noun, as in (50).

- (50) On a rejeté beaucoup de mes vieux journaux.
'They threw out a lot of my old newspapers.'

These nouns must be full noun phrases, and as they are always preceded by de, they are sub-constituents of a prepositional phrase. The base structure of quantified noun phrases where de appears in surface structure is therefore (51).

- (51) NP [QP PP].

We assume that those cases in which no determiner appears between de and the noun are instances of de NP structures with a

potentially realizable, but unrealized, determiner node.

4.3.2 The Inaccessibility of Constituents of PPs

One of the arguments used to support the hidden-partitive hypothesis for de-less expressions like trois amis was that the clitic pronoun en resulting from pronominalization of amis behaved exactly like a PP with respect to the A/A Principle. It was pointed out that the failure of en to cliticise out of a prepositional phrase followed from the A/A Principle if en was a PP--a logical conclusion if the source of en was d'amis in the base structure trois d'amis (cf. (37), (38)).

But, as Gaatone (1980) makes clear, there is a troublesome counter-example to this base analysis. If amis is really prepositional in trois amis, then trois amis de mon école (three friends from my school) contains a PP (de mon école) within a larger PP in the base structure (52).

(52) NP [trois PP [d'amis PP [de mon école]]].

This embedded phrase would be predicted to be inaccessible to cliticisation, and (53) would therefore be wrong.

(53) J'en ai vu trois amis.
'I saw three friends from there.'

The prediction is not borne out, however. On the other hand, the presence of a surface de in a partitive construction in (54) makes de mes amis de mon école an obvious prepositional phrase, and the PP complement is no longer eligible to be extracted.

(54) a. J'ai vu trois de mes amis de mon école.
'I saw three of my friends from my school.'
b. *J'en ai vu trois de mes amis.

En is mobile in (53) but not in (55).

- (55) a. J'ai compté sur trois amis.
 'I counted on three friends.'
- b. *J'en ai compté sur trois.

The relevant consideration here is that, for clitics and WH-words at least, prepositional phrases act as islands in French (as pointed out by Bordelois (1980)). If constituents of prepositional phrases were accessible to movement rules, we would expect (56)b to be grammatical.

- (56) a. Il-compte-sur-qui.
 'He counts on who'
 [+WH]
- b. *Qui compte-t-il sur?

To ensure a correct surface form from (56)a, it is necessary to 'pied pipe' the preposition along with the WH-word, as in (56)c.

- (56) c. Sur qui compte-t-il?

Clearly, then, the A-over-A Principle is irrelevant in determining either the grammatical category of en or the basic structure of phrases like trois amis. The facts of (37), (38) do not therefore constitute an argument that en is always a Pro-PP, or that there is an underlying de in what we are calling simple noun phrases.

4.3.3 Agreement and the Hidden-Partitive Hypothesis

The hypothesis that all quantified and indefinite NPs have a partitive-like structure, with the underlying de of certain of these NPs being deleted at some stage in the derivation, predicts a high degree of syntactic parallelism between structures containing a surface de and those which do not. In many cases, though, such parallelism is not apparent.

Consider, for example, syntactic feature agreement between quantifier and noun in the following sentences.

(57) a. Certaines autos sont défectueuses.
 [+feminine] [+feminine]
 [+plural] [+plural]
 'Certain cars are faulty.'

b. Aucune recette n'a réussi.
 [+feminine] [+feminine]
 [+singular] [+singular]
 'No recipe worked/succeeded.'

(58) a. J'ai acheté un kilo de pommes.
 [+masculine] [+feminine]
 [+singular] [+plural]
 'I bought a kilo of apples.'

b. J'ai pris une de ces photos.
 [+feminine] [+feminine]
 [+singular] [+plural]

The quantifiers in the simple noun phrases of (57) agree both in gender and number with the nominal element, while those in the partitive-like phrases of (58) are not required to show agreement for every feature. Even when the simple NP quantifier is a numeral, number agreement is required with the nominal, while a partitive numeral does not demand that its PP complement contain a plural noun.

(59) Deux groupes d'étudiants sont arrivés; trois du
 [+plural] [+plural] [+plural]
 premier groupe parlent très bien français.
 [+singular]
 'Two groups of students have arrived; three from the first
 group speak good French.'

It would be difficult for the hidden partitive hypothesis to account for obligatory syntactic agreement in just those NPs which lacked a surface de. In true partitive constructions, quantifying and quantified elements may show agreement for some features, such as gender in (58)b. Thus some mechanism must exist to allow agreement phenomena between elements in the QP and the PP of partitive expressions. This fact in turn deflects a possible counter-argument which could be advanced by a proponent of the hidden-partitive hypothesis to explain the obligatory agreement in phrases like those of (57). This argument might be that conditions for agreement between quantifiers,

determiners, and head nouns, should be stated at surface structure, after the transformation which deletes the de has operated. As Selkirk (1977: 314) notes, the claim might be made that the Q N combinations derived from underlying partitives are made to agree because of their contiguity in surface structure.

This account, however, is not satisfactory. It assumes that simple linear surface structure arrangements determine agreement, and not hierarchical relations between the elements. Note that an NP node, in this analysis, intervenes between the Q and N, for in deleting the de, the NP status of the remainder of the PP is not affected. Thus the surface form, after de deletion, would be (60),

(60) NP [QP[Q] NP[N]]

a structure different from that of a simple noun phrase, within which there is agreement for all syntactic features. Selkirk (1977: 315) observes, in a similar argument applied to English data, that it seems highly unlikely that the mere absence of the of should cause agreement to be defined over a syntactic configuration totally different from the simple NP where agreement usually obtains. An even less unlikely extension of this argument is that the presence of a P node in (60) between Q and NP would reduce the requirement for 'total' agreement for all syntactic features to one of 'partial' agreement, depending on lexical properties of both the quantifier and the quantified nominal.

This unlikely conclusion does not follow from the simple NP hypothesis. If we require of simple noun phrases that all specifier elements, like quantifiers and determiners, agree with the head noun for all syntactic features such as number, gender, case, and count, then the agreements of (57) are automatic, assuming no underlying de. This condition must be available to both hypotheses, to account for ordinary agreement in NPs when the specifier is simply a determiner.

It seems that the hidden-partitive hypothesis has no means of avoiding mis-matches between quantifier and noun in terms of the feature [count]. Such mis-matches are the norm in true partitives. Adverbial quantifiers like beaucoup, un peu are unmarked for [count] and so may appear with both mass and count nouns, as in (61).

- (61) beaucoup de vin ; beaucoup de feuilles
 'a lot of wine' 'a lot of leaves'

But nominal quantifiers are often 'counters'; they permit the expression of a countable unit of an indeterminate mass. Thus (62) indicates a [+count] de [-count] pattern.

- (62) une miette de pain ; une goutte d'eau
 'a crumb of bread' 'a drop of water'

The hidden partitive hypothesis will therefore not be able to rule out as ungrammatical combinations of [+count] quantifiers with [-count] nouns in those constructions with no surface de, since there is predicted to be no deep structure difference between these structures and true partitives. Yet this pattern is never observed. It is impossible to get a mass reading of any noun in a simple quantified NP. Even the singular adjective aucun (no, not one) forces a count interpretation of the head noun, as in (63).

- (63) Aucun vin; aucune bonté.
 'No wine; no goodness.' (= act of goodness)

Impermissible combinations of count/mass elements will therefore be generated in the absence of a general agreement condition obtaining between quantifier and head noun in simple noun phrases. If this condition of syntactic feature agreement is, as Selkirk (1977: 289) suggests, "an entirely general condition on the well-formedness of simple noun phrases, and is . . . a syntactic universal," then the absence of such combinations is stateable at the level of base rules. As has already been seen, the de-deletion analysis would have to filter

out the over-generated forms at surface level.

An additional mechanism would be required by the hidden-partitive hypothesis for certain quantifier-noun combinations when the quantifier is the numeral un/une. Selkirk (1977) shows that this hypothesis requires un/une to be followed in deep structure by a plural noun, with a change in the number of the noun to singular in case the intervening de is deleted. Thus, un livre (one book) is to be derived from un de livres, a deep structure which parallels the true partitive un de ces livres. Notice the results when the quantified nouns are conjoined. True partitives (64) allow conjoined nouns, as do plural quantifiers without de (65).

- (64) a. Beaucoup de ces hommes et femmes ont voté pour elle.
'Many of these men and women voted for her.'
- b. Un de ces sénateurs et députés est en désaccord avec
le premier ministre.
'One of these senators and M.P.s is in disagreement
with the Prime Minister.'

- (65) Plusieurs sénateurs et députés ont voté contre le gouvernement.
'Several senators and M.P.s voted against the government.'

Application of a de-deletion transformation to (64)b, however, results in an ungrammatical sentence in which the conjoined head noun cannot be singular or plural without some notional or morphological conflict.

- (66) *Un sénateur et député est en désaccord avec le gouvernement.

The requirement that the head noun here change from plural to singular is impossible to fulfill, as conjoined nouns are intrinsically plural. A similar difficulty arises in the use of semantically plural adjectives. As (60) indicates, these cause no problems when used in true partitives or in plural quantified NPs without de.

- (67) a. Trois des coups successifs l'ont blessé.
'Three of the successive blows injured him.'
- b. Un des coups successifs l'a blessé.
- c. Plusieurs coups successifs l'ont blessé.

But the noun modified by such an adjective cannot be singular, as required by the hidden-partitive hypothesis.

(68) *Un coup successif l'a blessé.

The simple NP hypothesis avoids these problems through the general agreement condition: ungrammatical phrases like those in (66) and (68) are ruled out in base structure. The hidden partitive hypothesis will generate such phrases and will therefore need some additional means to exclude them.

4.3.4 Rightward Detachment and the Ubiquitous-De Hypothesis

One of the attractions of the hidden-partitive hypothesis is that it provides a plausible source for the de which appears before the nominal element of what we call simple quantified NPs when the nominal is in a right-detached construction. Sentences like (17) and (22)-(25) were taken as evidence that the deep structure of all indefinite and quantified NPs contained a de.

But further examination reveals that these facts may not constitute such strong evidence. For example, spoken French of the same register which provides the examples in (17), (22)-(25) also provides the following sentences.

- (69) a. La nôtre est faite, d'opinion. (Vinet, (1977a: 142))
 The-ours-is-made-of-opinion.
 'Our mind is made up.'/'Our opinion is made.'
- b. Je suis venu hier avec la mienne,
 de voiture. (Milner (1978: 157))
 'I came yesterday with mine-of-car/my car.'
- c. C'est la seule de femme, même. (Le Bidois (1968: 689))
 'She's the only-of-woman/only woman, even.'
- d. Je veux la rouge, de chemise. (Gaatone (1980: 192))
 'I want the red shirt.'
- e. Je préfère aller avec toi dans celle- (Milner (1978: 157))
 là, de boutique.
 'I prefer to go with you into that store.'

These definite noun phrases with right-detached constituents seem to be functioning like quantified noun phrases in that the preposition de introduces the base detached N. In the latter type of phrase, an underlying de was proposed as a source for this introductory particle. By the same logic, definite noun phrases would have to be generated in the base accompanied by this element, to account for its appearance in (69). Milner (1978) in fact proposes that every \bar{N} in French is introduced by de, and that de is deleted everywhere except in certain partitive-like constructions and in structures like those above,

It is clear that this proposal lacks some of the semantic justification which might be adduced to support an underlying de in quantified expressions. With numerals and other adjectival quantifiers, at least, there is a part-to-whole relationship between the elements of the phrase which is plausibly mediated by de. This is not the case with definites, however. Moreover, the sentences of (69) are not standard French. In Vinet's (1977b) judgement, they are forms which are rather 'colloquial', and are not found in all dialects of French, being unknown, for example, in Québécois. It is questionable whether syntactic evidence from non-standard dialects should form the basis for generalizations across the whole of the language, especially when, as in this case, the sole evidence for a ubiquitous de in definite NPs are sentences not produced or accepted by standard speakers.

The most obvious syntactic problem facing the de-everywhere analysis is that the de generated along with definite NPs never serves as the source for pronominalization by en. Recall that in right-detached quantified phrases such as (22), repeated here for convenience, en is obligatorily present.

- (22) a. Elle en a vendu deux, de maisons.
 b. *Elle a vendu deux, de maisons.

But when part of a definite NP is right-dislocated, en is obligatorily absent.

- (69) a. La nôtre est faite, d'opinion.
 a'. *La nôtre en est faite, d'opinion.
 d. Je veux la rouge, de chemise.
 d'. *J'en veux la rouge, de chemise.

To account for the fact that a de preceding an \bar{N} whose specifier was definite could be eligible for en-pronominalization and cliticisation, resulting in the ungrammatical sentences above, Milner (1978: 166) proposes a transformation to delete en under certain conditions.

This transformation is stated as in (70).

- (70)
$$\begin{array}{ccccc} \left[\begin{array}{ccc} X & C & Y \end{array} \right] & - & \text{de Pro} \\ \text{(Spec, } \bar{N}) & [+ \text{definite}] & [+ \text{clitic}] \\ & 1 & 2 \longrightarrow 1 \emptyset \end{array}$$

The element C is a category. It may be a quantifier, which, in Milner's analysis, is generated under the specifier node in those partitive-like constructions whose second noun lacks a determiner. Or it may be a determiner, such as the definite, possessive or demonstrative article. Thus the transformation will block the appearance of en in an underlying structure like (71), should a Pro corresponding to chemise be marked [+clitic].

- (71) NP $\left[\begin{array}{c} \text{(Spec, } \bar{N}) \\ \text{[la] rouge de chemise} \end{array} \right]$

The term C of the structural description would here be satisfied by la, which is definite, and so (69)d' will be blocked. As deux in the phrase deux de maisons, which is presumed to be the source of both deux maisons and the detached construction in (22)a, is an indefinite quantifier, it will not allow the transformation to apply. Hence (22)b will be generated.

Though this solution does seem to account for certain facts in the distribution of en, the transformation creates problems of its own. In particular, it predicts incorrect results for a class of quantified expressions, fails to account for the ungrammaticality of certain related partitive expressions, violates principles generally assumed to govern the form and functioning of transformations, and attempts to account for the data in an unnecessarily complex fashion when a simpler solution is available.

The first criticism of Milner's analysis can be made on the grounds that certain expressions which have a definite quantifier nevertheless allow en to pronominalize the quantified noun. The phrases in question are those containing restrictive relative clauses, as in (72).

- (72) a. J'ai mangé le peu de pain qui restait.
'I ate the little bit of bread which was left.'
- b. On a pris ces kilos de sucre que tu nous réservais.
'We took those kilos of sugar which you set aside for us.'

As the rule predicts, the sentences of (73) are ungrammatical.

- (73) a. *J'en ai mangé le peu.
b. *On en ai pris ces kilos.

But the rule predicts additionally that the sentences in (74) are also incorrect, which is not the case for all speakers, especially if restrictive modifiers are included in the sentence.

- (74) a. ?J'en ai mangé le peu qui restait.
b. ?On en a pris ces kilos que tu nous réservais.
c. ?Je n'en ai mangé que le peu qui restait.

Since en can be extracted from such phrases, despite the presence of a definite determiner in the specifier, Milner's rule appears to be too broad in scope.

Yet in partitive constructions whose second element is preceded by a determiner, the rule would seem to be too narrow. These constructions, according to Milner, differ syntactically from phrases whose second noun has no determiner, in that the quantifier appears under an \bar{N} node, and not as part of the specifier of the whole noun phrase. Thus, le peu in le peu de ce bon pain complet qui restait (the little of this good whole-wheat bread which remained) is not contained within the specifier of the phrase, and will not be considered equivalent to the category C mentioned in the statement of rule (70). Rule (70) says nothing about this phrase, because its immediately dominating node is not Spec, \bar{N} , but QUANTITÉ, itself dominated by \bar{N} , further dominated by NP. As de + ce bon pain complet qui reste may serve as an antecedent for en, nothing blocks the cliticisation of this pronoun, and (75) is therefore predicted to be correct.

(75) *J'en ai mangé le peu.

Though (75) has a source different from that of (73)a, its surface form is identical, and equally ungrammatical.

At the least, these facts suggest that Milner's analysis is incomplete, and that he should extend the en-deletion process to those phrases whose second element is preceded by a determiner. But this extension would have to accommodate several counter-examples. Quantifiers like la plupart (the majority, the most part), la plus grande partie (the most, the biggest part), la moitié (the half) are all definite, yet they allow en-cliticisation of their complements. If all definite quantifiers were included in Milner's en-deletion rule, the b sentences of (76)-(77) would be predicted to be incorrect, contrary to fact.

- (76) a. On a félicité la plupart de ces candidats.
'They congratulated the majority of those candidates.'
- b. On en a félicité la plupart.
'They congratulated the majority of them.'

- (77) a. J'ai mis la plus grande partie de mes vieux papiers
à la poubelle.
'I threw out most of my old papers.'
- b. J'en ai mis la plus grande partie à la poubelle.
'I threw out most of them.'

The incorrect predictions made by the En-Deletion rule, and the analogous cases of ungrammaticality not included in the statement of the rule, suggest that Milner's proposal that de precedes every definite NP in underlying structure is a costly one. It is costly in terms both of the syntactic apparatus required to avoid undesirable results and of those incorrect results which nonetheless are not avoided.

The third objection to Milner's base-generation of de before all nouns, and its subsequent deletion in definite NPs, is that the deletion rule is extrinsically ordered with respect to other transformational operations. En-Deletion is stipulated to apply before Clitic Placement, or sentences like (78)c will be derived.

- (78) a. J'ai déjà fait la mienne, d'opinion.
'I've already made up my mind.'
- b. J'ai déjà fait la mienne, de Pro.
- c. *J'en ai déjà fait la mienne.
'I've already made mine up.'

Yet the principle of Proper Inclusion Precedence would seem to ensure that it was Clitic Placement which applied first. If the structural descriptions of the two rules are compared, it is obvious that Clitic Placement is the more inclusive rule, as En-Deletion is an NP-internal operation. If it is legitimate to compare the terms of structural descriptions in this way for purposes of determining Proper Inclusion, then (79) indicates that the more general rule of En-Deletion must cede applicational precedence to the more specific rule of Clitic Placement (cf. Koutsoudas (1980)).

- (79) Clitic Placement: NP - V - X - Pro (Kayne's (1975) formulation)
- En-Deletion: NP [X C Y] -dePro
(Spec, N)

All the material within the NP before Pro described in this rule could be contained in the variable X of Clitic Placement. Clearly then, the terms NP and V of Clitic Placement remain after surjection of the terms of En-Deletion, and so Clitic Placement, properly including En-Deletion, will apply first, generating sentences like the ungrammatical (78)c. If such comparison is not a legitimate means of determining Proper Inclusion, then I know of no other way to ensure a motivated ordering of these rules. The principle of Counter Bleeding Precedence may not be invoked, because En-Deletion applies in a much more varied set of domains than Clitic Placement (i.e., the set of definite NPs in French); the latter rule, applying first, would therefore not prevent En-Deletion from applying elsewhere. The Obligatory Precedence Principle does not help here, as both rules are obligatory. Extrinsic ordering seems to be the only solution to the problem of (78)c, yet, as is generally agreed (Pullum (1978), Chomsky (1980)), such means of establishing precedence are undesirable, and constitute a weakening of grammatical theory.

An alternative to the hypothesis that de is generated before every noun in French, and then massively deleted except in cases of dislocation of the noun, is the proposal that such detachment constructions are generated directly by the phrase structure rules. Sentences like those in (80) would then be base-structures, with interpretive rules linking the anaphors to the detached phrases.

- (80) a. C'est la vôtre, de voiture.
 'It's your car' (It's yours, of car)
- b. Il en a lu trois, de livres de Roy.
 'He read three of them, of books by Roy.'

Such base-generation is argued for by Barbaud (1976) for cases of Left Dislocation. One of his arguments was that the de-phrase often could not have formed a constituent with the noun from which it might have been presumed to be detached. In sentence (81), for example, the

phrase de garçon vraiment intelligent could not have been combined with Jean in an appositive phrase, as the required pre-detachment structure would violate one of the criteria for apposition--the necessity for both elements to be constituents of the same category (cf. Burton-Roberts (1975)).

- (81) a. De garçon vraiment intelligent, je ne connais que Jean.
 'Of truly intelligent boy, I know only Jean.'
 i.e. The only truly intelligent boy I know is Jean.
- b. *Jean de garçon vraiment intelligent.

Moreover, the detached element in Left-Dislocation structures does not have to be of the same number and gender as the elements in the NP to the right of the verb, as (82) indicates.

- (82) a. De chevaux noirs, j'ai vu le vôtre/celui-là.
 'Of black horses, I saw yours/that one.'
- b. De chevaux noirs, j'en ai vu un.
 'Of black horses, I saw one of them.'
 (examples from Larsson (1979: 33))

Such considerations make the base generation of some Left-Dislocated structures at least seem preferable to a transformational solution.

But these arguments do not hold for Right-Dislocated constructions. In every case, according to Larsson (1979: 141), the right-dislocated constituent has the same form it would have had in a non-dislocated phrase. Sentences like (82) a, b are not found: agreement between the constituents in number and gender is obligatory.

- (83) a. *J'ai vu le vôtre, de chevaux noirs.
- b. *J'en ai vu un, de chevaux noirs.
- c. J'ai vu le vôtre, de cheval noir.
- d. J'en ai vu un, de cheval noir.

If these sentences represented basic structures, a filtering device would be required to ensure that mis-matches in number and gender did not occur. No such device would be necessary if the dislocated elements

originated within the object noun phrase in (83), and were subsequently moved by transformation to the right, since agreement could therefore take place normally, within the NP.

Base-generation of these structures would require that the phrase structure rules produce strings like de chevaux noirs, in which the preposition de is followed directly by a member of the category N or \bar{N} . The obligatory absence of determiners accompanying the detached noun in this construction makes it plausible to suppose that these nouns are dominated only by the category \bar{N} , and not by NP. If these nominals are indeed dominated only by \bar{N} , then the grammar will presumably have to provide a category label for the sequence de \bar{N} , since these elements function together as a constituent. This label cannot be PP, since this category dominates P NP, not P \bar{N} . Base-generation therefore appears to require a category not otherwise needed.

We conclude, along with Larsson (1979) and Milner (1978), that Right-Dislocation results from a transformational process, and is not a basic structure. We disagree, however, with Milner's hypothesis that the de which occurs in such constructions is the de he assumes is generated as part of all NPs in French. We have rejected this Ubiquitous-De Hypothesis, for reasons advanced earlier, and agree with Larsson (1979: 143-144) that the de which appears in Rightward Detachment is a case of epenthesis. We assume that in definite NPs and indefinite NPs, and in those quantified NPs constructed without de, Right-Dislocation will move an N or \bar{N} (a nominal node dominating modifiers but not determiners) to the right. A subsequent rule inserting de will apply to this base N or \bar{N} .

Any account of Right-Dislocation requires additional rules to ensure correct surface forms. Milner's Ubiquitous-De analysis needs an En-Deletion rule, which, we noted, is deficient. A base analysis requires filters to avoid mis-matches in agreement between the detached

phrase and the rest of the NP. The transformational analysis, within the context of the Simple NP Hypothesis, requires the insertion of de before a base N. Given the greater plausibility of the Simple NP Hypothesis over the 'Hidden Partitive' and 'Ubiquitous-De' Hypotheses, this third analysis appears to be the most credible. It becomes even more plausible upon considering that French seems to use insertion in another construction in which a constituent can be considered to have moved rightward. Sentences such as (84) show that que plays a demarcative role similar to that of de.

- (84) a. C'est une belle fleur que la rose.
 It-is-a-beautiful flower that the rose.
 'It's a beautiful flower, the rose.'
- b. C'est une noble cause que celle-là.
 It is a noble cause that that one.
 'That is a noble cause.'
- (Grevisse (1964: 455))

In the absence of arguments that these are base structures, or that que precedes all nouns in underlying structure, I assume that que appears in these sentences as the result of an insertion rule.

Unless one was prepared to argue that all such noun phrases were preceded by que in underlying structure, then the more likely source of que here is an insertion rule, like the one proposed to account for de.

4.3.5 The Underlying De-Hypothesis: Summary

The previous four sections have outlined some of the implications of proposing that indefinite and quantified NPs like des photos, trois photos and certaines photos contain an underlying de. Although there are certain syntactic parallels between these phrases and quantified phrases containing a surface de, such as trois de ces photos, certaines de ces photos, beaucoup de photos, with respect to cliticisation by en and right detachment, these parallels do not

warrant the postulation of an underlying de in the first set of phrases. When other facts are considered, an underlying de seems not to be justified. The assumed presence of de masks certain category differences between the constituents of each type of quantified phrase. It requires additional mechanisms to obviate certain undesirable predictions made about agreement phenomena in de-less phrases. Finally, it leads to the postulation of a de underlying all noun phrases, with all the unwanted consequences outlined above.

What we propose instead is that antecedents for en have the following structures. Indefinite NPs like des photos look like (85).

- (85) a. NP [Det \bar{N}]
 b. NP [Det[des] \bar{N} [\bar{N} [photos]]]

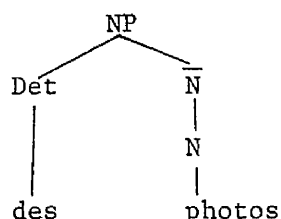
Quantifier phrases like trois photos will look like (86).

- (86) a. NP [QP \bar{N}]
 b. NP [QP [\bar{Q} [trois]] \bar{N} [\bar{N} [photos]]]

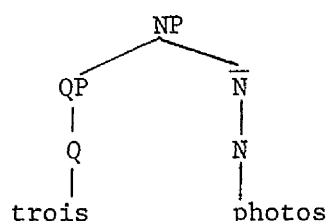
And quantifier phrases like beaucoup de ces photos will resemble (87).

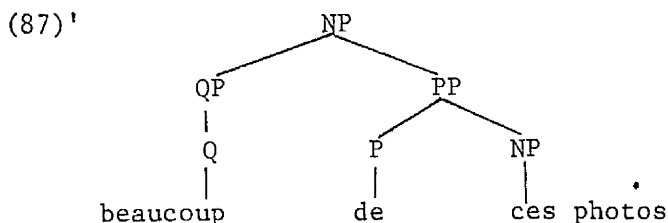
- (87) a. NP [QP PP]
 b. NP [QP [\bar{Q} [beaucoup]] PP [\bar{P} [de] NP [Det[ces] \bar{N} [\bar{N} [photos]]]]]

(85)'



(86)'





The next section will argue that these structures are correct, because they can serve as a natural source for en without introducing the distortions caused by the hidden-partitive analysis.

4.4. The Three ens of French

4.4.1 The Underlying Disunity of en

The arguments presented above against an underlying de in phrases like (85), (86), imply the perhaps disagreeable conclusion that the grammatical status of en will no longer be unitary. The underlying de hypothesis was able to maintain that all ens had a single source as a Pro-PP. With no de in place at the deep structure level in these phrases, at least two sources will have to be provided for en. The PP status of some en is not in doubt, as has already been seen. What I am proposing is that en, under certain specific conditions, may also be an \bar{N} . That is, it may represent a nominal along with its modifiers, but without determiners.

There should be no a priori reason why a single lexical item should not represent more than one syntactic category. As is well known, single words like round may be a noun, verb, adjective, or preposition. Amalgams in French like au (to the), du (from the, of the) are simultaneously preposition plus article. It should not be objectionable then if en can be dominated by more than one node label.

It should be evident, in fact, if en really is a PP and nothing else, that there is an asymmetry in its behaviour which is not explained by its PP status. This asymmetry is seen in those cases

where en corresponds to constituents which form only part of a phrase, as opposed to those cases where en corresponds to the whole of a phrase.

Consider the sentences in (88); here, the whole of the de phrase must be the antecedent of en to avoid ungrammaticality.

- (88) a. Il a mangé beaucoup de pommes rouges.
'He ate a lot of red apples.'
- b. *Il en a mangé beaucoup de rouges.
- c. Il en a mangé beaucoup.

But in sentences like (88)e, en never corresponds to the entire indefinite phrase.

- (88) d. Il a mangé des pommes rouges.
'He ate some red apples.'
- e. Il en a mangé des rouges.

Here, en substitutes for pommes. The hidden-partitive hypothesis would maintain that the PP nature of en was nonetheless not in doubt, since pommes would be generated as de pommes in the base. Having rejected that hypothesis, we maintain instead that what superficially appears to happen is in fact just what does happen; en is the pronominal version of the bare N pommes, and nothing more. In (89) en may appear to be replacing the whole direct object NP,

- (89) a. Il a mangé des pommes vertes.
'He ate some green apples.'
- b. Il en a mangé.
'He ate some.'

But there is evidence to show that the determiner is not an antecedent of en, as is the rest of the NP. In (90), the indefinite determiner and the adjective remain when en is cliticised.

- (90) Il en a mangé des vertes.

En then is replacing pommes here and nothing more. In (89)b, en is an \bar{N} , corresponding to pommes vertes. The claim that the indefinite

determiner is not eligible for pronominalization by en is supported by some evidence from popular, non-standard French. Gaatone (1980: 198) cites the following sentence, taken from Raymond Queneau's Zazie dans le Métro,

- (91) J'en ai même des qui sont positivement inusables.
'I've even got some (= bluejeans) which are positively indestructible.'

Kayne (1975: 110, 119) gives (92) a and b,

- (92) a. En a-t-elle des capables de me plaire?
'Does she have any likely to please me?'
b. Il y en a des qui ne sont pas bons.
'There are some which are not good.'

These are ungrammatical in Standard but not in Popular French, and even here, sentences like (93) are not acceptable.

- (93) a. *J'en ai même des.
b. *En a-t-elle des?

The most plausible explanation for this distribution of des is that it is deleted when the noun phrase it introduces loses its \bar{N} . The failure of des to appear on the surface once its \bar{N} was gone led Kayne (1975: 119, 120) to postulate a Des-Deletion rule to remove des from in front of relatives and from sentence final position, a proposal we endorse.

As Gaatone (1980) points out, it is not unusual for other quantifiers to undergo modifications in form when their head noun is pronominalized. Thus quelques (some, a few) changes to quelques-uns when it has lost its nominal, just as chaque (each) goes to chacun (each one).

- (94) a. Elle parle à quelques amis.
'She is speaking to a few friends.'
b. Elle parle à quelques-uns.
'She is speaking to a few of them.'

- (95) a. Chaque étudiant préparera un mémoire.
'Each student will prepare a dissertation.'
- b. Chacun préparera un mémoire.
'Each will prepare a dissertation.'

This change of form when used absolutely is paralleled by certain prepositions; without their objects, certain prepositions display an adverbial form. Dans (in) alternates with dedans (inside), sur (on) with dessus (on top of, on it).

- (96) Le couteau est dans le tiroir; il est dedans.
'The knife is in the drawer; it's inside it.'

The only irregularity with des then is that instead of changing form when used absolutely, it disappears.

There is an obvious difference therefore in the range of categories of antecedents for en. It is the pronominal version of part of a noun phrase, as in (90), or the whole of a prepositional phrase, as in (88)c, and may therefore be said to have a double source, representing either a PP or an \bar{N} .

4.4.2 A Further Source for en

Examination of other structures which give rise to en reveals that this pronoun can have as antecedents two kinds of nominal elements contained within NPs. Recall that indefinite phrases introduced by des pattern in two ways; en may correspond to a bare N, as in (97).

- (97) a. Elle a écrit des poèmes absolument charmants.
'She has written some absolutely delightful poems.'
- b. Elle en a écrit des absolument charmants.
'She has written some absolutely delightful ones.'

Or it may represent the whole of the NP, minus the deleted indefinite determiner; in other words, the \bar{N} .

- (97) c. Elle en a écrit.

In simple quantified NPs, for which we propose the structure $QP \bar{N}$, en stands for the whole of the quantified nominal, but it may not replace a bare N.

- (98) a. Elle a écrit trois/plusieurs/quelques/certains très beaux poèmes.
'She has written three/several/some/certain very beautiful poems.'
- b. *Elle en a écrit trois/plusieurs/quelques-uns/certains très beaux.
- c. Elle en a écrit trois./plusieurs./quelques-uns./certains.

The en which corresponds to these nominal elements is clearly sensitive to their quantified status; it is not just any \bar{N} which may be replaced by en. An \bar{N} whose determiner is demonstrative is not eligible for pronominalization.:

- (99) a. Elle a écrit ces très beaux poèmes.
'She wrote these very beautiful poems.'
- b. *Elle en a écrit ces/ceux.
'She wrote these/these ones.'

The en which may be found with the demonstrative pronouns ceux-là (those ones), ceux-ci (these ones) is associated with a partitive phrase. The sentence (100)a corresponds to (100)b, and not to (99)a above.

- (100) a. Elle en a écrit ceux-ci.
'She wrote these ones.'
- b. Elle a écrit ceux-ci de tous les poèmes dans ce livre.
'She wrote these ones, out of all the poems in this book.'

An \bar{N} whose determiner is possessive may not be replaced by en.

- (101) a. J'ai décrit mon nouveau projet.
'I described my new plan.'
- b. *J'en ai décrit mon./mon nouveau.

Similarly, an \bar{N} determined by the definite article is not replaced by en.

- (102) a. J'ai acheté le livre récent de Kayne.
'I bought the new book by Kayne.'
- b. *J'en ai acheté le./le recent de Kayne.

In all these cases, the determiner is definite; any pronoun corresponding to these nominal elements must replace the whole noun phrase. Thus the NP in (99)a, ces très beaux poèmes, corresponds to les (them) or ceux-ci (these ones), as in (99)c, d.

- (99) c. Elle les a écrit.
d. Elle a écrit ceux-ci.

The NP mon nouveau projet corresponds to the pronominal NP le (it) or to the possessive pronoun le mien (mine).

- (101) c. Je l'ai décrit.
d. J'ai décrit le mien.

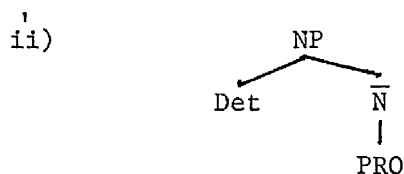
And le livre récent de Kayne in (102) has le (it) as a substitute.

- (102) c. Je l'ai acheté.

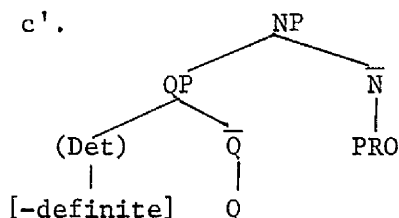
The relevant generalization would therefore appear to be that no cliticisation of a Pro element dominated by N or \bar{N} is possible when the specifier element to the left of the N or \bar{N} is definite. In other words, this type of en is not possible if the antecedent has a determiner marked with the feature [+definite]. This observation holds for both 'indefinite' NPs whose determiner is des, and for simple quantified NPs with a QP \bar{N} structure. If the QP in such a phrase is expanded as Det Q, with Q a numeral and Det a determiner positively marked for the feature [definite], \bar{N} will not be able to serve as an antecedent for en.

- (103) a. J'ai vu les/ces/mes trois amis.
'I saw the/these/my three friends.'
- b. *J'en ai vu les/ces/mes trois.

b. ii) $\text{NP} \begin{bmatrix} \text{Det} & \bar{\text{N}} [\text{PRO}] \\ [-\text{definite}] \end{bmatrix}$



c. $\text{PRO } \bar{\text{N}} \text{ en}$ $\text{NP} \begin{bmatrix} \text{QP} [(\text{Det}) \bar{\text{Q}}] \\ [-\text{definite}] \end{bmatrix} \bar{\text{N}} [\text{PRO}]$



The claims made in (106) that en is the superficial realization of a PRO form generated in these syntactic environments constitute a further implicit claim about the kinds of noun phrases which may serve as controllers for en. The environment for Pro PP en, for example, places no restrictions on the antecedent of en. It predicts that prepositional phrases headed by de which are daughters of the verb phrase and sisters to noun complements of the verb phrase are cliticisable (cf. sentences 1-7, this chapter). It makes the further prediction that prepositional phrases which are daughters of the noun phrases (whether quantified NPs or noun complement constructions) in direct object position are likewise cliticisable. Thus, in (107)a, the underlined phrase contained in the direct object corresponds to en in (107)b.

- (107) a. J'ai lu tous les livres de cet auteur.
 'I have read all the books of/by this author.'
- b. J'en ai lu tous les livres.
 'I have read all the books by her.'

This en may cliticise free of contextual constraint. Pro PP en may be extracted from NPs which are definite, as in (107) above, or indefinite, as in (108) below.

- (108) a. J'ai lu un livre (plusieurs livres) de cet auteur.
'I've read one book (several books) by this author.'
- b. J'en ai lu un livre (plusieurs livres).
'I've read one book (several books) by her.'

The NP within the prepositional phrase serving as an antecedent for Pro PP en may itself contain a definite or an indefinite determiner, as (109) indicates.

- (109) a. J'ai lu la plupart de ces livres.
'I read most of these books.'
- b. J'en ai lu la plupart.
'I read most of them.'
- c. J'ai lu quelques pages de trois livres différents
aujourd'hui.
'I read a few pages of three different books today.'
- d. J'en ai lu quelques pages aujourd'hui.
'I read a few pages of them today.'

The major claims being made here about the pronoun en are therefore the following:

1. If a sequence of de + noun in French can correspond to the clitic en, the noun must be an NP, and not the bare nominal N or the nominal \bar{N} , which stands for the noun and its modifiers and complements but without its specifier, or determiner.
2. No sequence of de N or de \bar{N} in underlying structure will correspond to en. These sequences will be shown to result from a special phrase-structure rule which creates a type of noun compound. Sequences of de N or de \bar{N} in surface structure which do correspond to en will be shown to be deep structure sequences of de NP, containing a potentially realizable, but unfilled, determiner node.

3. Sequences of de NP which do not serve as a source for en do not constitute counter-examples to our proposal, since their failure to cliticise is explained by a semantic constraint.

4.4.4 De + noun Sequences Corresponding to en

The sentences in (110) and (111) below illustrate two constructions in which surface sequences of de + noun may be antecedents of en.

- (110) a. Je veux un verre de vin.
'I want a glass of wine.'
b. J'en veux un verre.
'I want a glass of it.'
- (111) a. J'aime bien l'odeur de marrons grillés.
'I really like the smell of roasted chestnuts.'
b. J'en aime bien l'odeur.
'I really like their smell.'
(example from Coursaget-Colmerauer (1976: 68))

In neither case is there a determiner following de in the underlined phrases. But there is no question of the category status of vin and of marrons grillés in these sentences. Both are NPs and not Ns. Virtually the whole class of determiners may precede these nouns, as (112) and (113) illustrate.

- (112) a. Je veux un verre de votre vin (. . . of your wine).
b. Je veux un verre de ce vin-là (. . . that wine).
c. Je veux un verre du vin dont vous avez parlé (. . . of the wine you talked about).
- (113) a. J'aime bien l'odeur de ces marrons grillés (. . . of these roasted chestnuts).
b. J'aime bien l'odeur de ses marrons grillés (. . . of his . . .).
c. J'aime bien l'odeur des (= de + les) marrons grillés de ce marchand-là (. . . of the roasted chestnuts of that vendor).

The only determiners missing from the list of those which can potentially occupy the prenominal position in these constructions are

the indefinite singular partitive articles du, de la, de l' and the plural indefinite determiner des.

The lack of a surface determiner in phrases such as un verre de vin and l'odeur de marrons might follow from a particular phrase structure expansion of the second nominal element in these constructions. We might require, for example, that the phrase node NP dominating vin and marrons be realized with an optional Determiner node, as in (114).

(114) NP \longrightarrow (Det) \bar{N}

The option of omitting the determiner could only be exercised, however, if the determiner was indefinite. And it would, in fact, be no option, since the indefinite determiner is obligatorily absent in such phrases.

The problem with this proposal is that it is not obvious how all determiners other than de la, du, de l' and des are to be allowed within Noun de Noun phrases in French, while the indefinite partitive and plural articles are to be excluded.

There seems to be no semantic justification for distinguishing articleless second nominals in these phrases from nouns in other syntactic contexts preceded by du, de la and des. In sentences (115)-(116), for example, the underlined direct objects of the verb indicate indeterminate quantities.

(115) J'ai dégusté du vin.
'I tasted some wine.'

* (116) J'ai senti des marrons.
'I smelled some chestnuts.'

In (115) there is reference to an indeterminate mass of wine, while in (116) reference is made to an indeterminate number of chestnuts. The mass-count distinction is reflected in the singular vs. plural marking on both the determiner and the noun, not in the presence or absence of the determiner. The bare noun in French is largely confined to

lists or poetic vocatives; sentence (117) is ungrammatical.

- (117) *J'ai dégusté vin.
'I tasted wine.'

In sentences (118) a and b, the underlined phrases vin and marrons indicate indeterminate quantities of wine and chestnuts, just as they do in (115)-(116).

- (118) a. J'ai bu un verre de vin.
'I drank a glass of wine.'

b. J'ai remarqué l'odeur de marrons.
'I detected the smell of chestnuts.'

No indication is given by the underlined word vin about the total quantity of wine available, of which I had a single glass. Neither is there any indication from marrons of the numbers of chestnuts providing olfactory stimulation. The fact that vin is a mass noun while marrons is a count noun is again reflected in the singular and plural number markings.

The presence of the indefinite partitive articles du and de la, and of the indefinite plural article des, in phrases like those of (115), (116), and the absence of such articles before the second nominals in phrases like un verre de vin, l'odeur de marrons, does not therefore correspond to a mass vs. count distinction of the nouns themselves. While it is true that un verre de vin constitutes an NP which is a count noun, while vin is here unquestionably a mass noun, it is also true that marrons in l'odeur de marrons is a count noun.

It would be wrong, therefore, to link the absence of a determiner in such phrases with NPs indicating a countable instance of an indeterminate mass, because similar NPs indicating a countable quality of an indeterminate number of things are similarly constructed with no article.

It would be equally wrong to see the presence or absence of indefinite determiners as correlated to a type-token distinction. The article associated in French with the unspecified, general type reading of wine is the definite article, and not the zero article as in English. Thus the French counterpart to (119) is (120).

(119) John likes wine.

(120) Jean aime le vin.

The partitive article may indicate an indeterminate quantity of the type.

(121) J'aimerais boire du vin ce soir.
'I'd like to drink wine tonight.'

It may also indicate an indeterminate quantity of some particular wine the speaker has in mind.

(122) J'aimerais boire du vin de votre cave.
'I'd like to drink some wine from your cellar.'

The same type and token readings can be associated with the articleless second nominals in Noun de Noun constructions.

- (123) a. J'aimerais boire un verre de vin.
'I'd like to drink a glass of wine.'
- b. J'aimerais boire un verre de vin de votre cave.

It is not apparent therefore that any systematic semantic difference can be related to the presence or absence of indefinite determiners. There is ample evidence, however, to show that the absence of indefinite partitive singular articles and of the indefinite plural article is purely a syntactic matter. In other constructions in French where du, de la and des would be expected to occur in surface structure, they fail to appear.

The phenomenon was noted centuries earlier by the Port Royal grammarians, who observed that these determiners were absent in an

absolutely systematic way whenever they were preceded by de. Other syntactic environments permitted the appearance of du, de la and des, but these forms were never found after de. The disappearance of this article was attributed by these grammarians to reasons of euphony; the sequence of *de du, *de de la, and *de des was held to be offensive to the ears, and a rule was proposed to avoid the otherwise inevitable cacophony. Gross's (1967) formalization of this process preserves the original name: The Rule of Cacophony.

Any determiner may precede a noun which is direct object of a verb, including the determiners du, de la and des.

- (124) a. Jean voit le sable/ce sable/mon sable/du sable.
'Jean sees (the) sand/this sand/my sand/some sand.'
- b. Paul mange les pommes/ces pommes/mes pommes/des pommes.
'Paul eats (the) apples/these apples/my apples/some apples.'

Likewise, any determiner may precede a noun which is object of any preposition but de.

- (125) c. Jean pense au vin/à ce vin/à mon vin/à du vin.
'Jean thinks about (the) wine/about this wine/about my wine/about some wine.'
- b. Jean cherche dans les tiroirs/dans ces tiroirs/dans mes tiroirs/dans des tiroirs.
'Paul is looking in the drawers/in these drawers/in my drawers/in some drawers.'

(The brackets around the definite article before sand and wine indicate that both particular and general reference to sand and wine may be indicated by the definite article in French.)

But if the preposition is de, no determiner except du, de la des is excluded.

- (126) a. Jean parle du vin/de ce vin/de mon vin/*de du vin.
'Jean is talking about (the) wine/about this wine/about my wine/about some wine.'

(The form du is an amalgam of de + le, and is not the partitive article.)

- b. Paul rêve de la bière/de cette bière/de ma bière/*de
de la bière.
'Paul is dreaming of (the) beer/of this beer/of my
beer/of some beer.

Instead of the expected *de du vin and *de de la bière, we find
de vin and de bière.

- (127) a. Jean parle de vin.
b. Paul rêve de bière.

This pattern is exceptionless, whatever the source of de.
Agent phrases introduced by de in certain passive constructions do not
allow the partitive or indefinite plural articles to appear, although
agent phrases introduced by par do permit these articles.

- (128) a. Des chiens ont suivi Paul.
'Some dogs followed Paul.'
b. Des chiens ont tué ce rat.
'Some dogs killed this rat.'
- (129) a. *Paul a été suivi de des chiens.
'Paul was followed by some dogs.'
b. Ce rat a été tué par des chiens.
'This rat was killed by some dogs.'
- (130) a. *Paul a été suivi de chiens.
'Paul was followed by dogs.'
b. *Ce rat a été tué par chiens.

In parallel fashion, nominalizations in which the noun follow-
ing the de corresponds to the direct object of the related verb permit
any articles except du, de la and des.

- (131) a. Tu achètes ce livres.
'You buy these books.'
b. Tu achètes des livres.
'You buy some books.'
- (132) a. Ton achat de ces livres.
'Your purchase of these books.'

- b. *Ton achat de des livres.
'Your purchase of some books.'
- c. Ton achat de livres.

It is plausible therefore to suppose that the rule responsible for the absence of the indefinite plural and partitive articles after de, whether this de is the preposition required after verbs like parler and rêver, the de which heads certain agent phrases, or the de found in nominalizations as a link between the first and second nominal elements, is exactly the same rule which accounts for its absence in phrases like un verre de vin and l'odeur de marrons. The lack of partitive and indefinite determiners in these phrases can be attributed to exactly the same constraint as the one affecting nominalizations, and this constraint in turn is part of a larger constraint prohibiting the contiguity of de and du, de la and des. The fact that a similar range of determiners is permitted before the second nominal in un verre de vin and before vin in (126) is strong evidence that the same rule of cacophony is at work.

It is probable therefore that these noun phrases containing an articleless second nominal are generated by the base rules as NP_1 de NP_2 structures. The question of whether the determiner node of NP_2 ever in fact dominates a lexically specified instance of the indefinite partitive or plural articles will not be examined here, since the point we have been seeking to establish is that the category status of the node dominating second nominal in structures like un verre de vin and l'odeur de marrons is NP and not \bar{N} or N. The surface structure for these rightmost nominals will therefore be $NP[\bar{N}[\text{vin}]]$ and $NP[\bar{N}[\text{marrons}]]$, a structure which can serve as antecedent for Pro PP en. The fact that de vin and de marrons in the b sentences of (110)-(111) can serve as controllers for en thus supports the claim that en corresponds to sequences of de + NP, whether these sequences are complements of verb phrases or noun phrases.

Conversely, the appearance of en corresponding to de vin and de marrons is a clue to the noun phrase status of the elements following de. It is not the only clue, however. Other tests of NP-hood can be applied to these nouns to show that they are full noun phrases and not \bar{N} s at the relevant level of structure.

One such test of noun phrase status is the ability to be replaced by ça. This demonstrative pronoun is unmarked for number or gender. Sentence (133)b is an appropriate response to any of the questions in (133)a.

- (133) a. Aimes-tu $\left\{ \begin{array}{l} \text{la chasse?} \\ \text{le boxe?} \\ \text{les échecs?} \\ \text{les loteries?} \end{array} \right\}$
 'Do you like hunting/boxing/chess/lotteries?'
- b. Oui, j'aime ça.
 'Yes, I like it/them.'

Ca is also unmarked for the feature [human] in some registers, as (134)a and b show.

- (134) a. Les filles, tu aimes ça? (Popular French)
 'Girls, do you like them?'
- b. Les enfants, ça continue à chahuter.
 'The kids, they keep on making a racket.'

(—)

Like all pronouns in French except Pro N en, ça stands for the whole of a phrase, and does not substitute for subparts of the phrase. Attempts to make ça replace less than the whole NP result in ungrammaticality.

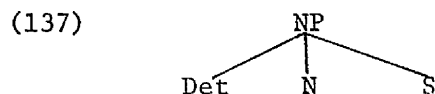
- (135) a. Aimes-tu la chasse aux lapins?
 'Do you like rabbit hunting?'
- b. Oui, j'aime ça, la chasse aux lapins.
- c. *Oui, j'aime ça, (la) aux lapins.

In the phrases un verre de vin and l'odeur de marrons, ça may substitute for the second nominal, as in (136).

- (136) a. J'aimerais un verre de ça.
'I'd like a glass of it/that.'
- b. J'aime bien l'odeur de ça.
'I like the smell of them.'

If vin and marrons here are full NPs, there is no anomaly when they are replaced by ça.

A further test of NP status for these nouns is provided by the association of non-restrictive relative clauses with the second nominal in noun de noun constructions. Various proposals have been made about the syntactic configurations in which these appositive clauses may appear. Selkirk (1977: 316, n.20) proposes that (137) is the source for these relatives.



She uses appositives in an argument for the internal constituency of what she calls simple and partitive noun phrases, and claims that the inability to form an appositive relative on the second nominal of phrases like dozens of daffodils demonstrates that dozens here is not a noun phrase (see Section 5.2.5 for a discussion of this claim). Jackendoff (1977: 172) proposes that non-restrictive relatives are formed by a phrase structure rule which generates an \bar{S} to the right of a phrasal N''' node, i.e. to the right of a full NP. Restrictive relatives, on the other hand, are generated one level lower in the noun phrase hierarchy, as right sisters of \bar{N} . And Emonds (1976: 7-8, n.6) suggests that appositive relatives originate in conjoined structures and are moved next to the element(s) they modify by a rule which he calls Parenthetical Formation. Pullum (1982) adds to Emonds' suggestion that appositives differ from their corresponding conjoined structures only in that the pronoun coreferential with the head of the appositive is wh-marked in the clause. The context allowing

non-restrictive relative pronouns to be created (or interpreted) requires that the pronoun be preceded by a major phrasal category, and share its category label. Thus, a non-restrictive relative modifying a nominal element must modify a noun phrase.

What these three analyses have in common is the requirement that appositive relatives be attached to, or be preceded by, a full noun phrase, and not a nominal element not itself immediately dominated by NP.

If these relatives can then be found associated with the second noun in phrase like un verre de vin, the claim that vin is a full noun phrase here will be further strengthened. And in fact, non-restrictive relatives can be quite easily formed on these nouns.

In (138), the singular form est of the verb être shows that the head of the non-restrictive relative, the pronoun qui, itself agrees with the singular antecedent cognac and not with the plural trois verres. The sentence thus indicates that it is cognac, not the amount indicated, which is good for the health.

- (138) J'ai bu trois verres de cognac, qui est très bon pour la santé.
'I drank three glasses of cognac, which is very good for
the health.'

In (139), on the other hand, the plural agreement of se vendre marked in the form se vendent indicates that it is the chestnuts which are being sold, and that no fee is being charged for sniffing them.

- (139) J'aime bien l'odeur de marrons grillés, qui se vendent
partout maintenant.
'I like the smell of roasted chestnuts, which are being
sold everywhere now.'

Non-restrictive relative clauses can, of course, modify the whole of the NPs trois verres de cognac, l'odeur de marrons grillés. In these cases, verb agreement, as expected, is with the head noun of these phrases.

- (140) a. J'ai bu trois verres de cognac, qui étaient d'une saveur exquise.
'I drank three glasses of cognac, which tasted exquisite.'
- b. J'aime bien l'odeur de marrons grillés, qui est partout dans mon quartier.
'I like the smell of roasted chestnuts, which is everywhere in my neighborhood.'

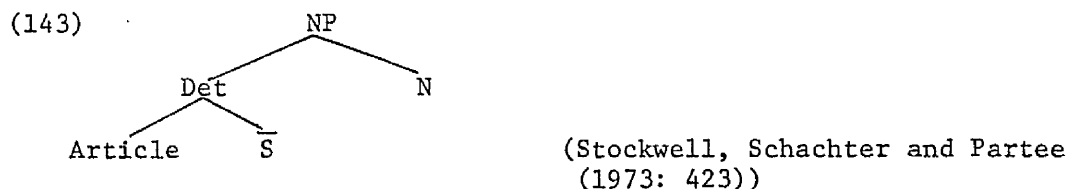
Since appositive relatives must be associated with full noun phrases, we consider that both nominals in these Noun de Noun constructions belong to the category NP.

The sentences in (141)-(142) illustrate further that the second determinerless noun in these phrases can be modified by appositive relatives.

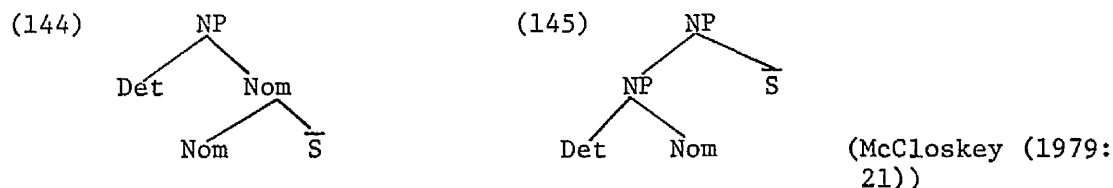
- (141) a. On a entendu bon nombre d'arguments, dont quelques-uns étaient brillants.
'We heard a good number of arguments, some of which were brilliant.'
- b. Prenez une livre de pommes de terre de l'Ile du Prince Edouard, qui sont les meilleures pour les frites.
'Take a pound of Prince Edward Island potatoes, which are the best for making chips.'
- (142) J'y ai aperçu le goût particulier de truffes, qui sont incroyablement chères.
'I detected in it the particular taste of truffles, which are incredibly expensive.'

If the conclusions reached by Selkirk, Jackendoff and Pullum about the kind of structures in which appositives appear are accepted, it seems that in the above sentences, the second noun in the underlined phrases must be a full noun phrase. The head of these non-restrictives is an NP, with the clause immediately dominated by the node NP in the analyses of Selkirk and Jackendoff, and with the relative pronoun sharing the same category as the head of the appositive in Pullum's treatment. Verb agreement in (138)-(142) shows that the second noun of the compound phrase is the antecedent for the head of the non-restrictive, and so it is plausible to conclude that these nouns are NPs.

The structure of restrictive relatives too allows an extension of this argument. These clauses are generally agreed to differ in structure from non-restrictives, though there is no clear consensus on their source. In Chomsky (1965), these clauses are analyzed as sentences embedded in the determiner constituent of the noun phrase, as in (143).



Other analyses generate restrictive relatives as daughters of the nominal node of the noun phrase, or as daughters of the NP node itself, as (144)-(145) indicate.



But in every proposed analysis, restrictive relatives originate inside noun phrases, and not inside a nominal not immediately dominated by a noun phrase node.

If our claim that the second noun in phrases like un verre de vin is a full NP, then it should be possible to form restrictive relative clauses attached to these nouns. Such is the case, as the sentences below indicate.

- (146) J'ai bu un verre de vin qui venait de la Colombie Britannique.
'I drank a glass of wine which came from British Columbia.'

Wine shippers send their product in bottles, not in glasses, so that it is not the complete NP un verre de vin which is modified by the restrictive. Nor is it the glass itself whose origin is being made clear, just the wine.

In (147), the clause modifies marrons grillés only.

- (147) Aimes-tu l'odeur de marrons grillés qui se vendent chez ce marchand?
'Do you like the smell of roasted chestnuts which this vendor is selling?'

Similarly, verb agreement in the following sentences shows that the head of the restrictive clause is the second noun of these phrases.

- (148) On a entendu bon nombre d'arguments qui étaient brillants.
'We heard a good number of arguments which were brilliant.'
- (149) Prenez une livre de pommes de terre qui ne sont pas gâtées.
'Take a pound of potatoes which aren't spoiled.'
- (150) J'apprécie le goût spécial de truffes qui viennent du Périgord.
'I appreciate the special taste of truffles which come from Périgord.'

Three arguments have been advanced in this section to support the claim that despite their lack of a surface determiner, the second nominal in phrases like those in (110)-(111) are nevertheless full noun phrases. The gap in the paradigm of determiners which may appear before such nouns is accounted for by a rule of cacophony which forbids the contiguity of de and the indefinite plural and partitive singular articles. Pronominalization by ça is possible, an unexpected result if these nouns were less than whole NPs. Finally, both restrictive and non-restrictive relative clauses, which elsewhere modify NPs, also appear with these second nominals.

Thus, the claim that there is a correlation between the sequence de NP and the ability of this sequence to act as a controller for en, is upheld. Furthermore, these phrases, which appear superficially to consist of NP de N sequences, turn out to be NP de NP sequences, and thus provide no counter-example to the claim that en never corresponds to a sequence of de N.

4.4.5 De + noun Sequences Which do Not Correspond to en

There are many phrases in French which appear to have surface structures similar to the measure phrases and certain allied phrases examined in the previous section, but which do not serve as sources for en. Some examples of these phrases are given in (151).

- (151) a. un toit de maison
'a-roof-of-house = the roof of a house'
- b. un sourire d'enfant
'a-smile-of-child = a child's smile'
- c. un rugissement de lion
'a lion's growl'
- d. une peau de bébé
'a baby's skin'
- c. une feuille d'arbre
'a tree leaf'

It is not possible for the underlined parts of these phrases to serve as antecedents for en, as the sentences below indicate.

- (152) a. J'ai vu un toit de maison.
'I saw the roof of a house.'
- b. *J'en ai vu un toit.
'I saw a roof of one.'
- (153) a. On a entendu un rugissement de lion.
'We heard a lion's growl.'
- b. *On en a entendu un rugissement.
'We heard a growl of one.'

If these underlined nominals were not NPs, then the fact that en was not associated with them would be explained by their failure to conform to the structural context required for Pro PP en. Nor would they satisfy the index of the other contexts in which en is generated. Pro N en arises only from quantified phrases containing either no determiner or an indefinite determiner before the quantifier. As no quantifiers appear directly before the nominals in (151), these phrases cannot serve as the source of Pro N en.

To determine the category status of these nominals therefore, the tests used to establish that the nouns examined in 4.4.4 were NPs can be applied here.

Because the nominal elements in (151) are linked by de, as are the elements in phrases like un verre de vin, it is possible that the second nominals here too are potentially preceded by partitive or indefinite plural articles in deep structure which are blocked by the rule of cacophony. If virtually the full range of determiners can appear potentially before these nouns in similar phrases, then the omission of du, de la, de l', and des may be ascribed to the inability of de to appear along with these articles. The second nominals in (151) could then plausibly be assigned NP status.

This analysis encounters two problems. The first is that the deep structure posited by such an analysis is impossible. Singular partitive articles would be inserted before maison, enfant, lion, bébé and arbre in deep structures like (154).

- (154) a. un-toit-de-de la-maison.
 b. un-sourire-de-de l'-enfant.
 c. un rugissement-de-du-lion.
 d. une-peau-de-du-bébé.
 e. une-feuille-de-de l'arbre.

These articles in actual use designate a part-whole relationship: de la bière indicates some of all the beer available; du gâteau means a portion of the entire amount of cake. The mass nouns bière and gâteau indicate referents able to be subdivided arbitrarily into parts. But the count nouns which characteristically enter into constructions like those in (151) do not refer to objects which are conceived of as being able to be divided up into constituents. To indicate that some beer was drunk, (155) is appropriate.

- (155) On a bu de la bière.
'We drank some beer.'

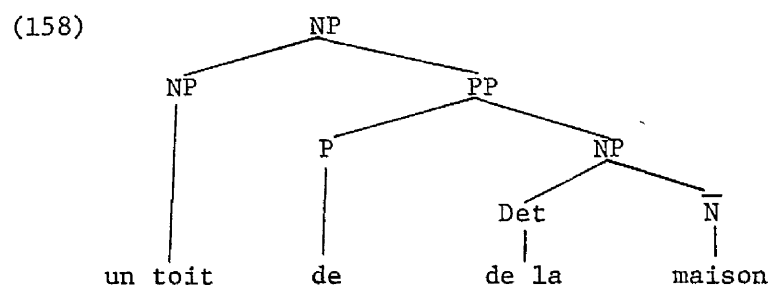
But to indicate that some, but not all, of a house was destroyed, (156) is not possible.

- (156) *On a détruit de la maison.
'They destroyed (some) house (i.e. some of the house).'

Instead, one must use something like (157).

- (157) On a détruit une partie de la maison.
'They destroyed a part of the house.'

Since the 'partitive' source for the second nominals in these phrases is not plausible, it is highly unlikely that the structure (158) could serve as the source of the rightmost nouns in (151).



The second problem with this analysis is that the insertion of determiners before the second nominal in such phrases triggers a major semantic difference between those phrases with a determiner and those without one. In toit de maison, sourire d'enfant, for example, no particular house or child is referred to. Neither maison nor enfant is referential in these phrases. Moody (1980: 4) cites the grammarian C. Ayer who observes that in such phrases the lack of determiner indicates that de + noun form an adjectival expression. It is interesting to note that many of these expressions correspond to already existing adjectives in French, as in (159).

- | | | | |
|----------|----------------------|---|----------------------|
| (159) a. | un désert de sable | = | un désert sablonneux |
| | 'a desert of sand' | | 'a sandy desert' |
| b. | un temps d'orage | = | un temps orageux |
| | 'a weather-of-storm' | | 'stormy weather' |

- | | | |
|----|--------------------|---------------------|
| c. | un conseil d'ami | = un conseil amical |
| | 'advice of friend' | 'friendly advice' |

When a determiner is present, however, the adjectival character of de + Noun gives way to a substantive character. With no determiner, these noun compounds indicate a high degree of semantic cohesion so that elements of the compound submerge their individual identity and present a single idea. Brunot (1922: 55) illustrates this notion by pointing out that the compound chemin de fer (road of iron) did not change its form to chemin d'acier when iron rails were replaced by steel, and that chemin de fer still means railway.

In their Syntaxe du français moderne, Robert and Georges LeBidois (1968) express the difference between phrases with articles on the second noun and those without in the following way: "A second nominal with no article has only an accessory, secondary value compared to the same nominal with an article . . . when a second nominal has an article, it assumes equal importance with the main (first) noun in a compound, if not a greater importance. . ." (LeBidois (1968: I, 41) (my paraphrase)).

These comments indicate that a major difference in meaning results if determiners intervene between de and the second noun in these phrases. For example, in un toit de votre maison, maison is now referential, since a particular house is intended (apparently, a house with more than a single roof), and the adjectival sense of maison is lost. It is no longer a question of a kind of roof, one which shields houses, but of a particular roof covering a particular house. Each nominal in this phrase preserves the meaning it has as an independent noun, so that the content of the whole NP is a two-fold notion. But since maison in un toit de maison is non-referential, the content of the whole NP is not easily divisible into two separate senses, and the overall impression is unitary rather than dual.

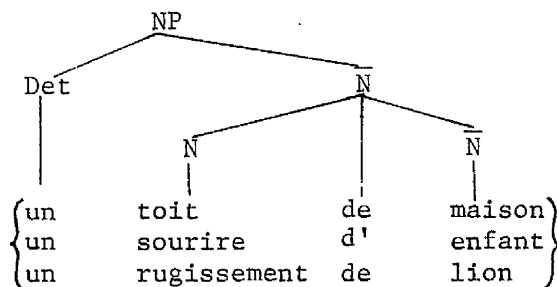
So the proposal that un toit de maison and similar phrases derive from an underlying structure like that in un verre de vin, where an indefinite determiner is potentially present before vin but barred by the cacophony constraint, leaves unexplained the fact that insertion of determiners before these second nouns introduces a degree of semantic disunity not shared by the determinerless phrases. And in any case, the partitive or indefinite plural determiner required by this analysis is semantically impossible with count nouns. These semantic facts, however, are consistent with an analysis in which the second nouns in (151) are less than full NPs, and are simply nominal elements not immediately dominated by NP, i.e., N or \bar{N} elements. The inability to generate determiners before these second nouns without radically altering the meaning of the whole phrase will follow automatically from the provision that determiners are only generated as an expansion of the node NP, while in these phrases, the nominal category dominating the second noun is \bar{N} , not NP. And since in \bar{X} theory, a full phrasal XP category normally is the node which immediately dominates a category with less than the maximum number of bars provided for in the theory (e.g. three in Jackendoff (1977a)), the phrases in (151) will require a separate phrase structure rule to account for the lack of an NP immediately dominating the second noun.

My proposal therefore is that these phrases are generated by rule (160)b.

- (160) a. $NP \longrightarrow Det \bar{N}$
 b. $\bar{N} \longrightarrow N \text{ de } \bar{N}$

The phrase marker associated with un toit de maison, un sourire d'enfant, etc., is indicated in (161).

(161)



As no adjectival modifiers ever intervene between the first noun and the de in these phrases, the category label N is considered to dominate this nominal. Thus the impossibility of (162) will follow from the lack of an appropriate attachment site for the adjective.

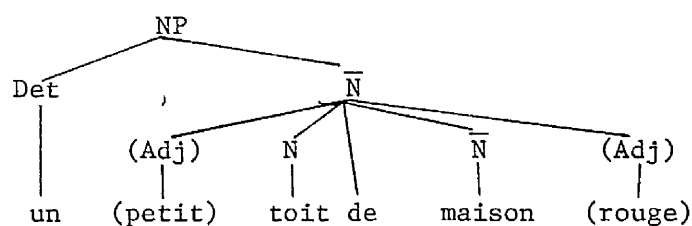
- (162) a. *Un toit rouge de maison.
'A red house roof.'
- b. *Un sourire charmant d'enfant.
'A charming child's smile.'
- c. *Un rugissement féroce de lion.
'A ferocious lion's growl.'

Any adjective modifying the higher \bar{N} must either precede the first noun or follow the second.

- (163) a. Un petit toit de maison; un toit de maison rouge.
b. Un beau sourire d'enfant; un sourire d'enfant charmant.
c. Un grand rugissement de lion; un rugissement de lion féroce.

These distributional facts suggest that optional Adj nodes need to be provided to the left and right of the higher \bar{N} in (161), which can be modified to (164).

(164)



The second noun in these expressions is also dominated by \bar{N} in (160)b. Provision is made for this category because of examples like (165) in which the postposed adjective agrees with the second noun, and not

with the first.

- (165) a. un toit de maison provençale.
'the roof of a Provençal (style) house.'
- b. des rugissements de lion affamé.
'growls of a hungry lion.'
- c. une peau de bébé nouveau-né.
'the skin of a newborn baby.'

Preposed adjectives do not appear with these second nouns, and must be excluded to avoid generating ungrammatical phrases like those in (166).

- (166) a. *un toit de petite maison.
b. *un rugissement de grand lion.
c. *un sourire de jeune enfant.
d. *une peau de beau bébé.

I will leave open the question of how to prevent phrases like those in (166), since the purpose of the phrase structure proposal (160)b is to reflect the non-NP status of the second noun. Finally, no provision is made in this rule for a PP node to dominate de \bar{N} , because the expansion for PP is P NP. Since \bar{N} is less than a noun phrase, a preposition immediately followed by a nominal not dominated by NP cannot constitute a prepositional phrase. We consider de here to be a semantically empty syntactic link between the first noun and non-referential second noun in this compound NP, and so do not provide it with this category label. It is interesting to note that de also links two other categories in French, one of which is a non-referential pronoun, and the other an adjective, in phrases like rien d'intéressant (nothing interesting), quelque chose de très curieux (something very curious) and personne de riche (no one rich).

Syntactic tests of NP-hood systematically fail when applied to these nouns. As Vinet (1977a: 161) points out, pronominalization by ça is impossible. Recall that ça can be unmarked for number, gender

and animacy.

- (167) a. *un toit de ça
'a roof of it'
b. *un sourire de ça
c. *un rugissement de ça
d. *une peau de ça
e. *une feuille de ça.

This deictic pronoun is referential, but the second nouns in these phrases are non-referential. Hence the incompatibility of ça, which replaces full NPs, and these second nouns, which we claim to be \bar{N} s.

Another test of NP status also fails with these nouns. Appositive relative clauses simply cannot be formed exclusively on the second noun. Only the whole NP may be modified by such clauses, as the a sentences below indicate.

- (168) a. Un toit de maison, qui protège les habitants contre le mauvais temps, est essentiel.
'The roof of a house, which protects the inhabitants against bad weather, is essential.'
b. *Un toit de maison, qui a normalement quatre murs, est difficile à construire.
'The roof of a house, which normally has four walls, is hard to build.'
- (169) a. Un sourire d'enfant, qui est toujours très charmant, me fait plaisir.
'A child's smile, which is always very charming, brings me pleasure.'
b. *Un sourire d'enfant, qui a tant d'énergie, me fait plaisir.
'A child's smile, who has so much energy, brings me pleasure.'
- (170) a. Un rugissement de lion, qui fait toujours peur, peut s'entendre, d'ici.
'A lion's growl, which always causes fear, can be heard from here.'
b. *Un rugissement de lion, qui a souvent très faim, peut s'entendre d'ici.
'A lion's growl, which is often hungry, can be heard from here.'

If the head of an appositive relative must be an NP, then the ungrammaticality of the b examples above is predicted by the phrase structure rule which generates phrases like un toit de maison. Since the category label on maison, enfant and lion in (168)-(170) is \bar{N} , a non-restrictive relative clause will not be able to modify these nouns because they are not NPs, nor are they immediately dominated by NP. Moreover, it appears that an observation on the behaviour of appositives in English made by Kempson applies equally to French. She notes that ". . . there is a constraint on non-restrictive relative clauses such that they can only modify noun phrases which imply a specific referent" (Kempson (1975: 115)). As has already been pointed out, the second noun in phrases like those in (151) is not referential, and cannot be associated with an appositive relative.

Similar conclusions about the status of these second nouns result from attempts to modify them using restrictive relatives. These clauses are considered to be attached directly to the NP node, in the NP \bar{S} analysis, or indirectly to the NP node, in the Nom \bar{S} analysis, since Nom is immediately dominated by NP. Again, only the a examples in the sentences below are grammatical, because they modify the whole of the noun phrase. The clauses in b, which modify only the second noun, make the sentence ungrammatical.

- (171) a. J'ai vu un toit de maison qui était rouge.
'I saw the roof of a house which was red' (i.e. the roof was red, not the house).
b. *J'ai vu un toit de maison dont les murs était construits de pierre taillée.
'I saw the roof of a house whose walls were made of stone.'
- (172) a. J'ai remarqué son sourire d'enfant qui m'accueillait.
'I noticed his child's (childlike) smile which greeted me.'
b. *J'ai remarqué son sourire d'enfant qui me suivait à la plage.
'I noticed his child's smile which followed me to the beach.'

- (173) a. Tarzan a entendu un rugissement de lion qui lui faisait peur.
'Tarzan heard a lion's growl which made him afraid.'
- b. *Tarzan a entendu un rugissement de lion qui attaquait les habitants du village.
'Tarzan heard a lion's growl who was attacking the villagers.'

Vinet (1977a: 156) disputes the claim that the second nouns in the phrases in question are less than full NPs, and provides the following examples containing restrictive relatives to illustrate her counter-claim.

- (174) a. Un corps de femme qui aime faire du sport.
'The body of a woman who likes playing sports.'
- b. Elle avait une peau de bébé nouveau-né qui dort toute la journée.
'She had the skin of a newborn baby who sleeps all day long.'

It would appear that these sentences contain a restrictive clause modifying the second noun, and that these second nouns might therefore be considered full NPs.

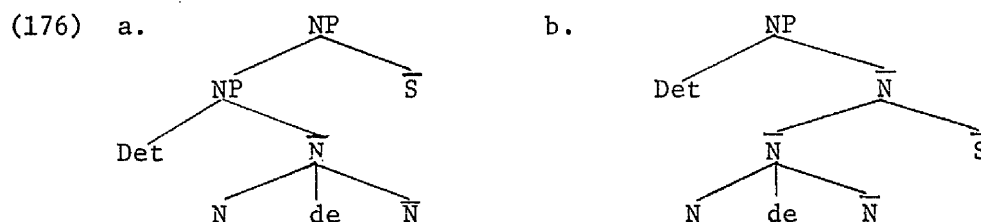
However, as Vinet herself points out, the content of the whole noun phrase is relevant in determining whether such clauses are acceptable. For example, (175) a and b are not acceptable to her.

- (175) a. *Un corps de femme qui aime beaucoup la lecture.
'The body of a woman who likes reading.'
- b. *Une peau de bébé qui hurle tout le temps.
'The skin of a baby who yells all the time.'

The proper conclusion to be drawn from these examples seems to be that the restrictive relative clauses in these phrases modify more than the nouns femme and bébé. If the second nominal alone was the only relevant antecedent for the relative, it would be possible to assume that this nominal was itself immediately dominated by NP. But the unacceptability of the phrases in (175) indicates that the modification of the relative must extend over the whole phrase, and not simply over the second nominal. The phrases in (175) are

therefore not ungrammatical, but semantically anomalous. Body shape has more to do with love of sports than love of books, and the suggestion in (175)a that reading does in fact improve the physique runs counter to what we know of the world. In (175)b, the association of pulmonary exertion with the characteristic softness of a baby's skin conflicts with our knowledge of what contributes to a healthy complexion. Both phrases are therefore rejected on semantic grounds.

The phrases in (174), on the other hand, seem to be acceptable precisely because our knowledge of the world tells us that there is a close association between body shape and sports, and between soft skin and sleep. The relative clauses in these phrases obviously then must have access to the information in both nominals, and not just to the second nominal, to ensure that the content of the clause is relevant and appropriate. In structural terms, one way to guarantee this accessibility is to stipulate that the relative is attached to some category which dominates both of the nouns in question. For the phrases in (174), therefore, the most suitable nodes in the phrase marker are NP, or the higher \bar{N} , as in (176).



We consider therefore that Vinet's claim that these phrases are in fact sequences of \bar{N} de \bar{N} is wrong, since the restrictive relatives she cites as evidence for the NP status of the second noun still require information about the content of the whole NP. Note that in the phrases whose second noun we claim to be a full NP, no account need be taken of the first noun, or of the total content of the NP, to ensure the appropriateness of the relative clause. In (177), neither

quantity nor container is relevant to the origin of the wine.

- (177) J'ai bu { un verre
une bouteille
trois litres
quelques gouttes } de vin que mon ami m'avait
rapporté de France.
'I drank a glass/a bottle/3 litres/a few drops of wine which
my friend had brought back from France.'

And in (178), neither smell, taste nor any other imaginable quality of roasted chestnuts plays any role in determining the relevance of the relative.

- (178) J'aime { l'odeur
le goût
la qualité } de marrons grillés qui se vendent dans
ma rue.
'I like the smell/taste/quality of roasted chestnuts which
are sold on my street.'

We conclude therefore that those Noun de Noun phrases whose determinerless second nominal does not serve as a source for Pro PP en differ in deep structure from the apparently similar phrases which do give rise to en. In the former type of phrase, the second noun is generated by a special compound-forming phrase structure rule (160)b, while in the latter type of phrase, the second noun is an NP, and is part of a PP contained in a higher noun phrase. Arguments based on the potential presence of definite determiners before the second noun, on the semantic plausibility of an indefinite plural or partitive article deleted after de, on pronominalization by ça and on the possibility of being the head of appositive and restrictive relative clauses, all point to the NP status of the second noun in phrases like verre de vin, and to the N or \bar{N} status of the second noun in toit de maison. We see in these facts, therefore, a further confirmation of our claim that de NP sequences may be syntactic controllers of en whether they occur within a more inclusive NP, or within the verbal complement.

4.4.6 A Potential Counter-example

Colmerauer (1975, 1976: 69) and Vinet (1977a: 155) note that the de + Noun antecedents which may serve as controllers of en are restricted in certain ways. While de lait corresponds to en in (179), it does not in (180).

- (179) a. Je veux un verre de lait.
'I want a glass of milk.'
- b. J'en veux un verre.
'I want a glass of it.'
- (180) a. Je veux $\left\{ \begin{array}{l} \text{ce} \\ \text{le} \\ \text{mon} \end{array} \right\}$ verre de lait.
'I want this/the/my glass of milk.'
- b. *J'en veux ce/le/mon verre.

They conclude that the definite nature of the determiner is the feature which prevents en from cliticising in cases like these. This constraint on the fronting of Pro PP en recalls a similar constraint on the possibility of forming en from a quantified noun phrase containing a definite determiner. In (106), we indicated that en could not be the pronominal version of pommes in (181)a by writing a condition into the syntactic environment of Pro \bar{N} en (106)c.

- (181) a. J'ai mangé ces trois pommes.
'I ate those three apples.'
- b. *J'en ai mangé ces trois.

The condition stipulated that any determiner occurring before the quantifier in a phrase serving as the source of Pro \bar{N} en had to be marked [-definite].

- (106) c. Pro \bar{N} en
- NP $\left[\begin{array}{l} \text{QP} \\ [-\text{definite}] \end{array} \right]$ $\left[\begin{array}{l} \text{Det} \\ [-\text{definite}] \end{array} \right]$ Q] \bar{N} [PRO]]

Colmerauer and Vinet suggest that a similar [-definite] feature will be required to avoid extracting en from phrases like

ce verre de vin. This suggestion, if adopted, would have undesirable consequences in my framework.

It has been argued, in Section 4.4.4, that vin in un verre de vin is a full NP, and that this en arises through application of the rule which converts sequences of de + NP^[PRO] to en (i.e. Pro PP en). If the cliticisation of en has to be blocked whenever the noun phrase in which de NP is embedded is preceded by a definite determiner, then en will not be extractable from ce verre de vin, as desired, since the definite determiner ce will act as a barrier. However, many phrases whose first nouns have definite determiners will be predicted to be impossible sources for Pro PP en. Phrases like those in (182) below are all preceded by definite determiners, yet the de + Noun phrases all correspond to en in (183).

- (182) a. la majorité des candidats.
'the majority of the candidates.'
- b. l'auteur du livre.
'the author of the book.'
- c. la rondeur de ces marrons.
'the roundness of these chestnuts.'
- (183) a. ~~J'en~~ ai vu la majorité.
'I saw the majority of them'
- b. Il en connaît l'auteur.
'He knows its author.'
- c. J'en aime bien la rondeur.
'I like their roundness.'

It is obvious then that cliticisation of Pro PP en is not blocked by a definite determiner on the first noun of such phrases.

The problem posed by the failure of en to correspond to the de + Noun sequence in ce verre de vin can be summed up as follows:

- a) In un verre de vin, I claim that vin is a full NP. This phrase serves as a source for en.

- b) The category status of vin in ce verre de vin should not be affected by a difference of determiner on the measure phrase. Here too then, de vin is presumably a de NP sequence which should give rise to en, but which does not.

None of the possible solutions outlined below is particularly attractive. If we impose a condition on Pro PP en, so that definite determiners on the first noun of Noun de Noun compounds block cliticisation of en, then the appearance of en in (183) is left unexplained. If, on the other hand, we argue that the vins in both un verre de vin and ce verre de vin are not NPs, but \bar{N} s, then these phrases become structurally similar to the toit de maison phrases of 4.4.5. In that case, the appearance of en corresponding to de + Noun in only some of these structures (i.e. in the un verre de vin type) will also remain unexplained. And if we claim that vin in ce verre de vin is not an NP but an \bar{N} , and therefore dominated by a category label different from the one dominating vin in un verre de vin, we would expect that the $\bar{N}[\text{vin}]$ would fail the tests for NP status which the NP[vin] passed. But this vin is just as much an NP as the vin in un verre de vin, as (184) indicates.

(184) a. Determiners possible after de:

ce verre de votre vin
'this glass of your wine'

b. Pronominalization by ça:

ce verre de ça
'this glass of that'

c. Appositive relatives possible:

ce verre de vin, qui est très bon pour la digestion
'this glass of wine, which is very good for the digestion'

d. Restrictive relatives possible:

ce verre de vin qui vient d'Italie
'this glass of wine which comes from Italy'

The adoption therefore of any one of these solutions entails unwanted consequences for the proposals concerning the structure and placement of en. However, there is some evidence which suggests that these proposals should not be altered, and that no further contextual restrictions should be placed on the environment in which Pro is realized as Pro PP en.

This evidence is provided by considering the kinds of antecedents for Pro PP en contained within NPs whose determiner is definite. It appears that if the second NP in a Noun de Noun construction is preceded by a determiner, then this de NP sequence may serve as a controller for en, as (185) indicates.

- (185) a. On a bu ce verre de votre vin.
'We drank this glass of your wine.'
- b. On en a bu ce verre seulement.
'We drank only this glass of it.'
- c. J'ai acheté le kilo de ces pommes délicieuses que le marchand me réservait.
'I bought the kilo of those delicious apples that the vendor was keeping for me.'
- c. J'en ai acheté le kilo que le marchand me réservait.
'I bought the kilo of them that the vendor was keeping for me.'

As predicted, the presence of a definite determiner on the first noun phrase does not prevent the second noun phrase from controlling a Pro element which is ultimately realized as en.

But when the second noun in a NP de NP phrase does not contain a surface determiner, the situation is not so clear. En may not appear in (186), though it may appear in (187).

- (186) a. J'ai bu le verre de vin qui restait.
'I drank the glass of wine which remained.'
- b. *J'en ai bu le verre qui restait.
'I drank the glass of it which remained.'
- c. Il a pris ce kilo de pommes.
'He took this kilo of apples.'
- d. *Il en a pris ce kilo.

- (187) a. J'apprécie le goût de vin.
'I enjoy the taste of wine.'
- b. J'en apprécie le goût.
- c. Il n'aime pas l'odeur de marrons grillés.
'He doesn't like the smell of roasted chestnuts.'
- d. Il n'en aime pas l'odeur.
'He doesn't like their smell.'

If there is any relevant difference between these examples which would account for the inability to extract en from the phrases of (186) and the possibility of cliticising en in (187), it is obviously not syntactic. In both (186) and (187), a sequence of de + determinerless noun is preceded by a definitely determined noun. In view of the similar syntactic environment from which en may or may not be extracted, it seems likely that semantic factors govern the appearance of en in certain types of noun phrases. The nouns preceding de + determinerless second noun in both (186) and (187) are all count nouns. The nouns following de within the phrases are both count and mass nouns. This distinction therefore appears to be irrelevant.

But consideration of these first and second nouns in terms of the type-token distinction is relevant. In both (186) and (187), the articleless noun following de indicates a type-wine, apples, chestnuts, considered in general. In (186), the nouns which head the NP are themselves tokens--particular instances of glasses and kilo measures. But in (187), the nouns l'odeur and le goût, preceded by the generic definite article, are both types. Their reference is to no particular smell or taste, but instead to smell and taste in general.

It is tempting to conclude therefore that there is a semantic constraint governing the extraction of en from certain noun phrases. It appears that the antecedent for en may be a type only if the whole noun phrase is also a type. I can offer no explanation for this restriction, but simply the observation that it seems to be true. En

may be extracted from the Noun de Noun structures when the noun phrase displays all but the last of the following type-token patterns.

(187)	<u>NP₁ de NP₂</u>		<u>Example</u>
a.	type	token	J'aime l'odeur de ces marrons. 'I like the smell of these chestnuts.'
a.'			J'en aime l'odeur.
b.	type	type	J'aime l'odeur de marrons grillés.
b.'			J'en aime l'odeur.
c.	token	token	J'aime cette odeur de vos marrons.
c.'			J'en aime cette odeur.
d.	*token	type	J'aime cette odeur de marrons.
d.'			*J'en aime cette odeur.

If it is a semantic constraint which blocks the appearance of en in sentences like (170)b, (186)b, c and (187)d', then we can assume that no restrictions have to be placed on the rules which ensure that sequences of de + NP[PRO] surface as Pro PP en. Without attempting to formalize this constraint, I assume its existence, and therefore maintain the claim implicit in (106)a that no further contextual constraints are necessary in the statement of the syntactic environment which yields Pro PP en.

4.4.7 Summary

This chapter has investigated the structure and antecedents of the pronoun en, and has shown that en can correspond to the categories N, \bar{N} and PP [de NP]. Three syntactic contexts in which Pro forms are realized as en have been proposed. It has been shown that the antecedents of en can be precisely described in terms of categories and environments, and that many instances of en do not correspond to de + Noun, as has been claimed by some linguists. It has also been demonstrated that sequences of de + N do not control the pronoun en.

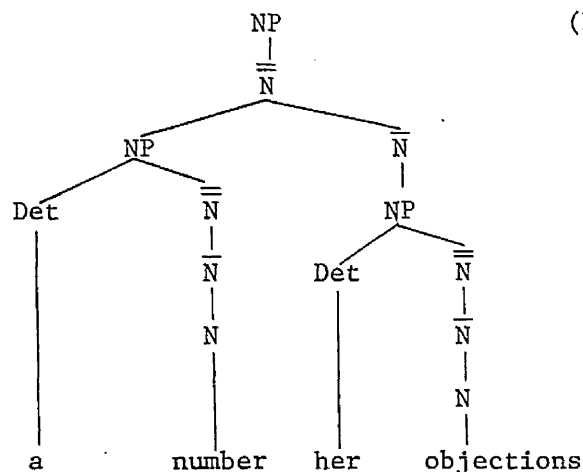
In the next chapter, the structure of quantified and partitive noun phrases which serve as antecedents for en is investigated. Here I argue that the nouns following de in these phrases are all NPs despite certain claims to the contrary.

5. The Structure of Quantified and Partitive NPs in French5.1 Partitive-Like Constructions in the Analyses Proposed
by Selkirk and Milner

In specifying the contexts in which deep structure Pro-forms are realized superficially as en (Chapter 4 (106)), we are in effect making certain claims about the underlying structure of the NP antecedent for en. We have shown that indefinite and quantified noun phrases which display no surface de do not have one at any underlying level either. It was also shown that certain Noun de Noun phrases contained NP as the second noun, while others had only a nominal category \bar{N} in this position. The focus of this section will be on those NPs which do have a de in surface structure and which do serve as controllers for en. The particular claim made here will be that the syntactic category of what follows the de in certain quantified and partitive phrases is NP, and not \bar{N} , whether a determiner is present or not. Milner (1978) argues that in a phrase like beaucoup de photos, the lack of a determiner associated with photos indicates that photos is not an NP but an \bar{N} , and that the whole NP has a different syntactic structure from that of beaucoup de vos photos, where a determiner is present. Selkirk (1977) distinguishes "true" partitives, which contain a full NP node in the second element, from "pseudopartitives", whose second node is a determinerless \bar{N} , and not a full NP. Thus, both Milner and Selkirk claim that the element following de in these noun phrases may belong to either of two syntactic categories, NP or \bar{N} . I will claim that the arguments advanced in support of the \bar{N} status of determinerless second elements in these quantified and partitive NPs are not conclusive, and that these second elements are in fact full NPs

The surface of in a number of objections will result from a transformation inserting of in the context NP ____ \bar{N} . The (of) objections part of this phrase is therefore considered to be only an \bar{N} , and not an NP with a null indefinite determiner plus N. Thus, phrases like a number of her objections, three pounds of that stew meat are claimed to have a partitive structure (3), different from the one assigned to "pseudo-partitives" like (2).

(3) (Partitive structure)



(Again, of is to be inserted in the context NP ____ \bar{N}).

In contrast to Selkirk's position, I will claim that her "pseudopartitives" are in fact 'true' partitives which happen to have an optionally unrealized determiner in the second NP. Their structure will more closely resemble (3) than (2)--although certain details will be modified in (3) as well.

Evidence from pronominalization possibilities provides one argument for the NP status of the right-hand element of these measure phrases. Pronouns in French generally correspond to full noun phrases (→) or to prepositional phrases, and not to bare nouns: Pro N en is the only exception to this observation. The pronoun them may only replace a full NP in (4), like its French counterpart.

- (4) a. I listened to a number of her objections and you
listened to a number of her objections too.
- b. I listened to a number of her objections and you
listened to a number of them too.

If only the bare noun objections is pronominalized without the determiner, the result is not grammatical.

- (4) c. *I listened to a number of her objections and you
listened to a number of her them too.

So them substitutes for the category NP, not for \bar{N} .

Now note that in (5), the noun objections, which is not preceded by a determiner in surface structure, is nonetheless pronominalizable by them.

- (5) I heard a number of objections and you heard a number of
them too.

If it were the case that them was an \bar{N} substitute here, then its failure to substitute for \bar{N} in (4) would not be easily explained. Selkirk's analysis would require that them, and similar pronouns, be produced by two rules. One would replace a Det \bar{N} sequence, and have precedence over the other, which would replace only an \bar{N} . If these two rules could be collapsed into one, the result would be complicated by the requirement to build in precedence conditions. If, however, these measure phrases are in fact partitive constructions, the rules for pronominalization will not be affected, because pronouns will continue to occupy the same position in phrase markers as full NPs.

This argument can also be extended to French to show that unnecessary complications arise from an analysis like (2). Suppose that un nombre d'objections had the same structure as (2), with de inserted transformationally. When the second element in this construction serves as a pronominal antecedent, the pronoun is en, as in (6)a.

- (6) a. J'ai écouté un nombre d'objections à cet accord, et vous
en avez écouté un nombre aussi.
'I listened to a number of objections to this agreement
and you listened to a number of them too.'

Since we assume that the appearance of en is determined by rules which spell out certain Pro-forms contained in the syntactic contexts

outlined in (106) of Chapter 4 as en, we consider that the discontinuous sequence en . . . un nombre in the second conjunct of (6)a is represented as (6)b at some stage in the derivation.

(6) b. . . . et vous avez écouté un nombre de Pro aussi.

In Selkirk's analysis, the deep structure of this string is (6)c.

(6) c. NP [NP[un nombre] \bar{N} [PRO]].

The De-Insertion transformation does nothing to change the category label \bar{N} of PRO, so that the surface structure resembles (6)d.

(6) d. NP[NP[un nombre] de \bar{N} [PRO]].

This structure constitutes an exception to the generalization made in Chapter 4 that sequences of de \bar{N} in phrases like toit de maison never serve as controllers of en. In support of this claim, evidence was given that maison in these phrases could not be a full NP, but instead a lesser nominal, N or \bar{N} . It will be seen in subsequent sections, however, that the second nominal in what Selkirk calls 'pseudo-partitives' is in fact an NP, and that (6)d should be altered so that the \bar{N} label on PRO reads NP[PRO]. The fact that the sequence de \bar{N} in (6) appears to violate conditions on the appearance of en outlined earlier ceases to be a problem if we assume that d'objections is a prepositional phrase de NP and not simply a de \bar{N} structure.

No such complications arise therefore if we assume that these are partitive phrases in deep structure, which happen to have a determiner node unfilled in surface structure in the second NP as a result of the cacophony constraint discussed earlier. The structure NP de NP, or NP PP, will satisfy the structural context required for Pro PP en, with no special conditions necessary to account for the en corresponding to 'pseudopartitives'.

5.2.2 Argument Two: Constraints on Recursion in Partitives

Selkirk's second argument for a pseudopartitive structure in measure phrases involves permissible combinations of determiners in full partitive constructions. She notes (op. cit.: 294) that any grammar of English will require certain constraints to be placed on partitive constructions, as it is not the case that just any determiner may be present in the lower noun phrase, as (7) shows.

- (7) a. *three of some men
b. *several of no books.

She assumes that, however it may be stated in the grammar, this necessary Partitive Recursion Constraint can also rule out partitive phrases with an indefinite null determiner in the lower noun phrase. In this way, ungrammatical partitives like *many of objections will be avoided. Selkirk then points out that if measure phrases in English are in fact instances of the partitive construction with an indefinite null determiner in the lower noun phrase, the Partitive Recursion Constraint would have to allow this null determiner in measure phrases but not in quantified phrases, because phrases like a number of objections are grammatical. This asymmetry between these two types of partitives is avoided, however, under the hypothesis that measure noun phrases may not have a determiner appearing before the lower noun. In other words, the Partitive Recursion Constraint will not apply because phrases like a number of objections are not partitives, but simple noun phrases, with a lower \bar{N} constituent.

The force of this argument is lost in French, however. All but a few quantified phrases allow a null determiner in the lower phrase, just as measure phrases do. Compare the quantified phrases in (8) with their measure phrase counterparts in (9).

- (8) a. beaucoup d'objections
'many objections'

- b. assez d'insultes
'enough insults'
- (9)
- a. un nombre d'objections
'a number of objections'
 - b. un tas d'insultes
'a bunch of insults.'

A small number of 'adjectival' quantifiers, such as plusieurs and certaines, must be followed directly by the noun if there is no surface determiner; a determiner is allowed only in a full partitive construction. It is these few quantifiers which would be affected by the Partitive Recursion Constraint to exclude examples like (10)b.

- (10)
- a. plusieurs photos
'several photos'
 - b. *plusieurs de photos
 - c. plusieurs de vos photos.

If a Partitive Recursion Constraint similar to that required for English were invoked to rule out (10)b, then it is obvious that numerous exceptions to this Constraint would have to be stated to account for the majority of quantified expressions, represented in (8), which do not have a determiner preceding the quantified noun. The criterion of economy in grammatical statements is better met by allowing null determiners to appear freely in both quantified and measure phrases, and to account for the ungrammaticality of (10)b as a lexical peculiarity of quantifiers like plusieurs and certaines, which happen to be more adjective-like than noun-like. Akmajian and Lehrer (1976) point out that in English, some quantifiers are more NP-like than others. True quantifiers like some, most, fail all the characteristic NP tests (they do not take possessives, determiners or numeral modifiers, and do not occur in singular and plural versions), while very noun-like terms like herd pass all these tests. French too has members of the category Q which are more adjective-like than others

(plusieurs agrees with its noun in number, while certains agrees in number and gender with its noun). When a PRO is generated in the position occupied by the noun in such phrases, these Q appear to undergo a process of 'substantivization', making them more noun-like. There is no morphological evidence for this fact with plusieurs and certains, but there is with the quantifier quelques (some, a few).

- (11) a. J'ai pris quelques photos.
'I took some photos.'
- b. *J'en ai pris quelques.
- c. J'en ai pris quelques-unes.

This same process takes place when these quantifiers are the first elements in 'full partitive' constructions.

- (12) a. quelques-unes de ces photos
'some of these photos'
- b. certaines de vos photos
'certain of your photos.'

The fact that some French quantifiers shift category from adjective-like to noun-like, suggests that any statement of a Partitive Recursion Constraint in French should not exclude null determiners in quantified phrases. Unrealized determiners should be allowed to appear as part of the NP node which these phrases have as their rightmost element.

5.2.3 Argument Three: Leftward Extraposition in French

The rule of Extraposition from NP seems to treat partitives and pseudopartitives differently. Examples like those in (13) show that determinerless elements do not behave like full prepositional phrases in that they resist being moved rightward by Extraposition. The second element of true partitives, though, is quite mobile.

- (13) a. He gave a large number of $\left\{ \begin{smallmatrix} \text{his} \\ \emptyset \end{smallmatrix} \right\}$ books by famous authors to John.
- b. He gave a large number to John of $\left\{ \begin{smallmatrix} \text{his} \\ *\emptyset \end{smallmatrix} \right\}$ books by famous authors.

From these facts, Selkirk (1977: 305) concludes that the failure of Extraposition to apply to a sequence of books by famous authors is a direct consequence of the fact that such sequences do not meet the structural description of the rule. Extraposition displaces a noun phrase NP preceded by a preposition; in Selkirk's analysis the string in question has the structure of \bar{N} , and so remains to the immediate right of the first noun phrase. In the next section (5.2.4), the validity of this claim as applied to English will be examined. Here, however, investigation of the behaviour of moved de-phrases in French is relevant.

Related to these distributional facts of English is a similar observation by Milner (1978: 72) about French. He notes that what he calls 'true genitives', i.e., true partitives, with determiners associated with the second noun, are able to be moved leftwards, while bare nouns preceded by de cannot be moved leftwards. Contrast the sentences of (14) with those of (15).

- (14) a. De ces livres, je n'ai lu aucun.
'Of these books, I have read none.'
- b. De ces livres, peu sont des chefs d'oeuvre.
'Of these books, few are masterpieces.'
- (15) a. *De livres, j'ai lu beaucoup.
'Of books, I have read a lot.'
- b. *De livres, beaucoup ont été publiés avant 1900.
'Of books, a lot were published before 1900.'

The sentences in (14) are instances of topicalized structures. Topicalizations, as Rivero (1980: 366) points out, have generally been considered the result of a movement transformation. Emonds (1976: 31), for example, considers topicalization as a root transformation which moves noun phrases to the front of the sentence. Hirschbühler (1974: 10) does not limit topicalized strings to noun phrases only. His notion of a topicalized structure is one produced by a transformation which moves a phrase to the front of the sentence without leaving a

pronominal copy in the position originally occupied by this phrase. Guéron's (1980) rule of PP Extraposition allows both rightward and leftward movement of prepositional phrases, and thus produces topicalized structures such as those in (14). For example, she gives (16) as an example of a suitable topicalization resulting from PP Extraposition.

- (16) De Balzac, j'ai lu Le Père Goriot. (Guéron (1980: n. 3))
'Of Balzac, I read Le Père Goriot.'

The rule referred to as Extraposition from NP appears therefore to be subsumed by PP Extraposition, and to be simply the operation of this latter rule in a rightward direction. If this is the case, then the parallels between the French and English structures in (13) and (14) seem to be obvious, and equally obvious seems to be the conclusion: those structures which lack a determiner are not eligible to be moved by a transformation which moves prepositional phrases because they are not prepositional phrases. Neither of books nor de livres meets the requirement of being a PP, because they are sequences of P \bar{N} , not of P NP.

There is some evidence, however, that the conclusions reached by Selkirk and Milner are not based on all the relevant facts. Their contention that determinerless partitives are simple noun phrases which do not contain full prepositional phrases requires that all sentences like (15) be ungrammatical on purely syntactic grounds. But Vinet (1977a: 146) points out that there are sentences syntactically parallel to (15) which are grammatical. In (17), the phrase de lait has no demonstrative, possessive adjective or article attached to it, yet it is grammatical.

- (17) De lait, je n'ai toujours bu que très peu.
'Of milk, I have always drunk only very little.'

Quoting Guéron (1976) (a paper not available to me), Vinet proposes that (17) is possible because there is a surface semantic

interpretation which links de lait to an element which contributes to a highlighting effect or emphasis. This element here is ne . . . que (only). Other negative and exclusive items can have the same effect.

- (18) a. De musique électronique, je n'ai jamais écouté beaucoup.
'Of electronic music, I've never listened to a lot.'
- b. De pommes rouges, elle n'a acheté qu'un seul kilo.
'Of red apples, she only bought one kilo.'
- c. De pommes rouges, elle a acheté un kilo seulement.
'Of red apples, she bought one kilo only.'

The presence of an adjective modifying the moved noun seems to be important; without the adjective, many speakers do not accept such sentences.

- (19) a. ??De musique, je n'ai jamais écouté beaucoup.
- b. ??De pommes, elle a acheté un kilo seulement.

With the adjective in place, but the highlighting element missing, judgements vary from speaker to speaker.

- (20) a. (?)De musique électronique, j'ai écouté beaucoup.
- b. (?)De pommes rouges, j'ai acheté un kilo hier (=yesterday).

The clear acceptability of (17), (18), and the acceptability by some speakers of (19), (20), seem to invalidate the conclusion that these determinerless nouns are dominated by syntactic categories different from those which dominate nouns accompanied by determiners. If PP Extraposition is responsible for (14), it is also responsible for (17)-(20), as well as for the ungrammatical (15). The most plausible explanation for all these sentences is that a rule extraposing prepositional phrases overgenerates certain surface or shallow structures, which are then filtered out by interpretive rules. For reasons which I will not speculate on here, sentences such as (15) are rejected, because they do not contain any highlighting or emphasizing element.

It is important to note that it is not exclusively determinerless sequences which are barred from topic position. Milner (1978: 72) says that some topicalizations involving movement of a full prepositional phrase from object position are subject to a limitation for which he has no explanation. Sentences such as (21) are not grammatical.

- (21) a. *De ces livres, j'ai lu beaucoup.
'Of these books, I read a lot.'
- b. *De ces livres, j'ai lu deux.
'Of these books, I read two.'

The limitation, however, does not apply when the sentence contains a highlighting element (Vinet (1977a: 148)).

- (22) a. De ces livres, elle n'a jamais lu beaucoup.
'Of these books, she has never read many.'
- b. De ces livres, j'ai lu deux seulement avec intérêt.
'Of these books, I have read only two with interest.'

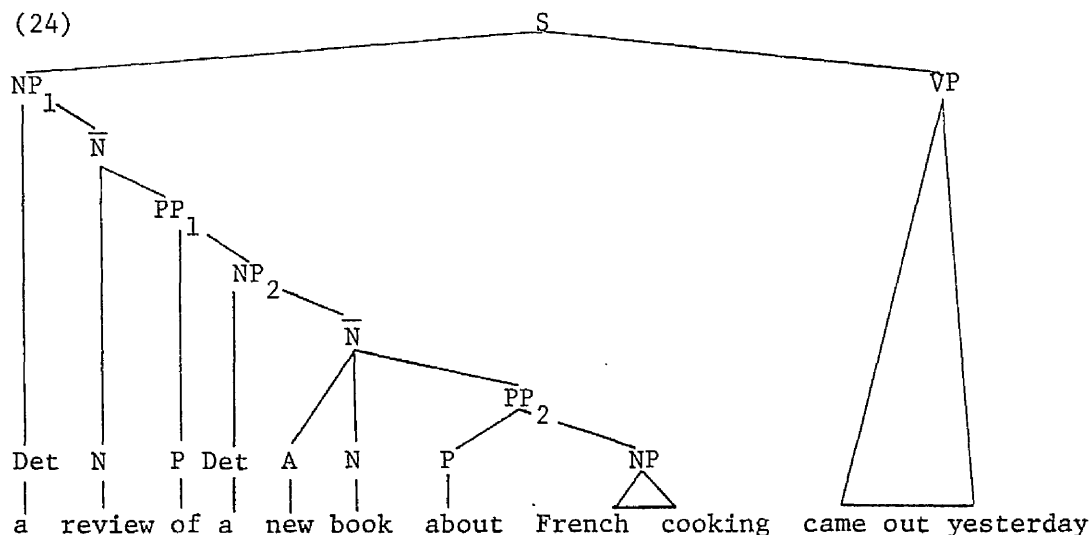
Constraints on the leftward movement of strings preceded by de, whether or not they contain determiners, appear therefore to involve semantic rules interpreting surface structures, and not the syntactic category of the displaced constituents. There is no evidence here that surface strings consisting of de \bar{N} fail to undergo PP Extraposition because they fail to meet the structural description of the rule. On the contrary, such strings are suitable candidates for topicalization. This fact in turn suggests that the \bar{N} preceded by de in partitive-like constructions is immediately dominated by NP, and that the determiner node is potentially expandable but not in fact expanded.

5.2.4 Argument Four: The Upward-Boundedness Constraint on Extraposition from NP

Limitations on the extraposition of PPs from NP have been formulated in terms of the following syntactic constraint, which seems to be a variant of Chomsky's (1973) Subjacency Condition.

- (23) No element may be extraposed more than one cycle up from the cycle containing it. (Selkirk (1977: 293), from Akmajian (1975: 119))

Both S and NP are cyclic domains. Thus, given a structure like (24),



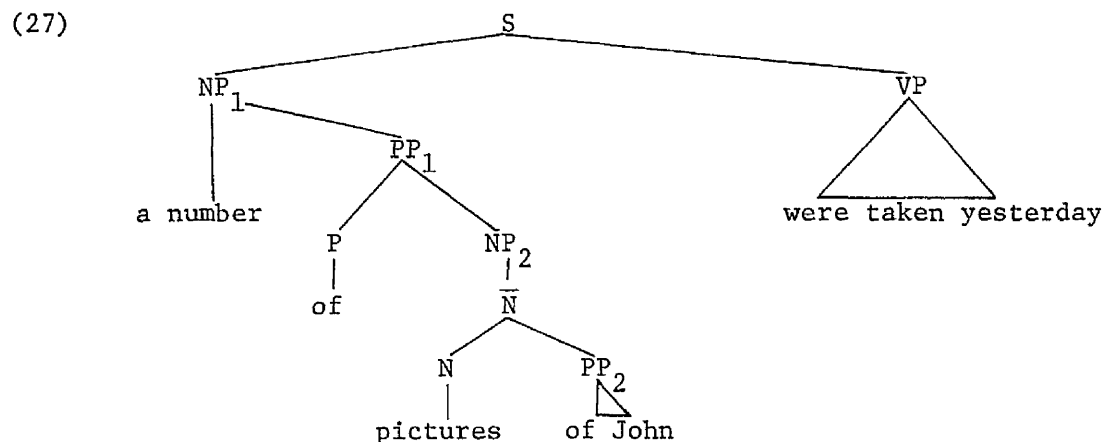
Akmajian (1975) points out that only PP_1 and not PP_2 may be extraposed to the end of the main clause.

- (25) a. A review came out yesterday of a new book about French cooking.
 b. *A review of a new book came out yesterday about French cooking.

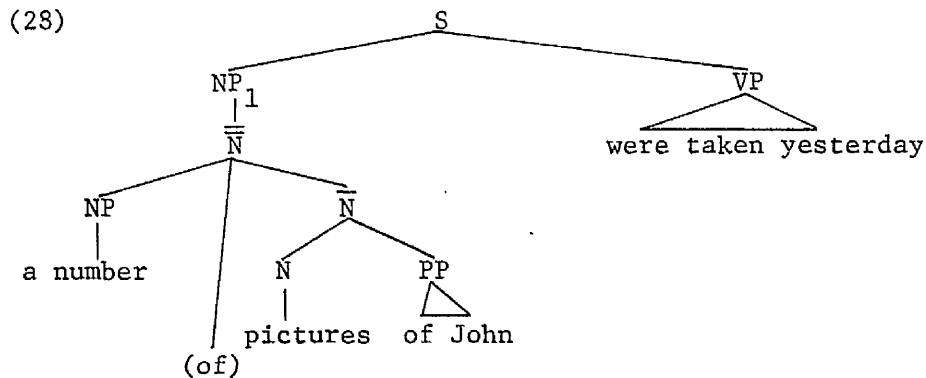
Extrapolating PP_2 would be moving it more than one cycle up, and this would create ungrammaticality.

A possible problem for this analysis is posed by sentences like (25), if it is assumed that the noun number is an NP followed by a PP complement, as in (27).

- (26) A number of pictures were taken yesterday of John.



Since PP_2 does extrapose here, it is moving more than one cycle up. Selkirk's solution to this problem is one also arrived at by Akmajian and Lehrer (1976). The claim is that NP_1 does not contain two PPs, but only one: pictures will be dominated by \bar{N} and not by NP in the configuration (28).



Under this analysis, there is only one intervening NP cyclic node, which does not block the extraposition of PP in (26). This 'pseudo-partitive' structure would allow the generalization about boundedness to be preserved. Selkirk further shows that what she claims to be real partitives (i.e., those with determiners) do not allow extraposition. Thus there is a marked contrast in acceptability between the a and the b sentences in (29).

- (29) a. A lot of reviews were published today of Helen's first symphony.
- b. ?*A lot of the reviews were published today of Helen's first symphony.

The doubtful nature of b would be a consequence of the partitive structure of the subject: of the reviews is a PP, containing an NP node. Thus the second PP, of Helen's first symphony, would have to cross two NP nodes in extraposing, and thereby violate the boundedness constraint. Assigning two different structures to the NP subjects in (29) a and b could therefore explain the grammatical contrast.

However, as Oehrle (1977) shows in his comments on Selkirk's paper, there are a number of constraints on the application of Extrapolation from Noun Phrase. One of these concerns the shape of the determiner of the noun phrase: extraposition does not easily remove a PP if the determiner is definite.

- (30) a. A review of Claudia's book was sent to me.
 b. A review was sent to me of Claudia's book.
 c. ?*The review was sent to me of Claudia's book.

Other constraints have to do with the relation between the NP and its prepositional complement, and with the predicate of the VP after which the PP is to be extraposed. (See Oehrle (1977: 319) for examples). These constraints would be difficult to state as syntactic conditions on the rule of Extrapolation, and are probably semantic in nature. However these constraints are to be stated in the grammar, Oehrle's point is that the failure of Extrapolation from NP to apply in a given case may be due to factors other than the depth of embedding of the target constituent. We cannot jump to conclusions about the constituent structure of the phrase from which extraction was to take place (Oehrle (1977: 320)).

This methodological consideration is supported by a number of counter-indications to Selkirk's analysis. Oehrle gives the b sentences in (31), (32) as examples of 'full' partitive structures which nonetheless do allow extraposition over two cyclic NP nodes.

- (31) a. How much of a proof of this theorem actually exists?
 b. How much of a proof actually exists of this theorem?
- (32) a. One hell of a review of Mary's book has just appeared.
 b. One hell of a review has just appeared of Mary's book.

Oehrle makes some suggestions designed to allow the upward-boundedness constraint on extraposition to be preserved despite these

apparent counter-examples. One proposed solution is to deny that the presence of a determiner following of indicates the presence of an embedded NP. In other words, the category which dominates a proof of this theorem, is perhaps not NP, but some intermediate category which will still allow the generation under it of Det . . . \bar{N} sequences without being itself a cyclic category. This category would replace the category symbol NP around a proof of this theorem in (33) in such a way that it does not constitute a cyclic domain.

(33) $NP [(how\ much\ of)_{NP} [a\ proof\ of\ this\ theorem]_{NP}]_{NP}$

This proposal seems, however, to be otherwise unmotivated and ad hoc.

Another proposal also denies considering a proof of this theorem as a full noun phrase. The structure underlying how much of a proof of this theorem might be something like (34).

(34) $NP [a_{Det} QP [how\ much]_N [proof\ of\ this\ theorem]_N]_{NP}$

In this account, the QP how much has to shift to the left of the article, with a concomitant insertion of of between Q and Det. Again, this solution is ad hoc, as it involves two transformations (NP-Bounded Leftward QP Movement, and De-Insertion) not elsewhere required.

Oehrle's final suggestion, that how much of a be considered a kind of complex determiner with proof of this theorem dominated by N, is likewise unsupported with independent syntactic evidence.

Even if one of these proposals was the correct one for these noun phrases containing quantifier phrases, there are still some counter-examples to Selkirk's analysis that could not be explained by any of these suggestions. The sharp contrast which Selkirk finds between the two sentences of (29), and between those in (35),

- (35) a. A number of commentaries have appeared on Anne's latest book.
- b. ?*A number of the commentaries have appeared on Anne's latest book,

becomes less clear when the definite article determiner in b is replaced by a possessive determiner. I find that (35)c is acceptable, especially with contrastive intonation on the possessive.

- (35) c. A number of $\begin{Bmatrix} \text{my} \\ \text{your} \\ \text{his} \end{Bmatrix}$ commentaries have appeared on Anne's latest book.

Similarly, I detect no difference in grammaticality between the sentences in (36), where the noun is combined with an adjective phrase.

- (36) a. A number of typically critical and one-sided commentaries were broadcast yesterday on the government's Middle East policy.
 b. A number of those typically critical and one-sided commentaries were broadcast yesterday on the government's Middle East policy.

Finally, in sentence (37), the source noun for the extraposed prepositional phrase is bare, but there are nevertheless two NP nodes to cross in moving rightward.

- (37) a. A number of these kinds of commentaries on Anne's latest book have appeared.
 b. A number of these kinds of commentaries have appeared on Anne's latest book.

These examples suggest that the determining factors which allow Extrapolation from NP are more than simply syntactic in nature. Therefore, it is unwarranted to conclude that partitive-like constructions which do allow extraposition must be assigned a different syntactic structure from those partitive constructions which seem to resist extraposition, because both types of expressions do in fact allow prepositional complements to extrapose. So if a PP can move rightwards from what is obviously an NP in (35)c of my commentaries . . . on Anne's latest book there is no reason to believe that of commentaries in (37)a must be an of N construction. It is equally valid to conclude that this too is an NP, of a type which more freely allows extraposition than NPs with definite article determiners, as in (35)b.

Rightward movement of prepositional phrases is more common in English than in French. But in French too, similar arguments can be advanced to show that different syntactic structures for full and 'pseudo' partitives are unjustified. In (38), a grammaticality contrast is attributable to the definite article in (38)b.

- (38) a. Un nombre de commentaires ont paru sur le livre d'Anne.
 b. ?*Un nombre des (= de + les) commentaires ont paru sur
 le livre d'Anne.

But extraposition becomes possible when other determiners are used, or when the noun is accompanied by an adjective.

- (38) a. Un nombre de vos commentaires ont paru sur le livre d'Anne.
 d. Un nombre de ces commentaires virulents et mal fondés
 ont paru sur le livre d'Anne.

We conclude that there is no evidence here to support the claim that the determinerless phrase de commentaires is a de \bar{N} string, and continue to claim that it is a de NP string.

5.2.5 Argument Five: Non-Restrictive Relative Clauses

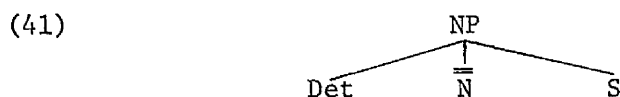
Selkirk maintains that the interpretation of non-restrictive relative clauses provides evidence for distinguishing syntactically between partitive phrases which differ by the presence or absence of a determiner. Her claim is that these relative clauses are generated under an NP node only, and can therefore only be associated with this full nominal category, and not with a bare N. The clause in (39) is said to be ambiguous.

- (39) She bought him dozens of those daffodils, only two of which
 were faded.

On one reading, the two faded daffodils were among the ones she bought. On the other, they were among the group designated by those daffodils, and not necessarily chosen by her.

In (40), on the other hand, the lack of a determiner after of is correlated with a reduction in the number of relative clause interpretations available.

(40) She bought him dozens of daffodils, only two of which were faded. Now, according to Selkirk, the only interpretation is that two of the purchased daffodils were faded. The two readings of (39) are possible because the relative clause may be associated with either of two NPs: the entire partitive noun phrase dozens of those daffodils or the lower one, those daffodils. The single reading of (40) follows from the fact that there is only one NP for the relative clause to modify. The flowers designated by dozens of daffodils are those containing the faded blooms; there is no interpretation in which the faded daffodils were not among those purchased because the clause cannot associate with the bare \bar{N} , (of) daffodils. These different semantic interpretations are therefore said to result from correspondingly different syntactic configurations. Selkirk (1977: 316, n. 20) proposes (41) as the source for non-restrictive relative clauses, and points out that in this analysis, simple NPs, containing only one NP, could have only one non-restrictive relative.



Partitive phrases, which contain two NPs, could have more than one relative.

The conclusions about different syntactic structures for partitives which have a surface determiner and those which do not become less obvious when all the possible readings of (39) and (40) are taken into account. In fact, (40) has at least two readings: there could have been only two individual flowers among the dozens purchased which were faded, or twenty-four of them might have been in

poor condition. To give the reading in which two dozens of the flowers were faded, the relative clause must be associating with the NP dozens in the phrase dozens of daffodils. Similarly, to give the reading in which only two of the flowers were faded, the relative must be associating with daffodils, despite its lack of determiner.

The sentence (39) has at least three readings. As in (40), twenty-four or two flowers might be faded. Additionally, none of the flowers she actually bought were wilting, as these remained in the set of flowers from which she chose her dozens. This extra interpretation is available in (39) not because daffodils is here dominated by NP, instead of by \bar{N} as Selkirk claims it is in (40). The additional reading seems simply to follow from pragmatic reasons associated with the use of the demonstrative determiner those. In the situation in which (39) is uttered, those may indicate either the purchased flowers or the flowers from which the choice was made. Only knowledge of the context could make the intended referent of those daffodils clear, and without any contextual clues, it is impossible to know whether the smaller set of purchased flowers or larger set of flowers for sale is being modified by the relative clause. In (40), on the other hand, the lack of determiner accompanying daffodils indicates that only a set of daffodils in general is referred to. Hence only one reading of the relative clause is associated with this noun. The fact that a non-restrictive relative can indeed be associated with daffodils, however, is an indication that this noun is a full NP, and not an \bar{N} . Because (39) and (40) allow these relative clauses to associate with both dozens and (those) daffodils, giving the "twenty-four" and the "two" readings respectively, there must be no difference in syntactic category between the underlined nouns.

This conclusion applies equally to French. Sentences corresponding to (39) and (40) have the same range of readings as their

English counterparts, and thus provide no evidence that different nodes dominate the second element of these partitive constructions.

(39)' a. Elle lui a acheté des douzaines de ces jonquilles,
dont deux seulement étaient flétries.

(40)' a. Elle lui a acheté des douzaines de jonquilles, dont
deux seulement étaient flétries.

A clearer example of the ability of relatives to associate with either element of what Selkirk labels 'pseudopartitives' is given in (42).

(42) a. J'ai acheté un kilo de pommes, qui valait trois francs.
'I bought a kilo of apples, which cost three francs.'

b. J'ai acheté un kilo de pommes, qui étaient gâtées.
'I bought a kilo of apples, which were spoiled.'

The singular verb agreement in valait in a shows that the relative is modifying kilo; the plural verb agreement in étaient, and the feminine plural adjective agreement in gâtées, show that the relative in b is associating with pommes. The presence or absence of a determiner with this second element has no bearing on its ability to be relativized. There is consequently no evidence from the interpretation of non-restrictive relative clauses for the \bar{N} status of the second noun in 'pseudopartitive' constructions. If these clauses can be associated with NPs only, the correct conclusion would seem to be that these determinerless nouns are dominated by the node NP.

5.2.6 Argument Six: Presence or Absence of the Preposition

Selkirk observes that "pseudo-partitive" determinerless phrases may in some cases lack the of which is never missing in full partitive constructions. Thus, a dozen and a couple optionally permit of to be absent, though in Selkirk's dialect, a dozen requires the absence of of.

(43) a. Please give me a dozen (of) Black Label (=beer).

b. Could I borrow a couple (of) cups of sugar?

When there is a determiner present, the of is no longer optional, but obligatory.

- (44) a. Please give me a dozen $\left\{ \begin{smallmatrix} \text{of} \\ * \emptyset \end{smallmatrix} \right\}$ your coldest light beers.
 b. Could I borrow a couple $\left\{ \begin{smallmatrix} \text{of} \\ * \emptyset \end{smallmatrix} \right\}$ these snow shovels?

These facts are taken to justify different structures for pseudopartitives and full partitives. In the configuration $[\text{NP } \bar{\text{N}}]$, associated with determinerless constructions, the of may sometimes be absent. Since in partitives, the of must always be present, it is assumed that this distributional difference is matched by a structural difference. It should be noted, however, that Selkirk's partitive structure also has this $[\text{NP } \bar{\text{N}}]$ configuration. The only difference between this and a measure phrase is the proposed rule which rewrites $\bar{\text{N}}$ as NP (Selkirk (1977: 312)) in partitives; in pseudopartitives, $\bar{\text{N}}$ is rewritten directly as N, with no intervening NP node. Thus the rule of Of-Insertion which Selkirk requires for both partitives and pseudopartitives will not be the same rule for both constructions. Its structural description will have to mention not only the $\bar{\text{N}}$ which occurs directly after an NP, but also the node which $\bar{\text{N}}$ immediately dominates. The preposition will be optionally inserted in the structure (45), and obligatorily in (46).

(45) NP _____ $\bar{\text{N}}$ [N]

(46) NP _____ $\bar{\text{N}}$ [NP]

These structural differences make it difficult to collapse the statement of Of-Insertion into a single rule. Instead, two separate, yet obviously related, rules will be necessary. Such duplication is usually indicative of a missed generalization. As an alternative, one could envisage an across-the-board insertion rule in both configurations, followed by an optional Of-Deletion rule in certain contexts.

The solution involving the smallest number of rules, however, would be to assume that of is present in underlying structure, and that, triggered by certain lexical items, it may optionally delete. Any analysis of these phrases which presumes that there is no preposition in deep structure will require two transformational rules to assure correct distribution of of. On the analysis in which the surface preposition is already present in the base, only a very limited, lexically determined rule is needed to delete of optionally in certain contexts.

Arguments about deletion or insertion of the preposition are quite beside the point in French. Whether the second element in these partitive-like constructions has a determiner or not, the de is always present on the surface. There are no contexts in which de may appear optionally, corresponding to examples like (43).

- (47) J'ai acheté une douzaine $\begin{Bmatrix} d' \\ * \emptyset \end{Bmatrix}$ oeufs.
'I bought a dozen eggs.'

Consequently, there is no reason to assume a syntactic category difference between two types of partitive constructions on the basis of the presence or absence of de, since the preposition is never missing in surface structure.

5.3 Selkirk's Measure Nouns, Full Partitives and Noun Complement Constructions

The next set of arguments advanced by Selkirk is designed to illustrate differences in syntactic behaviour between pseudopartitive measure phrases, partitive phrases containing determiners, which indicate semantically a part of a whole, and noun complement structures, in which the of-phrase is a complement to the head noun.

In this section, I shall argue that the conclusions reached on the basis of English examples do not apply to French noun phrases.

In particular, it will be shown that there is no evidence that 'pseudo-partitives' and full partitives must be assigned different syntactic structures.

5.3.1 Argument Seven: Agreement Phenomena

Selkirk points out that some nouns may function either as the head noun of a noun complement construction or as a measure noun. If this noun is singular, and the second element in the construction is plural, then verbal agreement may be singular or plural. If verbal number agreement is determined by the head N of the subject NP, as Selkirk claims, then the singular/plural difference in (49) can be attributed to differences in syntactic structure.

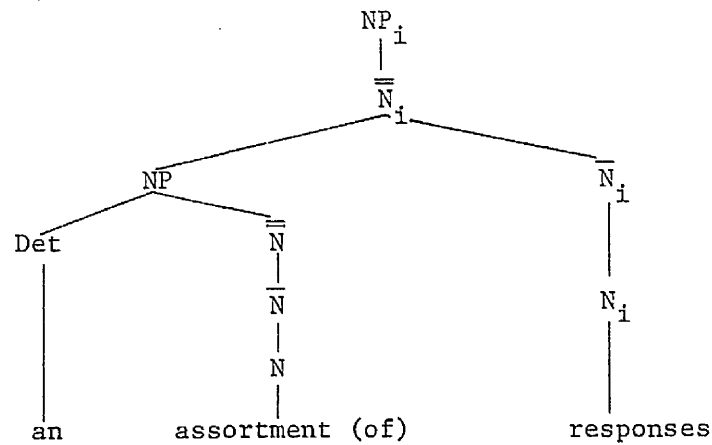
(48) An assortment of responses to your questions $\left\{ \begin{array}{l} \text{was} \\ \text{were} \end{array} \right\}$ given.

The singular was reflects a noun complement construction in which assortment is the head N, and of responses to your questions is a prepositional phrase in underlying structure. The lack of determiner before responses is simply a case of that potential node being unrealized; responses is dominated by NP, not by \bar{N} . The plural were is taken to reflect a pseudopartitive structure whose head is responses; an assortment is a measure noun generated as a left sister to the head noun, as in (2). Selkirk gives a structural definition of the notion "head of a noun phrase", (49), which is designed to allow the head to be picked out of a given configuration.

(49) "The head noun N of NP_i is that N that is dominated by \bar{N}_i and \bar{N}_i , both dominated by NP_i , and that is not dominated by any category PP, VP or AP which is dominated by NP_i ."

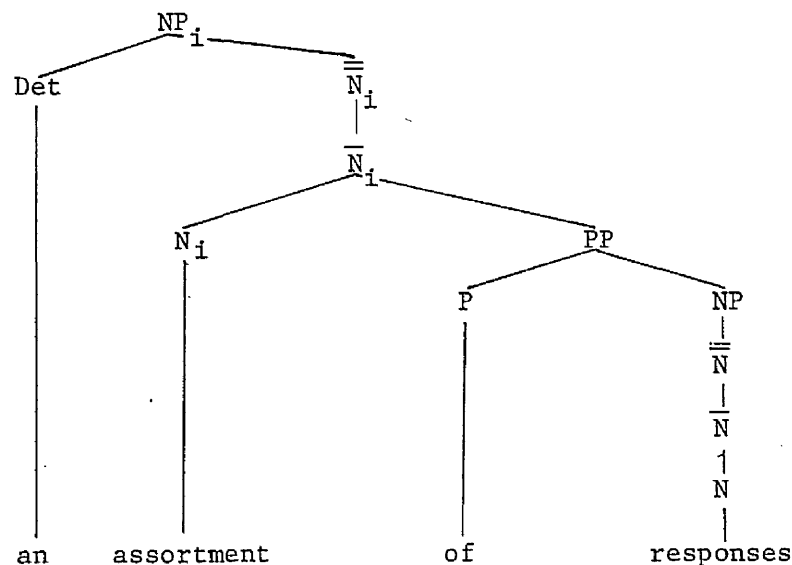
Thus, in the 'pseudopartitive' version of the subject NP in (49), an assortment of responses is assigned the configuration (50).

(50)



Here, only responses corresponds to the definition of head of phrase. But in the noun complement version of (48), this string is assigned the configuration (51).

(51)



In this structure, assortment is the head, triggering singular agreement in the verb.

What is missing in this analysis is an account of why certain parallel structures do not exhibit the syntactic behaviour which Selkirk uses to justify structural differences between these constructions. In particular, when the first noun in a construction which is said to be structurally ambiguous is plural, and when the second element in the phrase is singular, the verb no longer is able to assume both singular and plural forms. It is difficult to see why a change

in number in the nouns should eliminate one of the possible configurations assigned to these partitive-like structures, yet this consequence is exactly what Selkirk is committed to claiming, given her conclusions about (48). Notice that in (52), where an assortment has changed to assortments, and responses has changed to crockery, the singular verb is ungrammatical.

- (52) The stalls at the jumble sale had nothing but odds and ends of china for sale. Assortments of crockery $\left\{ \begin{array}{l} \text{are} \\ *is \end{array} \right\}$ of no interest to me.

In Selkirk's analysis, the only structure to which the phrase in (52) could be assigned is the 'noun complement' structure (51) in which assortments is the head. Yet assortments seems to be no less a "measure phrase" than an assortment. It remains unexplained why phrases whose first nouns are singular should have dual structures, while similar phrases with plural first nouns have only one structure. And if (52) does in fact have two structures, with two heads, it remains to be explained why the head N crockery of the pseudopartitive structure may not trigger number agreement.

A more serious problem for this analysis is the requirement that the head of every noun phrase be uniquely determined. Selkirk (1977: 310) claims that "whichever noun is interpreted as the head is fixed for any sentence," and that phenomena making crucial reference to the head of a noun phrase are verbal number agreement, pronominalization, and selectional restrictions. The different pronouns in (53) are said to reflect different structures in which either group or crazies is the head N.

- (53) That group of crazies really got $\left\{ \begin{array}{l} \text{itself} \\ \text{themselves} \end{array} \right\}$ in hot water,
 didn't $\left\{ \begin{array}{l} \text{it} \\ \text{they} \end{array} \right\}$?

Similarly, the different verbs in (54) supposedly reflect a measure phrase, in which sugar is the head N, or a noun complement phrase, in

which cup functions as the head N.

- (54) A cup of sugar $\left\{ \begin{array}{l} \text{was strewn} \\ \text{smashed} \end{array} \right\}$ on the floor.

In light of these claims, consider (55).

- (55) That assortment of dishes was smashed in transit, wasn't it?

The singular verb agreement and the singular pronoun, indicate that assortment must be the head noun. But the noun which has selected the verb smashed is obviously dishes. If we accept that the head N determines both selectional restrictions and agreement, it would appear that some processes pick out one noun as head, while others pick out a different noun. The fact that there could be a choice in determining the head would seem to weaken the usefulness of the notion of head, especially as a basis for predicting the internal structure of noun phrases.

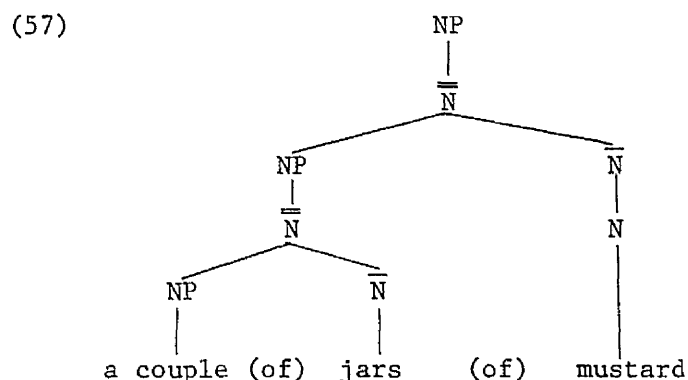
In any case it is dubious whether any syntactic arguments based on restrictions holding between a head noun and the verb it selects can be considered valid. Kempson (1977: 112-117) provides a number of arguments which show that the unacceptability of sentences which assert that green ideas are capable of sleeping or that truth can dance should not be attributed to conditions on the insertion of lexical items into deep structure representations. Without reiterating her arguments, I accept that they are valid, and that no conclusions can be drawn from selectional restrictions about which of two nouns in a complex noun phrase constitutes the head. Thus, arguments like those which follow from consideration of selectional restrictions in sentences (54), (55) will be assumed to be inconclusive for purposes of determining the head noun and its category label.

Even if we were to assume, counterfactually, that verb choice is relevant in determining the head noun of a noun phrase, there would still be some problems with Selkirk's analysis. Oehrle (1977: 324)

points out that her treatment of measure phrases allows for ambiguities in structure. In a phrase such as a couple of jars of mustard, selectional restrictions in sentences like (56) seem to indicate that mustard is the head noun.

- (56) A couple of jars of mustard would spice up your sandwich considerably.

One possible structure for this phrase, in Selkirk's framework, is (57).

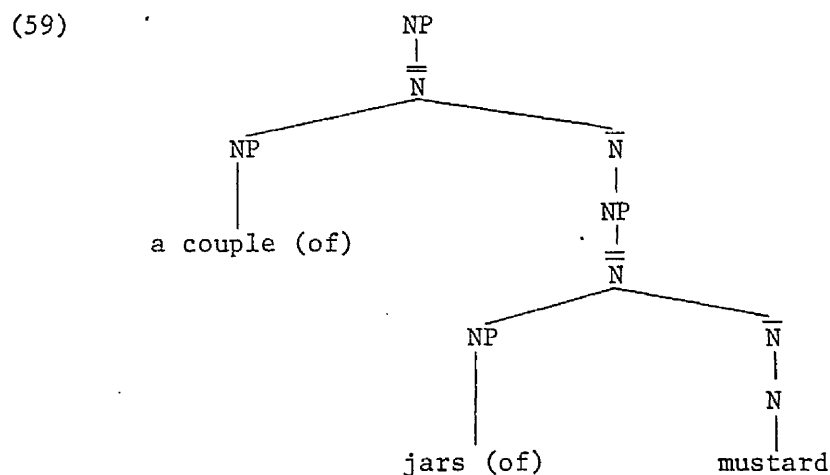


Here, mustard is structurally identifiable as the head, although the ungrammaticality of (58)

- (58) *A couple of jars of mustard is on the table

suggests that this is not the head which determines number agreement.

Another possible configuration for this phrase is the partitive structure (59), allowed by the phrase structure rule which rewrites \bar{N} as NP.



Oehrle notes no noticeable empirical consequence of this distinction in structure apart from the theoretical consequence of forcing a complication in Selkirk's definition of head. In structure (59), according to her definition, the head of the highest NP is not uniquely identifiable.

We have seen some problems then with Selkirk's notion of head. The head may fail to trigger number agreement, as in (52). And it may not even be identifiable, given the structural definition of head and certain incorrect assumptions about the role of selectional restrictions. Yet it was precisely in order to allow a unique structural determination of the head that measure phrases and noun complement phrases were assigned different syntactic structures (50), (51). In view of the problems inherent with the identification of the head, and with the role it plays in grammatical processes, the syntactic conclusions made on the basis of head-sensitive phenomena must be considered unwarranted.

Instead of adopting a structural solution to account for the singular/plural agreement in (48), we could as an alternative allow rules like number agreement to be not strictly syntactic. The morphological form of the verb may well be determined by the sense of the phrase rather than by the grammatical number of its head. Thus the phrase a couple, in the sense of "two people", allows the verb to be singular or plural.

(60) A couple $\left\{ \begin{smallmatrix} \text{was} \\ \text{were} \end{smallmatrix} \right\}$ seen holding hands in the park.

Singular verb agreement could be triggered by a syntactic feature [+singular]; it must be the perceived dual reference of the subject, however, which permits the verb to appear in plural form. There can be no question here of a structural difference prompting two different patterns of agreement. Similarly, there need not be two different

syntactic structures assigned to a phrase like an assortment of responses to explain agreement patterns. Instead, what is required is that rules of grammar be able to refer to features which are not strictly syntactic.

Number agreement between subject and verb in French almost invariably matches the grammatical number of the verb with that of the subject. Grammatically singular NPs denoting an inherently plural referent trigger singular agreement with the verb. Singular nouns corresponding to the English words government, board, team, council, Cabinet and so on are never the subjects of plural verbs.

But though notional agreement is much less common in French than in English, it is possible to find cases of syllepsis with simple NPs. In (61) for example, the singular nouns in subject position denote a plurality, and this plural sense is reflected in the morphologically plural marking of the verb.

- (61) a. Minuit sonnèrent. (v. Minuit sonna. (singular))
'Midnight rang out.'
(Robert (1968: 1728))
- b. Beaucoup en ont parlé, mais peu l'ont bien connue.
'Many spoke of her, but few knew her well.'
(Voltaire, quoted in Bled (1954: 78))
- c. La plupart sont venus.
'The majority have come.'
(Wartburg and Zumthor (1947: 24))

The phenomenon is even more common in noun de noun constructions. Fauconnier (1974: 220) defines the number of the whole of such noun phrases as being the number of the leftmost determiner dominated by the highest NP node in the phrase, where determiner is intended to cover articles, demonstratives, possessives and quantifiers. But if a noun de noun phrase has as its first nominal element a noun designating indeterminate or vague quantities, such as une multitude or un grand nombre, then the rule of thumb proposed by Fauconnier may

be violated. In (62), agreement may be singular or plural.

- (62) a. Un grand nombre de gens $\left\{ \begin{array}{l} \text{est venu} \\ \text{sont venus} \end{array} \right\}$
 'A large number of people $\left\{ \begin{array}{l} \text{has} \\ \text{have} \end{array} \right\}$ come.
- b. Une multitude de sauterelles $\left\{ \begin{array}{l} \text{a} \\ \text{ont} \end{array} \right\}$ infesté la campagne.
 'A multitude of grasshoppers $\left\{ \begin{array}{l} \text{has} \\ \text{have} \end{array} \right\}$ infested the countryside.'

Milner sees no reason in these facts to assign two different phrase markers to un grand nombre de gens and to une multitude de sauterelles. He simply considers that the sentences of (62) are cases of syllepsis. The perceived plurality of the referent is in conflict with the morphologically singular nature of the word, and the conflict is resolved here by allowing dual agreement. We concur with his judgement that dual agreement is no reason to suppose that the surface structure of these strings is ambiguous, since it is out of the question that simple nouns triggering both singular and plural agreement are structurally ambiguous.

But we do not concur with another judgement of Milner's. He sees in these agreement facts a further confirmation that determinerless second nominals in phrases like un grand nombre de gens belong to a different category than the second nominals in similar phrases which are preceded by a determiner. He claims that gens in un grand nombre de ces gens is dominated by NP, whereas the gens which lacks a determiner in an otherwise similar phrase is dominated by N. Milner points out that it is only determinerless phrases which permit double agreement, as in (62), while phrases containing determiners do not, as (63) shows.

- (63) Un grand nombre de mes amis $\left\{ \begin{array}{l} \text{est venu} \\ \text{*sont venus} \end{array} \right\}$.
 'A large number of my friends has/have come.'

However, if the syntactic structure of the phrase was the only factor determining the possibility of double agreement, it would be difficult to explain why certain determinerless phrases do not permit double agreement. The subject in (64), for example, has the same structure as the determinerless phrases in (62), but the verb in (64) can only be singular.

(64) Un kilo de pommes {sera consommé
*seront consommées} .

'A kilo of apples will be eaten.'

It appears therefore that only a subset of phrases containing determinerless second nouns may trigger dual agreement. The conditions under which determinerless phrases in French (equivalent to Selkirk's 'pseudopartitives') allow or prohibit dual agreement are hard to specify. Syntactically we find that an indefinite determiner precedes the first nominal, which is a measure noun, in both (62) a and b and (64), while the second nominal, lacking an article, denotes something countable. Perhaps the preciseness of the measure noun kilo, in contrast to the vagueness of the measure noun nombre, has something to do with why kilo must trigger number agreement, while nombre may do so, but not obligatorily.

Whatever the precise nature of the conditions permitting double agreement may be, we can reasonably presume them to be not entirely syntactic in nature, because only a subset of determinerless phrases are affected. Those phrases prohibited from triggering dual agreement belong, in both Milner's and Selkirk's frameworks, to two syntactic classes. It is difficult to see, therefore, why the syntactic configurations assigned to these constructions should play a determining role in the process of number agreement. All 'true' partitives and some 'pseudopartitives' which are subjects of French sentences transfer the number of the leftmost determiner (in a broad sense) to the verb.

Some 'pseudopartitives', on the other hand, allow the verb to agree in number with the leftmost determiner or with the second noun of the phrase. Since this 'semantic' agreement is confined to a subgroup of determinerless phrases, and since 'syntactic' agreement cuts across the two proposed classes of phrases, we conclude that number concord does not provide any evidence to support the claim that two such classes of noun phrase exist. Syntactic rules of agreement have to be allowed to modify their operation to take account of perceived semantic conflict, as with a couple, a pair. Extending this exceptional behaviour to a semantically defined group of partitive-like phrases which lack determiners would therefore achieve the same effect as claiming that these phrases are syntactically ambiguous--a claim that is not without difficulties of its own (cf. (52), (55), (57) and (59)). We conclude therefore that there is only one class of partitive phrases, and that number agreement with some of these phrases may be subject to special conditions.

5.3.2 Argument Eight: True Partitives and Noun Complement Constructions

Selkirk finishes her investigation of noun phrase structure by arguing that partitives accompanied by determiners on the second noun must not be assigned the [Det \bar{N} PP] structure assigned to noun complement constructions such as a review of this book (in which the determiner node is realized on the second NP). The evidence advanced to support her position is again taken from agreement phenomena. It is claimed that nouns which can form the first element of both partitives and noun complement phrases can only be the head of the latter construction; the head of a partitive phrase is the second noun. Hence, a phrase like a bunch of those flowers is said to be syntactically ambiguous, triggering singular verb agreement in (65) if bunch is the head of a noun complement construction, and plural agreement if bunch

is a measure of noun in a partitive phrase whose head is flowers.

- (65) A bunch of those flowers $\begin{Bmatrix} \text{was} \\ \text{were} \end{Bmatrix}$ thrown out.

This argument is open to the same objections as the argument claiming a different structure for pseudopartitives and noun complement phrases (cf. the discussion of (52) and (55)). In particular, the putative syntactic ambiguity of (65) disappears if the number of the first and second elements is reversed.

- (66) Bunches of that newly-mown grass $\begin{Bmatrix} \text{were} \\ * \text{was} \end{Bmatrix}$ scattered by the wind.

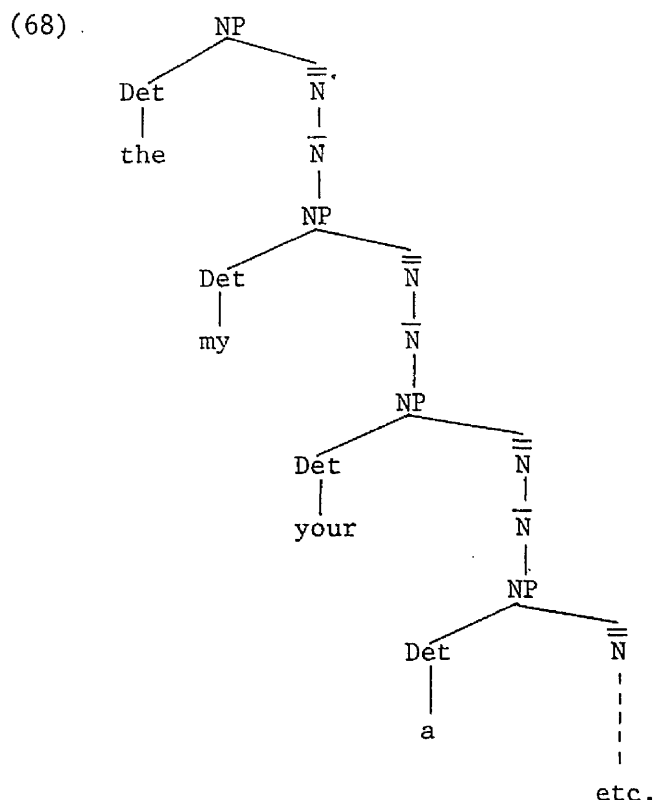
Selkirk's analysis provides no explanation of why the range of syntactic configurations assignable to such structures should be reduced by a switch in number of the nouns within the phrase. It seems more plausible that the plural agreement possible in (65) is simply an extension of the syllepsis triggered by singular collective nouns like government and council.

Given that the notion 'head of noun phrase' is not uniquely specifiable for the process of number agreement and that the rule of number agreement may well be governed by semantic as well as syntactic factors, it is implausible to conclude that "full" partitives and noun complement constructions which have a determiner on the rightmost noun must be assigned different syntactic structures.

In fact, the structure attributed to partitives (cf. (3)) is generated by means of a phrase structure rule, rewriting \bar{N} as NP, which is capable of generating highly ungrammatical strings. There is nothing to prevent this rule from producing strings such as

- (67) *the my your a the the the apple

because the left-branch of the NP, the determiner node, may successively recur without a noun being generated, as in (68).



To block such strings, some sort of Determiner Recursion Constraint would be required to filter out the mass of ungrammatical concatenations of articles, possessives and demonstratives which would be produced by such a rule.

Furthermore, the rule itself is in violation of the requirements laid down by Jackendoff (1977b: 254) on the form of possible phrase structure rules. Within the framework of the X-Bar Hypothesis, the canonical form for all phrase structure rules is (69).

$$(69) \quad X^n \rightarrow \dots X^{n-1} \dots$$

In other words, the number of bars a category may have at any level is exactly one less than the number of bars on the higher member of the same category. Selkirk's rule, which requires a single bar category to immediately dominate a three bar, major syntactic category, as in (70),

(70)

$$\begin{array}{c} \overline{\overline{N}} \\ | \\ \overline{\overline{N}} \end{array}$$

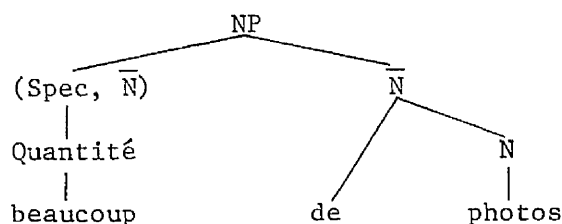
is thus in violation of a basic principle of \bar{X} syntax.

In light of these problems with the structure proposed by Selkirk for partitive constructions, it seems unlikely that (3) can be a correct structure for partitive phrases. And as there is no conclusive syntactic or semantic evidence to differentiate partitive phrases from noun complement phrases, we will assume that these have the same [NP PP] underlying structure.

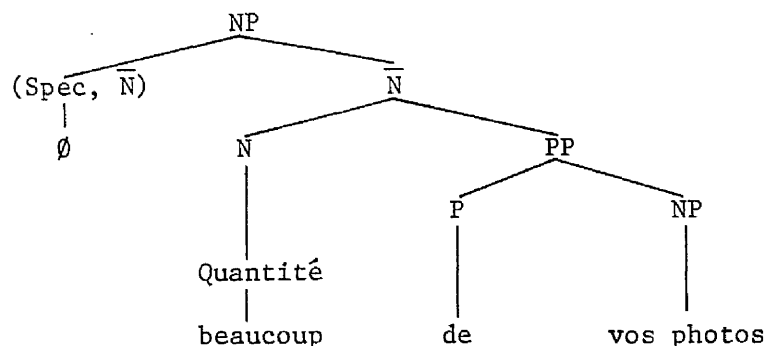
5.4 Milner's Tours Partitifs and Tours Quantitatifs

Like Selkirk, Milner distinguishes partitive-like constructions containing a determiner, which he calls "tours partitifs" (partitive expressions) from those which have no determiner. These he calls "tours quantitatifs" (quantitative expressions). The particular claim he makes in Milner (1978: 47-48) is that tours partitifs contain an ordinary prepositional phrase as the second element of the construction, with the second noun dominated by an NP node, whereas tours quantitatifs contain an \bar{N} as the second element. The de which is always present does not therefore head a normal prepositional phrase, but is instead generated as a right sister to N under the \bar{N} node. Thus, two very different underlying structures are said to underlie the phrases beaucoup de photos and beaucoup de vos photos (a lot of photos and a lot of your photos). Beaucoup originates as a specifier in the quantitative phrase, but as an N in the partitive phrase. The de phrase is an expansion of the \bar{N} node in the first phrase, while in the second it is a prepositional complement of the \bar{N} node, a sister to the N beaucoup. The configurations assigned to these phrases are indicated approximately in (71) a and b.

(71) a.



b.



The node Quantité resembles Bresnan's QP node. Milner, however, does not intend it to be a branching node, and allows it to dominate those categories which introduce partitive-like constructions: NP, AP, Adverb. In turn, Quantité may be dominated by the Specifier node or by an N. Thus the labelled bracketing on the first element of these two types of constructions may differ considerably, though it appears to be the same word. In both phrases of (71), beaucoup is an adverb. In a, this adverb is a specifier, while in b it is really a nominal. No tests are proposed by Milner to determine whether there are any empirical consequences implied by this difference in domination. Since the innermost label is the same in both cases, it would seem that failure of beaucoup to act like other noun phrase specifiers in a, or like other members of the category N in b, could be accounted for by pointing out that ultimately, beaucoup in both cases is an element of the category Quantité. Conversely, the fact that un grand nombre in un grand nombre de photos and in un grand nombre de vos photos seems remarkably noun-like in both phrases, in spite of being only a specifier in the first phrase, can be explained in Milner's analysis by their membership in the intermediate category Quantité. Since both

"quantitatifs" and "partitifs" have this category as their first element, and since this category can be expanded to cover the three syntactic categories of noun, adjective and adverb phrases, this first element is not the place to look for evidence of structural differences between the phrases in (71).

It is in the second element, which is claimed to be less than an NP in a but a full NP in b, which will provide the testing ground for the claimed distinction. Milner argues on a number of grounds that there is significantly different syntactic behaviour between these phrases. I will argue that these differences are only apparent, or that they are due to semantic and not syntactic constraints on the grammar. The counter-claim made here will then be that these phrases do not differ in underlying structure, and that the lack of determiner on "quantitatifs" indicates only that a potential node has not been realized. The second element in such phrases is just as much an NP as the second element of the "tours partitifs."

There are three types of arguments provided by Milner to justify a structural distinction between these phrases. First, the pronoun en shows differences in distribution according to its source in a determinerless phrase or one containing a determiner. Second, prepositional phrases which are complements to the second element in these phrases appear to be extractable from quantitatifs but not from partitifs. Finally, the de-phrase component of partitives may be displaced leftwards, but the corresponding phrase in quantitatifs is not similarly mobile.

5.4.1 En from a Subject NP

Although the most usual source of en is postverbal, in some cases en may originate from preverbal noun phrases. While there is no restriction on the postverbal source, which may be a partitive-like

construction with or without determiner, there is a constraint on the preverbal source of en: it may come only from a phrase containing a determiner. Thus the determinerless phrase in (73) cannot be a source for en.

- (72) a. Le prix de l'or est trop élevé.
'The price of gold is too high.'
- b. Le prix en est trop élevé.
'The price of it is too high.'
- (73) a. Des tonnes d'or sont sur le marché.
'Tons of gold are on the market.'
- b. *Des tonnes en sont sur le marché.
'Tons of it are on the market.'

Thus the correlation between the possibility of extracting en from a subject noun phrase and the presence of a determiner in the second element of that phrase is interpreted by Milner as corroboration of his claim that partitives and quantitatives are syntactically dissimilar. This conclusion is less compelling when all the relevant facts are taken into account.

There are several conditions which must be met before the en whose antecedent is a complement of the subject noun phrase can be cliticised. First, the second element in a noun de noun phrase in subject position must not be marked with the feature [+human]. Although en may have human reference when its source is postverbal, in preverbal position its antecedent cannot be human.

- (74) a. Le bureau de Jean est fermé à clé.
'John's office is locked.'
- b. *Le bureau en est fermé à clé.

Second, it is not the case that every second element of partitive phrases may be a controller of en. Vinet (1977a: 143) notes that phrases which have a quantifier as their first element may not be antecedents of en, whether the second element contains a determiner or

not. Therefore both attempts to substitute en for the de-phrases in (75)-(76) result in ungrammaticality.

- (75) a. Beaucoup de livres sont connus.
'A lot of books are well-known.'
- b. *Beaucoup en sont connus.
'A lot of them are well-known.'
- (76) a. Beaucoup de ces livres sont connus.
'A lot of these books are well-known.'
- b. *Beaucoup en sont connus.

Third, en is able to cliticise from phrases whose first element is [+definite] or [-definite] as indicated in (77)-(78).

- (77) a. Une porte de cette maison est fermée à clé.
'A door of this house is locked.'
- b. Une porte en est fermée.
'A door of it is locked.'
- (78) a. La porte de cette maison est fermée à clé.
- b. La porte en est fermée.

But if the antecedent for en is itself a [-definite] second element of such a phrase, the result is not grammatical.

- (79) a. La porte d'une maison doit être fermée à clé.
'The door of a house ought to be locked.'
- b. *La porte doit en être fermée.
'Its door ought to be locked.'

Although the subject phrases in (80) and (81) have the same structure in that the second nominal is preceded by a determiner, only the second nominal having a definite determiner may be anaphorized by en.

- (80) a. La cheminée de l'usine est penchée.
'The factory chimney is leaning.'
- b. La cheminée en est penchée.
'Its chimney is leaning.'

- (81) a. Les cheminées de plusieurs usines sont penchées.
 'The chimneys of several factories are leaning.'
- b. *Les cheminées en sont penchées.

According to Borillo, Tamine and Soublin (1974: 46), en whose antecedent is a subject noun phrase must be controlled by a definite noun. It is this fact which allows an explanation of the differences in the extractability of en from the phrases in (72)-(73) noted by Milner.

His claim is that NPs with a determinerless second element do not allow en to be attached to the verb because the de + noun sequence within the phrase is not a prepositional phrase, the lack of a determiner indicating the de N status of this sequence. But second nominals preceded by a [-definite] article are similarly prohibited from controlling en. If we argue, along with Borillo, Tamine and Soublin (1974), that it is the indefinite nature of the second nominal which precludes its control of en, then the fact that determinerless second nominals cannot be antecedents for en follows as a natural consequence. Recall that the discussion of Gross's (1977) Rule of Cacophony concluded that the indefinite plural article and the singular partitive articles which could be generated in prenominal structure by base rules never in fact appeared in surface structure as a result of a constraint barring sequences of de and these determiners. The partitive-like phrases in question here are subject to the same constraint: the partitive and indefinite plural articles do not occur after de in such phrases, although other articles may, as (82) indicates.

- (82) Des tonnes d'or/des tonnes de cet or/des tonnes de l'or russe.
 'Tons of gold /tons of this gold /tons of Russian gold.'

The second nominal in these determinerless phrases is therefore indefinite. The reason why en does not appear preverbally in (83)b is then the same as in (79)b: adnominal en corresponding to a subject

noun phrase must have a controller which is definite; if this controller is indefinite, en may not occur.

(83) a. L'assiette de soupe est sur la table.
'The bowl of soup is on the table.'

b. *L'assiette en est sur la table.'

We conclude from these facts that the conditions governing the appearance of en corresponding to subparts of subject noun phrases are not entirely syntactic in nature. Certain 'partitives', in Milner's sense, do not allow en to be extracted, despite the presence of a determiner before the controller. And those partitives which do allow such extraction demand that the noun in the de phrase be definite. Since Milner's determinerless 'quantitatives' contain a second nominal which is necessarily indefinite, it is reasonable to believe that no case has been made for a difference in domination patterns between what he calls partitives and quantitatives which both include de. We continue therefore to assume that the second element in both types of phrases is an NP preceded by P, and that the lack of a determiner does not indicate that a noun necessarily belongs to a 'lesser' category N.

5.4.2 En and Left-Dislocated Phrases

Milner's next argument concerns the association of 'left-dislocated' phrases with a phrase elsewhere in the sentence. He observes that partitive-like constructions may be found in 'left-dislocated' structures, and that when they are, what would be the second element in the construction may appear in a fronted position. The pronoun en is cliticised to the verb, and stands in an anaphoric relation to the element at the extreme left of the sentence. He further observes that there are certain restrictions on these structures, illustrated in (84) and (85).

- (84) a. *Du beurre, 'j'en aime le goût.
'Butter, I like the taste of it.'
- b. Ce beurre, j'en aime le goût.
'This butter, I like the taste of it.'
- (85) a. *Du beurre, j'en ai besoin.
'Butter, I need it.'
- b. Ce beurre, j'en ai besoin.
'This butter, I need it.'

Milner claims that indefinite NPs in dislocated position cannot be associated with en. But he points out that en can be associated with the indefinite NPs in (86).

- (86) a. Du beurre, j'en ai {beaucoup
un kilo} .
'Butter, I have a lot/a kilo of it.'
- b. Des livres de Zola, j'en ai lu deux.
'Books by Zola, I have read two of them.'

Milner concludes from these facts that the en associated with the indefinite NPs in (84), (85) is different in nature from that in (86). In particular, he claims that en in (84)-(85) has as its source the second element of a partitive construction, and therefore substitutes for de plus a full NP, whereas en in (86) originates in quantitative phrases, and replaces only de N. An indefinite NP in dislocated position is not acceptable when en, replacing de NP, is an "ordinary pronoun." The resulting structure then violates what Milner refers to as 'general principles of anaphora'. These principles supposedly include a prohibition against associating an 'ordinary pronoun' with any left-dislocated nominals, unless they are definite. (An example like (87), however, would seem to require a semantic rather than a syntactic definition of "definite.")

- (87) Un homme, je l'ai enfin trouvé!
'A man, I've finally found him!', (as said by Diogenes at the
end of his quest for a (true) man.)
(cf. Pavel (1976: 134))

But the indefinite in dislocated position associated with en originating in a quantitative phrase may well escape this general prohibition. Milner suggests that en in (86) is not an 'ordinary pronoun', but is in fact here substituting for de \bar{N} . In this case it is understandable, according to Milner, that en does not follow the general principles here, since the nominal it 'replaces' is less than a full NP.

Though Milner's observations may have implications for the rules of semantic interpretation required to establish an anaphoric relation between a dislocated phrase and a pronoun, it is difficult to see how valid conclusions can be drawn about the syntax of the NPs involved. If these left-dislocated structures resulted from a movement transformation, so that the second element of partitive phrases appeared in dislocated position exactly as it did in base structure, with a pronominal copy en left behind, then these sentences would be an ideal testing ground for different syntactic structures. However, it is generally agreed by linguists (Hirschbühler (1974), Chomsky (1977), Rivero (1980), Barbaud (1976)), that these structures are base-generated; and that no movement of constituents is involved. Instead of being moved from a containing postverbal NP, the 'dislocated' phrases in (84)-(86) are assumed to be base-generated in TOPIC position. Several convincing arguments are advanced by these linguists in support of the generation by phrase-structure rules of these TOPIC S sentences, and Milner, in fact, is not committed to a transformational analysis of these structures (cf. Milner (1978: 50, n. 1)).

Because it is not assumed that these phrases in leftmost position in dislocated structures originate as part of the postverbal NP, it is not possible to determine the category status of the antecedent for en in these phrases. That is, it is impossible to demonstrate whether en has been controlled by a de NP sequence or a de \bar{N} sequence

in any of these sentences. Consider the sentences in (86). The leftward-detached phrases du beurre and des livres de Zola do not originate as part of larger phrases le goût du beurre and deux des livres de Zola. If they did, the du and des, which appear to be indefinite partitive and plural articles here, would in fact be the definite articles le and les preceded by the preposition de, with which they amalgamate. The meaning would then be 'the taste of the butter' and 'two of the books by Zola'. In (86), however, du and des are both indefinites, as the glosses indicate.

The controller of en in (86) could in fact be any one of a number of phrases. Milner assumes it is the underlined phrase in (88)a.

- (88) a. Du beurre, j'ai beaucoup/un kilo de beurre.
'Butter, I have lots /a kilo of butter.'

In Milner's analysis, de beurre is a de N sequence; the en for which this sequence served as antecedent would be what he calls quantitative en. He claims that only 'quantitative' en, standing for de N, may be associated anaphorically with an indefinite NP in TOPIC position. He claims further that it is only with these en controlled by de N that indefinite NPs in TOPIC position can be associated. The sentences in (84)a and (85)a are said to be ungrammatical because partitive en, standing for de NP sequences generated after le goût and besoin, cannot be associated with indefinites in TOPIC position, because of a prohibition arising from 'general principles of anaphora' against linking an 'ordinary pronoun' with an indefinite left-dislocated nominal.

The difficulty with this analysis is that Milner cannot show that the en present in the grammatical sentences of (86) is not an instance of 'partitive' en. The antecedent for en in (86) could just as easily have been the underlined phrases in (88) b and c:

left-dislocation is beyond the scope of this thesis, but it seems a more promising line of research to attempt to account for the unacceptability of (84)a and (85)a in terms of a semantic incompatibility between the TOPIC phrase and the whole lower NP associated with it rather than in terms of a syntactic difference between two types of en.

5.4.3 Extrapolation of PPs from 'Partitifs' and 'Quantitatifs'

Milner's final argument in support of a structural difference between two partitive-like constructions is that quantitatives allow prepositional complements of the second element to be extracted from their base position, while partitives do not allow this freedom of movement to their PP complements. These facts follow, in Milner's analysis, from the patterns of node domination assigned to these constructions.

The de phrase in quantitatives is dominated by \bar{N} and is not an ordinary prepositional phrase. But in partitives, the de phrase is a PP. In keeping with the general prohibition predicted by the A-over-A Principle, a prepositional phrase should be extractable from a quantitative, as nothing prevents movement out of the configuration (89) assigned to it.

(89) NP [. . . \bar{N} [. . . [pp . . .]]] (cf. (71)a)

But a PP complement in a partitive would be embedded in a higher PP, and therefore be prevented from moving.

(90) NP [. . . pp [. . . pp [. . .]]] (cf. (71)b)

Thus, the de phrase in (91) is mobile, since it originates in a determinerless construction, but the one in (92) is not, because the A-over-A Principle precludes extraction.

(91) C'est de Zola que j'ai lu { deux livres.
 beaucoup de livres. }

'It's by Zola that I read { two books.'
 lots of }

- (92) *C'est de Zola que j'ai lu deux des livres.
'It's by Zola that I've read two of the books.'

As has already been pointed out in connection with Selkirk's claims about the relation between Extrapolation from NP and the syntactic structure assigned to the source NP, extraction of PPs does seem to be possible out of PP complements of partitive constructions. Even when the second element of such phrases is preceded by a determiner, rightward movement of the embedded PP is allowed (cf. (35)-(38)). The A-over-A Principle is therefore not relevant in explaining the ungrammaticality of the sentence in (92).

Milner's explanation of these facts suffers from the fallacy of insufficiency, because he fails to point out that there are other instances of prohibited PP movement which cannot be attributed to this principle. The phrases in (93) are simple NPs with PP complements, but these, like the ones in (92), do not allow extraction of the PP.

- (93) a. J'ai lu $\begin{Bmatrix} \text{les} \\ \text{ces} \end{Bmatrix}$ livres de Zola.
'I've read the/those books by Zola.'
b. *C'est de Zola que j'ai lu $\begin{Bmatrix} \text{les} \\ \text{ces} \end{Bmatrix}$ livres.
'It's by Zola that I've read the/those books.'

WH-Movement is similarly restricted.

- (94) a. *De qui avez-vous lu les/ces livres?
'By whom have you read the/these books?'
b. *Voici un auteur dont j'ai lu les trois livres.
'Here's an author by whom I've read the three books.'

There is no intervening PP node available to block extraction in these cases, so the PPs here should be just as free to move off the noun of which they are complements as they are in (91). A syntactic explanation based on differences of internal NP structure is thus unlikely to work here.

But a much simpler solution is available to explain why both (92) and (93)b are ungrammatical. Since the same prohibition against extraction of the prepositional phrase de Zola appears to be in force in both of these sentences, and since what they have in common is a definite determiner on the noun to which the extracted PP was attached in surface structure, it is most reasonable to conclude that the movement of this constituent leftwards is blocked if it originates as part of a [+definite] noun phrase.

It should be pointed out that Milner (1978: 56) gives the following sentence as grammatical.

- (95) C'est de Zola que j'ai lu le livre.
'It's by Zola that I read the book.'

However, native speakers asked for their opinion of this sentence and those in (93)b rejected them. They were acceptable if the definite determiner le was replaced with indefinites and quantifiers, as in (96).

- (96) C'est de Zola que j'ai lu $\left\{ \begin{array}{l} \text{un} \\ \text{plusieurs} \\ \text{deux} \end{array} \right\}$ livre(s).

'It's by Zola that I read one/several/two books.'

We conclude therefore that the possibility of extracting a prepositional phrase from a noun phrase containing it is tied to the definite or indefinite status of the determiner of the noun, and not to a supposed difference in syntactic category dominating the nominal following de. We therefore continue to assume that Milner's claims about the underlying structures of 'partitifs' and 'quantitatifs' are wrong and that no such distinction need in fact be made.

5.5 Some Implications of this Analysis

The arguments presented in this chapter show that of-phrases in English expressions of measure, and the de-phrases in both quantified and partitive phrases in French, are prepositional phrases generated under the PP node. Their syntactic structure is therefore

P NP in every case, including those in which a potentially present indefinite determiner does not occur as a result of the application of Gross's (1967) Cacophony constraint. Thus, Pro PP en is the morphological form assumed by a sequence of de + NP [PRO], where NP is equivalent to NP[\bar{N}] in determinerless expressions and to NP[Det \bar{N}] elsewhere. The claims made by Selkirk and Milner about the internal structure of certain types of NPs which contain possible antecedents for en were shown to be not convincingly supported when the relevant facts were considered. The \bar{N} category which they proposed as the highest nominal category dominating the determinerless second noun in a noun of/de noun construction turns out to be itself dominated by the category NP.

These facts further support the contention made in Chapter 4 that en is the proform generated in the contexts specified in (106) of that chapter, and that sequences of de + \bar{N} are not eligible to be controllers of en.

In Chapter 6, the pronoun se will be examined, and proposals made about its structure.

CHAPTER 6

6. The Problem of Se: Lexical and Transformational Approaches

Kayne (1975: Chapters 5 and 6) presents a number of arguments for a transformational derivation of se from a postverbal source. Reflexive se, which differs syntactically from non-reflexive clitics in a number of respects, is moved in front of the verb by a rule different from the one responsible for the placement of other clitics.

Grimshaw (1980) argues that se is not like other clitics in French because it is not a pronoun. She proposes instead that se is a grammatical marker, and that reflexive clitics are lexical morphemes, introduced by lexical rules parallel in many ways to rules of derivational morphology.

In this chapter, I will argue that neither approach can account for the appearance of se in a uniform way without introducing distortions into the grammar. A purely transformational solution requires implausible postverbal sources for certain instances of se, while a purely lexical approach requires otherwise unnecessary extensions to the notion of strict subcategorization rules, as well as the postulation of unworkable rules of semantic interpretation.

Before assessing these two approaches, an excursus on the form, functioning and motivation of lexical rules is appropriate.

6.1 Lexical Rules

6.1.1 Form and Functioning of Lexical Rules

As sketched by Chomsky (1965), the lexicon of a generative grammar contains information relevant to the operation of other components of the grammar. Specified in the lexicon are all the properties of a formative that are essentially idiosyncratic. Unpredictable

aspects of phonetic structure and properties relevant for semantic interpretation and the functioning of transformational rules are considered to be lexical information.

Also contained in the lexicon are redundancy rules which allow for the simplification of the lexical representation of items containing inherent syntactic features. Chomsky notes, for example, that among the specified syntactic features assigned to verbs are the following:

- (1) a. [____ NP] b. [____ NP [^]Manner Adverbial]

He further observes that every verb in English that can occur with a direct object and a following manner adverbial can occur as well with just a direct object, though not conversely. Thus, any verb specified in the lexicon as [+ ____ NP [^]Manner] must also be specified as [+ ____ NP]. Separate specification of these two features fails to express an obvious generalization about the categories which may appear after a verb like lire (to read), since we find the same direct object in both a and b of (2).

- (2) a. Marie a lu ce livre
 'Marie read that book'
 b. Marie a lu ce livre très rapidement
 'Marie read that book very quickly'

The redundancy rule added to the lexicon in order to eliminate the need to specify that every verb able to take a direct object along with a manner adverbial can also take a direct object alone is indicated in (3):

- (3) [+ ____ NP [^]Manner] → [+ ____ NP]

This type of rule is designed to deal with the fact that certain feature specifications are predictable, given others. Chomsky

calls this a "syntactic redundancy rule" (op. cit.: 168) since it expresses generalizations about the syntactic frames in which lexical items appear, and points out that "redundancy rules . . . state the general properties of all lexical entries, and therefore make it unnecessary to provide feature specifications in lexical entries where these are not idiosyncratic" (Chomsky (1965: 168)). Lexical rules expanded their role somewhat in Chomsky's (1970) Remarks on Nominalizations. A rule like (3) fills in the feature specifications of a given lexical item on the basis of the minimal feature specification of the lexical entry. In addition to this role, Chomsky proposes that lexical redundancy rules can account for regularities regarding selectional restrictions and strict subcategorization features which hold between pairs of derivationally related lexical items. The limited productivity of nominalization processes and the large number of lexical exceptions to them were taken to preclude a transformational expression of the noun-verb relatedness, as transformations were held to be fully regular and exceptionless. The verb read, for example, is subcategorized for an object NP which denotes something which can be read, but not abstract nouns, while the predicate be readable selects as subject a noun phrase which denotes something which can be read, but not abstract nouns. In a framework which does not permit transformations to perform derivational morphology, nominalizing transformations which relate read and readable are rejected in favour of a lexicon which contains both verbs and nominalizations as separate entries. To account for the selectional correspondences which hold between such items, Chomsky states that "regularities involving only selectional features [between separate but related lexical items] might in principle be stated as redundancy rules of the lexicon. For example, insofar as a subregularity exists regarding selectional rules in the case of -able, it can be formulated as a lexical rule that assigns the feature [X ____] to a lexical item

[V-able] where V has the intrinsic selectional feature [_____ X]"

(Chomsky (1970: 213)).

A lexical entry structure is developed by Hust (1977b), allowing him to give a non-transformational account of the "unpassive" construction in English. Using Chomsky's extension of lexical redundancy rules outlined above, he is able to "predict features of a complex lexical item on the basis of a feature inherent to one of the formatives of which it is composed" (Hust (1977b: 75)). He can, for example, account for the fact that participles in negative un- select as subjects the same class of noun phrases that the corresponding active verb stems select as objects. The relation between verb and the participle is therefore captured in a rule relating lexical entries, rather than by a transformation relating the full phrase markers in which these entries occur.

Jackendoff (1972) alludes to the use of morphological and semantic redundancy rules in the lexicon to express the concept of 'separate but related lexical items' without the use of transformations. As he makes clear in Jackendoff (1975), however, the formalization he develops here is not meant to play any role in the derivation of sentences. Instead, he argues for a "full entry" specification of each separate lexical item. No item is derived from any other, in his theory, so that features common to related lexical items would be listed as many times as there are related items. (Three listings for a verb, its nominalization, and a related adjective, for example.) Redundancy rules simply play a role in the evaluation of the lexicon.

Bresnan (1978) develops a type of lexical rule to express syntactic relatedness between items without referring solely to the syntactic contexts in which the items appear, as would be required in a transformational operation. She argues that information available in the lexicon allows certain relations to be computed directly.

Since Grimshaw's (1980) treatment of se is based on the framework of lexical rules developed by Bresnan, I shall paraphrase her arguments in the following pages.

Bresnan observes that the minimal semantic information about verbs that must be represented in the lexicon is their logical argument structure, with intransitive verbs like sleep represented by a one-place relation (4), and the transitive verb hit represented by a two-place relation (5).

(4) x SLEEP

(5) x HIT y

Information about the syntactic contexts in which verbs can appear is not sufficient to represent their argument structure: eat and sleep can both be used intransitively, though eat has a logical object while sleep does not. To relate logical argument structures of verbs to their syntactic contexts, a transformational correspondence could be proposed. Verbs like eat could be subject to an unspecified-object deletion transformation which applies as in (6):

- (6) a. John ate something. \longrightarrow
 b. John ate.

Thus, the different argument structures of eat and sleep correspond to different deep structure contexts into which the verbs can be inserted, with eat, but not sleep, having a deep structure grammatical object corresponding to its logical object.

But Bresnan suggests another way of establishing the correspondence between the argument structure of a verb and its syntactic contexts. Instead of transforming the syntactic structure, it is possible to operate on the argument structure. For example, the logical operation of variable-binding can convert the argument structure of

eat from a two-place relation into a one-place relation, as in (7):

- (7) a. $x \text{ EAT } y$
 b. $(\exists y) x \text{ EAT } y.$

Bresnan suggests that it is natural to provide (7) as lexical information, because the intransitive use of otherwise transitive verbs is a property of individual verbs.

In order to make the lexical association between argument structure and syntactic structure explicit, Bresnan defines a set of grammatical functions. Notions like subject, object, prepositional object and locative are defined configurationally in English (see Bresnan (1978: 17)), and combined with logical argument structures of verbs, form what Bresnan calls functional structures.

A lexical representation for a verb will therefore consist of two sorts of information. The syntactic context represents the immediate syntactic context (i.e., the VP) for the lexical insertion of verbs, while the functional structure combines the grammatical functions of subject, object, etc., represented as NP_1 , NP_2 , with logical argument structure. Thus the verb eat has the following lexical representation:

- (8) eat: $V, [\text{____} NP], \quad NP_1 \text{ EAT } NP_2$
 $[\text{____}], \quad (\exists y) NP, \text{ EAT } y$

Fodor and Fodor (1980) point out that the lexical mapping rule in (8) which relates the syntactic context of eat with its functional structure makes no clear predictions about the entailments of the sentence Everyone ate, in which NP_1 contains a quantifier. The corresponding transitive sentence Everyone ate something is ambiguous with respect to the scope of the quantifiers everyone and something. This sentence may mean either (9)a or (9)b:

- (9) a. There was something such that everybody ate it.
 b. For every person there was something such that he ate it.

It would appear from the functional structure assigned to syntactically intransitive eat that the sentence Everyone ate should show a similar ambiguity. Fodor and Fodor note that "when the NP₁ contains a universal quantifier which binds a variable, this quantifier can be positioned either before or after the existential quantifier introduced by the lexical mapping rule" (Fodor and Fodor (1980: 759)). In fact though, Everyone ate is not ambiguous. The only reading is that of (9)b, equivalent to a semantic representation in which the universal quantifier is positioned to the left of the existential quantifier. Fodor and Fodor conclude that an alternative functional structure is required, containing no unrealized argument positions, with meaning postulates, or lexically governed inference rules, applying after the lexical mapping rule which associates a functional structure with the syntactic form of the sentence.

Bresnan's (1980) reply to this attack on the form of the functional structure component of lexical representations like (8) is to observe that the existential quantifier occupying the second argument position of eat in Everyone ate is introduced lexically. It is only after the rules of lexical insertion that sentence interpretive rules, like the one required to interpret the syntactically introduced quantifier everyone in Everyone ate, are able to apply. It follows, according to Bresnan, that "the intrinsic ordering of lexical rules before interpretive rules affects the order of interpretation of quantifiers: the lexical quantification of predicate arguments has narrow scope with respect to the syntactic quantification of sentences" (Bresnan (1980: 120)). The reading of (9)b reflects the fact that lexical quantifiers are interpreted before syntactic quantifiers.

We assume therefore that Bresnan's position is not damaged by Fodor and Fodor's criticisms, and that it is possible to include empty argument positions in functional structure without making incorrect predictions about the entailments of sentences assigned such structures.

To illustrate how lexical rules can deal with certain relations which have standardly been expressed transformationally, Bresnan develops a lexical treatment of the active-passive relation. She notes that the passive verb (be) eaten differs from the active verb eat in the following ways. In the logical argument structure of (be) eating in The cat was eating, the logical object has been eliminated, while in the logical argument structure of (be) eaten in The cat was eaten, the logical subject has been eliminated. This difference is reflected in (10), where a corresponds to the active form and b to the passive:

- (10) a. $(\exists y) \ x \ EAT \ y$
 b. $(\exists x) \ x \ EAT \ y$

The difference in functional structure between the active-passive pair is that the grammatical subject is logical subject of the active verb but logical object of the passive. This information can be expressed in the functional structures in (11):

- (11) a. $(\exists y) \ NP_1 \ EAT \ y$
 b. $(\exists x) \ x \ EAT \ NP_1$

The lexical entry for the passive (be) eaten is thus (11)a'.

- (11) a'. eat + en : $V, [be \ ____], (\exists x) \ x \ EAT \ NP_1$

If the agentive by-phrase appears, it is analyzed as an optional prepositional phrase that functions semantically to identify the logical subject of the passive verb, as in (11)b':

- (11) b'. eat + en : V, [be _____ [pp by NP]],
 ($\exists x$) (x EAT NP₁ and x = NP_{by})

Now it is possible to express the active-passive relation by an operation on functional structures which eliminates NP₁ and either replaces NP₂ by NP₁ or replaces NP_{Prep} by NP₁. The syntactic contexts of the active and passive verb are related by the rule

[_____ (P) NP . . .] \longrightarrow [be _____ (P) . . .], but, since the syntactic contexts appear to be redundant in that they are predictable from the functional structures, Bresnan speculates that there may be no need to state the contextual rule separately. The active-passive relation, in other words, is computable from semantic information on logical argument structure present in the lexical representation of an item integrated with conventionally defined information on grammatical functions. Syntactic operations which are structure-dependent can, in Bresnan's framework, be abandoned in some cases for lexical operations which are function-dependent (cf. Bresnan (1978: 14-23 and 36)).

6.1.2 Motivation for Lexical Rules

Various reasons for appealing to lexical rules are given by linguists. Chomsky (1970) advocates their use to express regularities holding between lexical items in cases where transformations are inappropriate expressions of the relatedness holding, for example, between verbs and their nominalizations. Newmeyer (1979) points out that between Aspects of the Theory of Syntax (1965) and Remarks on Nominalizations (1970), Chomsky's criteria for determining the appropriateness of transformations to express lexical relatedness became much more stringent. The relationship of destroy and destruction was considered productive enough in Aspects to be transformationally described, while the non-productive horror-horrid

relationship was considered lexical. In Remarks though, the destroy-destruction relation was considered to be not productive enough to warrant a transformational treatment, so that these words were assumed to be lexically related.

Jackendoff (1975) sees lexical redundancy rules as devices which permit an adequate description of the "partial relations and idiosyncrasy characteristic of the lexicon" (Jackendoff (1975: 639)). As has already been pointed out, Jackendoff does not use these rules in the derivation of sentences, but in the evaluation of a lexicon. His evaluation measure for assessing the best lexicon out of a number of possible descriptions counts as new, independent information only the information listed in a lexical entry which is not predicted from a lexical redundancy rule. Thus, a pair of words related by such a rule "costs" less in terms of evaluation of the grammar than a pair of words not related by such a rule. The most highly valued grammar is the one with the "lowest cost." Jackendoff also indicates that, on the whole, transformations are more satisfactory descriptive devices than lexical rules, since a single transformation can serve to relate many pairs of words, for example, which in a lexical approach would have to be listed separately. Transformations permit "a net reduction in symbols in the grammar" (Jackendoff (1975: 641)), and, other things being equal, the measure invoked to evaluate the grammar will prefer a grammar containing as few symbols as possible. From these remarks, it seems obvious that expressing lexical relatedness through lexical redundancy rules instead of transformations makes the grammar more "costly," though this is of course unavoidable in the case of nominalizations, as Chomsky (1970) has argued.

Hust (1977a) proposes a lexical treatment for the 'unpassive' construction, arguing that the relation between an active verb and its passive participle prefixed with un- is just not productive enough

to justify positing a transformational relationship between them. He suggests instead that these participles are lexically derived adjectives, directly inserted in the base, related to their corresponding active verbs by lexical redundancy rules. Hust's appeal to this type of rule then is motivated by his observation that a transformational treatment of this particular construction would imply the use of undesirable 'exception features' on a large class of verbs.

Bresnan's motivation for appealing, wherever possible, to lexical rules instead of transformational rules is the desire to construct what she calls "realistic grammars." Recalling that a basic assumption of transformational grammar is "to characterize the grammar that is to represent the language user's knowledge of language and to specify the relation between the grammar and the model of language use into which the grammar is to be incorporated as a basic component" (Bresnan (1978: 1)), she points out that results of psycholinguistic research have not given much support to the claim that some of the constructs and formal devices of generative grammar are psychologically real. In particular, psycholinguists have found little evidence to consistently support the reality of grammatical transformations as analogues of mental operations in speech perception and production, although grammatical structures do seem to be psychologically real.

Instead of supposing it a mistake to attempt to "realize" a transformational grammar within a model of language use, Bresnan considers that the failure of this model of grammar to be successfully realized within a model of language use is an indication that the grammar is psychologically unrealistic. Such a grammar, is therefore considered inadequate as an "empirical theory of the human faculty of language" (op. cit.: 2).

A 'realistic' grammar, on the other hand, should be psychologically real in the sense that it contributes to the explanation of behaviour relative to linguistic judgments. A psychologically real grammar must ensure that the description of intuitive judgments of verbal behaviour corresponds to the description of other verbal behaviour, such as the comprehension and retention of sentences. In addition, Bresnan demands that a realistic grammar be realizable. She notes that "we should be able to define for it explicit realization mappings to psychological models of language use. These realizations should map distinct grammatical rules and units into distinct processing operations and informational units in such a way that different rule types of the grammar are associated with different processing functions" (Bresnan (1978: 3)).

She assumes therefore that the syntactic and semantic components of the grammar should correspond psychologically to an "active, automatic processing system that makes use of very limited short-term memory," while the "pragmatic procedures for producing and understanding language in context belong to an inferential system that makes use of long-term memory and general knowledge." From the extreme rapidity of language comprehension, she concludes that the grammar should "minimize the information that requires grammatical processing and maximize the information that permits referential interpretation," since "it is easier for us to look something up than to compute it" (Bresnan (1978: 14)). In other words, the more information which can be assigned to the lexicon, instead of to the syntactic component of the grammar, the more psychologically real the grammar.

If the lexicon contains functional structures like the ones described for the verb eat, Bresnan claims that we can achieve efficiency in grammatical processing, because the logical relation of a word we know is immediately extractable from the syntactic form in

which it appears, or vice versa. And at the same time, the various syntactic forms in which a verb appears are semantically stable, since they are associated with the same underlying logical relation by operations like the active-passive relation.

In contrast, previous theories of transformational grammar provide for semantic stability at the cost of grammatical inefficiency, since complex sentences can be related to semantically interpretable structures only through long chains of transformational operations on syntactic structures. But the lexical operations in Bresnan's theory need not be involved in grammatical processing at all, as lexically expressed relations such as active-passive may belong to a universal "logic of relations" by which the lexicon--the repository of meanings--can be organized (cf. Bresnan (1978: 22-23)).

Thus, the assumption that the relatedness of active and passive can be attributed to a lexical operation satisfies some of the criteria Bresnan establishes for the psychological reality of a grammar. The active-passive relation is not included in the automatic processing system which makes use of short-term memory, but instead is assigned to the inferential system of the lexicon, making use of long-term memory. The active-passive relation is therefore assumed to be one which is "looked up" instead of "computed." The requirement that a psychologically real grammar should contain explicit realization mappings to psychological models of language use is met by defining a set of lexical functional structures that provide a direct mapping from the logical argument structures of the verb and its various syntactic contexts.

In summary then, Bresnan advocates lexical rules over transformational rules for the sake of psychological reality, since lexical rules correspond more closely to possible analogues of mental operations involved in actual language use.

These arguments, based on notions of 'psychological reality' and 'grammatical efficiency' would be more compelling if it were not for the fact that there exist undisputedly grammatical sentences which are nonetheless often completely uninterpretable. Centre-embedding constructions for example, such as Jack built the house the malt the rat the cat killed ate lay in, seem to show that procedures of grammatical processing are not in any direct one-to-one correspondence with the theoretical devices which have to be postulated in a competence model of language. (This observation is due to R. Kempson (personal communication)).

It is nevertheless true that the appeal to lexical rules instead of transformational rules to describe relatedness between structures has advantages other than the obvious, but perhaps impossible one of making grammars more like processing models.

One such advantage is noted by Anderson, who observes that "whenever a transformation can be equally well formulated as a lexical relation, the number of steps between underlying and surface structure is reduced, along with the degree of abstractness of the former" (Anderson (1977: 364)). Furthermore, if rules to which individual items may be idiosyncratically exceptional are treated as lexical, the statement of the idiosyncrasy, which has to be provided for in the lexicon, may be made only once and dispensed with elsewhere. The notion of transformational rule government could be abandoned if operations having idiosyncratic exceptions were lexical.

Bresnan in fact makes the strong proposal that all lexically governed, bounded and structure-preserving processes can be treated lexically. As Hoekstra, Hulst and Moortgat (1980) point out, this proposal does not stretch the concept of lexical rules beyond what had always been assumed to be their power. They remark that "the properties of governance, boundedness and structure-preservation can

be derived from the fact that lexical rules relate entries associated with finitely specified subcategorization features that must be satisfied by base-generated structures" (op. cit.: 10) In a transformational approach, these properties must be explicitly stipulated and thus remain unexplained.

Such are the advantages of lexical rules then that Anderson suggests that "as soon as lexical rules are admitted to the grammar at all, then, the burden of proof shifts to the analysis in which a transformational account of a [bounded, structure-preserving] process is suggested" (Anderson (1977: 365)).

In Bresnan's (1978) framework then, transformations are not wholly abandoned, but are retained to describe long-distance processes which fall beyond the local scope of lexical rules. A rule such as Question Movement appears to be an unbounded structure-dependent rule which deforms basic sentence patterns (or restores them if applying inversely), and is not function-dependent, serving to associate displaced phrases with their functional positions.

Given then that it is desirable to describe as many grammatical processes as we can lexically, it remains to be determined whether it is possible to do so in the case of French clitics. In the following sections therefore, I will attempt to determine whether processes involving clitics are amenable to a lexical treatment, and will examine in particular the conflicting claims about se made by Kayne and Grimshaw.

6.2 Non-Reflexive Clitics: Lexical or Transformational Treatment

The principal facts to be accounted for in an analysis of non-reflexive clitics are that these pronouns satisfy the subcategorization requirements of verbs (and other predicates) and that they are in complementary distribution with the noun phrase and prepositional

phrase complements to which they correspond. Kayne's (1975) transformational analysis assumes that pronouns are introduced in NP positions in the base, and that under certain conditions, a transformation of Clitic Placement moves direct and indirect object pronouns to pre-verbal positions. A lexical analysis would assign the subcategorization features [direct object clitic ____] to verbs already having the feature [____ NP], and [indirect object clitic ____] to verbs already having the feature [____ à NP]. Descriptively, the two approaches seem to be equivalent, and given the theoretical advantages of lexical rules, the latter treatment would appear to be preferable.

If all non-reflexive clitics corresponded to complements for which the verb was strictly subcategorized, there would be no need of a transformation like Clitic Placement. However, these object clitics do appear with verbs which are not subcategorized for direct or indirect object complements. Consider, for example, that the following verbs do not take indirect object complements:

- (13) a. devenir (to become)
 b. *Elle deviendra à Marie
 'She will become to Marie'
- (14) a. rester (to stay, remain)
 b. *Nous resterons à nos amis
 'We will remain to our friends'

The clitic versions of these underlined complements are equally bizarre.

- (15) a. *Elle lui deviendra
 b. *Nous leur resterons

The impossibility of these examples is explained in a lexical approach by the non-assignment of the feature [indirect object clitic ____] to these verbs, since they are not subcategorized for indirect

object complements. The appearance of the clitic is therefore linked to the strict subcategorization requirements of the verbs they precede. The lexical approach leaves unexplained therefore the fact that the sentences in (16)-(17) are grammatical.

- (16) a. Elle deviendra de plus en plus indifférente à Marie.
'She will become more and more indifferent to Marie!'
b. Elle lui deviendra de plus en plus indifférente.
- (17) a. Nous resterons fidèles à nos amis.
'We will remain faithful to our friends.'
b. Nous leur resterons fidèles.

If it is a necessary condition on the occurrence of clitics that the verbs be strictly subcategorized for NP or à NP complements, then the appearance of lui, leur is anomalous in (16)-(17), because they do not correspond to complements of devenir and rester. They are instead complements of indifférente and fidèles. These adjectives are subcategorized for à NP complements, which, if cliticised, do not attach to the adjective but to the verb. In the absence of any proposals to subcategorize verbs for adjectival complements, it is impossible to account for (16)-(17) b by means of a lexical rule, because information about a given lexical item does not include information about the complements of other lexical items. A transformation, however, operating on the terms of a proper analysis of a string takes no account of subcategorization features, and may deform basic structure so that elements are displaced to positions from which they would be excluded in basic structure. Unless an extension to the notion of 'subcategorization' can be made, whereby verbs like devenir and rester can be assigned the feature [indirect object clitic ____] when the verb has adjectival complements, it seems that a transformational approach to the question of non-reflexive clitics is more plausible.

Another problem faced by the lexical approach to these clitics stems from the particular distribution of clitics and strong form pronouns. Both full NPs and strong form pronouns must be generated under the node NP in basic structure. A lexical redundancy rule relating the absence of a postverbal NP to the presence of a preverbal clitic makes an incorrect prediction about the grammaticality of certain sentences. Such a rule, in Bresnan's terms, is assigned in psychological terms to the inferential system of the lexicon. One of the inferences of a rule like (18)

(18) [V NP] \longrightarrow [direct object clitic V]

is that a verb preceded by a direct object clitic corresponds to that verb followed by a direct object NP. If (19) is grammatical therefore, so too must (20).

(19) Nous les avons vus.
'We - them - have - seen'
'We saw them.'

(20) Nous avons vu les tableaux.
'We saw the paintings.'

Now, since strong form pronouns are also NPs, appearing after prepositions in clefts and ne . . . que constructions, verbs will accept strong form pronouns in their syntactic contexts just as they accept non-pronominal NPs, as in (21).

(21) Nous n'avons vu qu'eux.
'We saw only them.'

Rule (18) will therefore predict that (22) is as grammatical as (20).

(22) *Nous avons vu eux
'We saw them'

But (22) is acceptable only in conditions of contrastive stress, being ungrammatical under normal intonation. Since strong form pronouns must be generated in direct and indirect object positions to account for their presence there in the admittedly rare contrastive stress construction and the highly productive ne . . . que construction, the obligatory occurrence of a clitic in cases of no contrastive stress or absence of ne . . . que is not dealt with by a lexical redundancy rule. These rules cannot be optional; a given verb does not take a direct object clitic without also being able to take a direct object NP. A lexical redundancy rule cannot be suspended just in case one of the NPs for which a verb is subcategorized happens to be of a particular type (here, a strong form pronoun which is not restricted or stressed). A lexical rule appears therefore to be an inappropriate device to express these cliticisation facts.

Kayne's transformation of Clitic Placement does not encounter this problem, because it is obligatory. Accusative and dative pronouns in postverbal position must be fronted. Restricted pronouns fail to meet the structural description of the transformation, and so may remain postverbal. Kayne does not consider any sentence like (22) grammatical, though Herschensohn (1980: 190) finds it only marginally grammatical, while Y.C. Morin (1981) accepts it providing the pronoun receives some contrastive or emphatic stress. The only adjustment required in Kayne's framework to permit the appearance of a stressed strong form pronoun in direct or indirect object position is that the NP[PRO] target of the rule of Clitic Placement be marked with the feature [-STRESS]. In this way, only stressed strong forms will violate the obligatory nature of the transformation.

A third problem encountered by a proponent of the lexical approach to non-reflexive clitics is the appearance of en corresponding to an adnominal complement of the subject NP. In the

sentences below, en does not have a postverbal source.

- (23) a. L'usage ne s'en imposait vraiment.
 The-use of it-did not-impose-itself-really
 '= The use of it was not really necessary.'
- b. La nouvelle s'en est ébruitée.
 'The news of it became known.'
- c. L'envie m'en démangeait vraiment.
 The-desire of it-itched-me-really =
 'I was really dying to do it.
 (Examples from Y.C. Morin (1981: 97))

There are two difficulties here. The first is that en corresponds to a PP complement of an NP. Assuming that these verbs could be subcategorized for a preceding NP, a lexical rule predicting the occurrence of en would not have access to the information that this NP contained a PP complement to which en could correspond. That information would require an extension to the notion of strict subcategorization rules. Even if such an extension could be justified for object NPs containing PPs, permitting a lexical treatment of the relation between a and b in (24)

- (24) a. J'ai lu l'avant-propos de ce livre.
 'I read the foreword of that book.'
- b. J'en ai lu l'avant-propos.
 'I read its foreword.'

it could not be justified in the case of (23). The impossibility of subcategorizing the verbs of (23) for their subject NPs (and of further subcategorizing them for complements of this NP) follows from a general condition on strict subcategorization rules proposed in Chomsky (1965). He points out that the symbol V is introduced by the rule $VP \rightarrow V \dots$, and that it is frames dominated by VP that determine strict subcategorization of verbs. Since the subject NP does not figure in the VP, it may not appear as an element mentioned in the syntactic contexts permitted by the verb.

Since en corresponds therefore to a phrase located outside of the verb phrase in basic structure, a lexical rule cannot in principle have access to the information that the subject NP contains a PP headed by de, because verbs are not subcategorized for their subjects. But a transformational rule can displace en, whether pre- or postverbal, and move it to clitic position. So once again, without a radical revision to the notion of subcategorization rules, a lexical treatment of the en which corresponds to an adnominal PP complement of a subject NP must be rejected in favour of a transformational analysis. If lexical redundancy rules include more information than simply strict subcategorization features, then some of the force of this argument is lost. For example, Wasow suggests that other contextual features of verbs, such as selectional restrictions, should be included as part of the information available to lexical rules (Wasow (1977: 330)). And as Chomsky (1965: 155) indicates, the subject of a verb is included in that item's selectional restrictions. I assume, however, that it is still the case that lexical rules do not have access to information about the subparts of neighbouring categories, and thus would not be sensitive to the presence or absence of adnominal en in subject or object NPs.

There are then at least three reasons for assuming a transformational analysis of non-reflexive clitics in French. The clitics appear attached to verbs which are not themselves subcategorized for direct or indirect object complements; they do not occur as optional alternate realizations of postverbal strong form pronouns, which a lexical redundancy rule would predict; and they may correspond to positions within noun phrases to which lexical rules do not have access in principle. It is interesting to note that Grimshaw assumes without argument that a transformational analysis of non-reflexive clitics is correct, and shifts the burden of proof to proponents of a lexical

analysis of cliticisation to show how it can describe the facts equally well.

We assume therefore that Kayne's rule of Clitic Placement is the appropriate descriptive device for non-reflexive clitics in French.

6.2.1 Application of these Arguments to Reflexive Clitics

The arguments against a lexical treatment of non-reflexive clitics given above do not apply to reflexive clitics.

Though the strong forms of non-reflexive and reflexive pronouns may appear as adjectival complements in sentences like (25)-(27) a, only the non-reflexive pronouns may occur as clitics in b.

- (25) a. Elle est souvent indifférente à elle-même.
'She is often indifferent to herself.'

b. *Elle s'est souvent indifférente.

- (26) a. Elle n'est pas infidèle à toi.
'She isn't unfaithful to you.'

b. Elle ne t'est pas infidèle.

- (27) a. Tu es infidèle à toi-même.
'You are unfaithful to yourself.'

b. *Tu t'es infidèle.

The reflexive clitics, in other words, do not seem to correspond to NP or à NP complements of these adjectives. The failure of se and the other reflexive clitics me, te, nous and vous to occur in sentences like (25)-(27) cannot be attributed to an incompatibility between the verb être and reflexives, for two reasons. First, this same verb être serves as the auxiliary of perfect aspect for all reflexive verbs, as in (28):

- (28) Elle s'est souvent regardée dans la glace.
'She has often looked at herself in the mirror.'

And second, the class of 'predicative' verbs, such as described by Couquaux (1979: 255) rejects these reflexives as well.

(29) *Elle se restera indifférente.
'She will remain indifferent to herself.'

(30) *Tu te deviendras infidèle.
'You will become unfaithful to yourself.'

A possible conclusion from these facts is that if se and the other reflexives do correspond to NP or à NP complements, these complements must be phrases for which the verb itself is subcategorized, and not complements of adjective phrases, for example, for whose internal elements the verb is not subcategorized. Another possible conclusion, of course, is that se is base-generated in clitic position.

The incompatibility of se with these adjectives is an unresolved problem. See, for example, Kayne (1975: 377 n). What is obvious, though, is that the first argument used in 6.2 against a lexical approach to non-reflexive clitics does not appear to be applicable to reflexive clitics, since in (25)b and (27)b, reflexive complements of adjective phrases are not able to be cliticised.

The second argument against a lexical treatment of non-reflexive clitics was based on the prediction that direct and indirect object clitics could correspond to postverbal strong form pronouns under normal intonation. A lexical redundancy rule had no way of denoting that strong form pronouns were exceptional types of noun phrases in that they do not appear 'bare', or unmodified, except in special circumstances.

If the distribution of reflexive clitics and strong form reflexive pronouns was similar to the distribution of non-reflexives and their strong forms, we would expect that the sentences of (31) would be ungrammatical for the same reason as (22) is ungrammatical.

- (31) a. Marie aime elle-même.
'Marie loves herself.'
- b. Marie écrit à elle-même.
'Marie writes to herself.'

Couquaux (1977: 137), however, gives (31)a as much more acceptable than (31)c.

- (31) c. Marie_i aime elle_i

while he considers (31)b as "perfect."

The clitic versions of (31)a and b are given in (32):

- (32) a. Marie s'aime.
b. Marie s'écrit.

If we assume that se corresponds to a direct or indirect object pronoun which is coreferential with the subject, and that in uncliticised form this pronoun is marked with -même, then a lexical redundancy rule can easily state this relationship. No obligatory transformation will be required to exclude sentences like (31), because they are in fact grammatical. The complementary distribution of se and Pro-même apparent in (31)-(32) therefore provides no evidence in favour of a transformational treatment of se, and appears to be just as easily stateable as a lexical redundancy rule.

The third argument against a lexical approach to non-reflexive clitics was based on the appearance of en from a subject NP source. Since verbs do not subcategorize their subjects, a transformation was considered a more appropriate device for accounting for such en. But se never corresponds to a subpart of subject noun phrases; it corresponds only to objects. Thus, in (33)b, se is understood to be coreferential with amis, and not with enfants.

- (33) a. Les amis de ces enfants amusent ces enfants.
 'The friends of these children entertain these children.'
- b. Les amis_i de ces enfants_j s_i'amusent.
 'The friends of these children entertain themselves.'
- c. *Les amis_i s_j'amusent ces enfants_j.

Since se then must apparently correspond to phrases which the verb can subcategorize, there is no reason to prefer a transformational over a lexical solution to the problem of se, at least on the basis of the facts given above. In the following section I shall examine a broader range of facts for evidence relevant to the choice of one approach or the other in the analysis of se.

6.3 Reflexive Clitics. Lexical or Transformational Treatment?

In 6.2, evidence was presented in favour of a transformational approach to non-reflexive clitics. But in 6.2.1, it was shown that these arguments had no force when applied to reflexives. It seems then that for reflexive clitics, neither approach is excluded a priori, and that one approach or the other should be justified.

One way of making a principled choice between a lexical and a transformational analysis of se is to examine the properties of the two types of rules. If the syntax of se can be more easily described in terms of rules defined by a certain set of properties, then the choice is obvious. The rule type to be avoided will be the one which forces us to make ad hoc accommodations or to propose otherwise unjustifiable structures simply to make the rules work. And if both rule types leave residues of unexplained facts, each easily handled by the other rule type, then the conclusion appears to be inevitable: two types of rules are at work in the derivation in question.

I shall argue in this section that the syntax of reflexive clitics does not allow a clear choice between a lexical or a transformational treatment, and that we must suppose that both rule types

operate in the derivation of the full range of se.

Wasow's (1977) investigation of the properties of lexical and transformational rules contains a list of criteria which can be used to distinguish these rule types. In his examination of the traditional rule of Passive, Wasow clarified the differences between lexical and transformational rules, and then applied these criteria to active and passive verb forms. He concluded that there are two quite distinct systematic relations between these forms, one lexical and the other transformational, each with their own well-defined set of properties. It is interesting to note that in a later paper, Wasow (1980) reanalyzes certain bounded processes, such as 'verbal passives', which he had earlier considered to be transformational operations, as lexical rules. This reanalysis involves an enrichment of functional structure with thematic information, and certain assumptions about the subcategorization frames of 'Raising to Object' verbs. In particular, verbs like persuade, which he earlier considered to be V S structures, are now taken to be V NP \overline{VP} structures. In this way passives of the type Robin was persuaded to leave early, which could not be handled lexically in a V S analysis of persuade because the fronted NP was not mentioned in the subcategorization frame of the verb, can be treated lexically, since the 'fronting' of the NP is a bounded process under the V NP \overline{VP} analysis.

The criteria proposed for distinguishing transformational and lexical rules in Wasow's 1977 paper have only been altered in one respect: Wasow now hypothesizes that there are no structure-preserving transformations, while he previously held that transformations may, but need not, be structure-preserving. These criteria provide the required tests for determining which rule type is more appropriate to describe the syntax of se.

6.3.1 The Criterion of Unsystematic Exceptions

Wasow points out that transformations are more productive than lexical rules, a feature which follows from the conception of the lexicon as the "receptacle of idiosyncratic information about the elements of the vocabulary of a language" (Wasow (1977: 330)). As it was largely the idiosyncrasy of English nominalizations which motivated the lexicalist hypothesis, it is natural that lexical rules should be conceived of as freely allowing unsystematic exceptions. Wasow claims that transformations, in contrast, are exceptionless "in the sense that apparent singularities are in fact systematic and predictable" (op. cit.: 330), and believes that even if this claim is untenable, that lexical rules are generally far less productive than transformations. The existence then of many exceptions to a relationship is taken as evidence for handling the relationship in the lexicon.

There are many instances of the exceptional behaviour of se. A good number of verbs occur exclusively with the reflexive clitic, and have no non-reflexive counterpart. For example the following verbs are reflexive only:

(34)	se	désister (de)	(to stand down, withdraw)	*désister
	s'	abstenir (de)	(to refrain, abstain)	*abstenir
	se	repentir (de)	(to repent)	*repentir
	s'	arroger	(to assume (without right))	*arroger
	s'	évanouir	(to faint)	*évanouir
	se	dédire	(to recant)	*dédire
	se	souvenir (de)	(to remember)	*souvenir
	s'	imaginer	(to imagine)	*imaginer

In a transformational account, a postverbal source for these inherent se would have to be supposed, despite the fact that the verbs on the right never appear with any sort of object, reflexive or non-reflexive.

- (35) a. *Elle ne souvient que (d')elle-même.
'She only remembers herself.'
- b. *Elle souvient de son idée.
'She remembers her idea.'
- (36) *Ce n'est pas de lui-même / de ses idées / de sa négligence
qu'il repentit.
'It's not himself / his ideas / his negligence that he is
repenting for.'

To explain these intrinsic or inherent reflexive clitics in transformational terms would require the postulation of a source similar to the ungrammatical sentences in (35) and (36). Kayne's rule of Se-Placement marks a postverbal proform as [+ REFLEXIVE] and moves it, with appropriate morphological form, to preverbal position. The underlying structure for (37)a therefore would be (37)b.

- (37) a. Elle se souvient de ses idées.
'She remembers her ideas.'
- b. *Elle souvient PRO+R de ses idées.

It is then necessary to provide a plausible explanation of why (35) and (36) are incorrect, because if (37)b, with its postverbal reflexive pronoun, is a permitted deep structure, it should follow that strong form reflexives in -même, and non-reflexive objects, should also be able to appear postverbally. In other words, the transformational approach has to explain why no object other than se may occur with souvenir or évanouir, and why no indirect object other than se may occur with imaginer or arroger.

Ruwet's (1972) explanation for the ungrammaticality of the sentences in (38)b-f is based on the obligatory coreferentiality of the subject and object of évanouir.

- (38) a. Pierre s'est évanoui.
'Pierre fainted.'
- b. *Pierre a évanoui Paul.

- c. *Pierre a évanoui à Paul.
- d. *Le choc a évanoui Pierre.
- e. *Pierre n'a évanoui que (à) lui-même.
- f. *C'est (à) lui-même que Pierre a évanoui.

Ruwet first considers the possibility of treating évanouir like an ordinary transitive verb, which is subject to a condition that its subject and object are obligatorily coreferential. Such a solution has been proposed for English verbs like behave and perjure, which only permit reflexive objects, and would explain the ungrammaticality of (38)b-d. But in English, direct object reflexives only appear post-verbally and not in preverbal clitic position as in French. Sentences (38) e and f show that more than an obligatory coreferentiality condition is required to make them grammatical. Se Placement would have to apply obligatorily to any coreferential object, so that the strong form reflexive pronoun would never appear. Ruwet avoids this conclusion by comparing (38) e and f to sentences like (39) a and b.

- (39) a. C'est Marie que Pierre a embrassée.
'It's Marie that Pierre kissed.'
- b. Hamlet n'a aimé qu'Ophélie.
'Hamlet loved only Ophelia.'

He claims that what is presupposed in these sentences is that Pierre kissed someone and Hamlet loved someone, while what is asserted is Marie and only Ophelia. Furthermore, he claims there can be no presupposed/asserted distinction unless there exists a certain freedom in the choice of objects for the verbs embrasser and aimer. If a verb is specified in the lexicon as having an obligatorily coreferential subject and object, there can be no freedom in the choice of object, and therefore no presupposed/asserted distinction. The sentences (38) e and f would therefore simply be semantically absurd, and would not constitute a counter-example to the claim that Pierre s'évanouit

is derived from the underlying transitive construction *Pierre évanouit PRO+R. (cf. Ruwet (1972: 100-101)).

This argument is invalid for two reasons. First, in sentences whose structure does not highlight a supposedly asserted element, as the cleft and restricted sentences in (39) do, the strong form reflexive pronoun is still impossible. Recall that the NP V NP structure in (31)a was considered marginally acceptable.

(31) a. ? Marie aime elle-même.

A similar unmarked structure for évanouir is impossible.

(40) a. *Pierre évanouit lui-même.

An uncliticised reflexive pronoun in indirect object position in (31)b was "perfect"; with évanouir no indirect object is possible.

(31) b. Marie écrit à elle-même.

(40) b. *Pierre évanouit à lui-même.

So even in constructions not designed to underscore what is presupposed and what is asserted, no object, not even a reflexive object, may occur with this verb. To maintain the presupposed/ asserted argument even in the light of the ungrammatical status of (40) a and b would require equating direct objects with the semantic notions comment, focus, new information, etc., a position which is clearly untenable. Nor can the ungrammatical nature of (40) a, b be attributed to the non-application of an obligatory rule of Se-Placement, because (31) a and b have undergone no such rule and are nonetheless acceptable.

A second reason why the presupposed/ asserted argument is wrong is that there are inherently reflexive verbs whose clitic is clearly an indirect object. For example, s'imaginer takes the full range of 'imaginable' direct objects, as long as a clitic coreferential with

the subject also appears.

- (41) a. Jean s' imagine toutes sortes de choses.
'Jean imagines all sorts of things.'
- b. *Jean imagine toutes sortes de choses à lui-même/à Pierre.

No matter how the object of imaginer is highlighted, the sentence will be ungrammatical unless it contains a reflexive indirect object. Sentence (41)b is patently not semantically absurd; it is ungrammatical because the verb lacks its intrinsic clitic. Ruwet then concludes, on the basis of this second argument, that inherently reflexive verbs like s'imaginer and s'évanouir be entered in the lexicon as reflexives, and that they are not, after all, derived from verbs taking an obligatorily coreferential direct or indirect object.

Kayne, however, would nevertheless like to maintain the claim that se, even in inherent reflexives, has a postverbal source. One argument he uses is based on past participle agreement, which in French is of two types. In passives, and in intransitives whose aspectual auxiliary is être, the past participle agrees with the subject. In verbs conjugated with avoir, agreement is with the preceding direct object, and is furthermore obligatory only in more carefully monitored registers. In conversational French, agreement is often not made. Reflexive verbs, even the class of inherent reflexives, display the agreement pattern of avoir verbs. That is, they optionally agree with the preceding pronoun, suggesting that the se in examples like (42) is a preposed direct object.

- (42) Elle s'est dédit(e) le lendemain.
'She recanted the following day.'
(example from Kayne (1975: 389))

Despite the fact that this verb does not otherwise take direct objects, the se of se dédire (and of other inherent reflexives) may trigger past participle agreement like other preceding direct objects which do

have an obvious postverbal source. Hence, even these intrinsic se's can be presumed to have a postverbal source.

This argument, however, rests on a very insecure foundation. Past participle agreement, in both avoir transitives and reflexive verbs, is subject to much confusion and indecision, even in literary French. Harmer (1979) cites numerous cases of non-agreement in reflexives, as well as many instances of agreement where no agreement is called for, made by even the most grammatically scrupulous authors. Verbs like s'imaginer (to imagine), se jurer (to vow, promise), se froter (to rub), se procurer (to obtain, to get), se donner (to give to oneself) may all be followed by NP direct objects, while se is indirect. Even with these verbs though, agreement is often made.

- (43) a. Elle s'était imaginée que. . . .
'She had imagined that. . . .' (Proust)
- b. . . . ils se sont frottés le museau . . .
'they rubbed noses.' (Anouilh)
- c. Ils s'étaient procurés des chambres d'hôtel.
'They had got hotel rooms.' (Romains)
- d. La fantaisie et l'imagination de l'auteur se sont données
libre cours.
'The fantasy and imagination of the author were set free.'
(i.e. "gave free rein to themselves") (Pillement)
(examples from Harmer (1979: 77-78))

These examples, in fact, reflect the state of affairs with respect to agreement in older forms of French. Stéfanini (1962) shows that past participle agreement with reflexive verbs in Old and Middle French is like agreement with passives and intransitives conjugated with être. In all three cases, the participle agrees with the subject. He points out elsewhere that the alignment of reflexive verbs and transitive avoir verbs with respect to past participle agreement is an artificial process imposed by normative grammarians, and that dialectal and popular French preserve the old pattern of subject agreement. (Stéfanini (1971: 114, n 9)).

Kayne's example (42) can then be seen as a case of subject agreement, like the examples in (43), where se is obviously not a direct object. To maintain the argument that se had a postverbal source in (42) and thus triggered optional agreement would require a similar argument to account for the agreement in (43). Such an argument is not available, because in (43) the direct objects are noun phrases which follow the verb. Agreement phenomena therefore do not provide a sure indication of the object status of se in inherent reflexives, since in many cases it is the subject which appears to trigger the agreement.

Kayne proposes another argument for the derivation of inherent se from a postverbal source. He observes that it is necessary to explain why the only object which these verbs may take is the underlying PRO+R form. No other NP, not even a strong form reflexive pronoun, may appear on the surface after these verbs. Kayne excludes postverbal objects with these verbs by positing a constraint on inherently reflexive verbs such that they may not occur with an accusative (i.e. direct object) NP or, in the case of verbs like s'imaginer, with a dative à NP (i.e. an indirect object). Support for this constraint comes from the fact that ordinary reflexives allow a Pro-même form to co-occur with se in sentences like (45), whereas inherently reflexive verbs do not allow such Pro-même strong forms to appear after them, as (44) indicates.

- (44) a. *Jean s' imagine Paul à lui-même.
'Jean_i imagines Paul_j (to himself_i).'
b. *Jean s' imagine à lui-même que tout est bon.
'Jean imagines (to himself) that all is well.'
- (45) a. Quand on se parle à soi-même . . .
'When one talks to oneself. . . .'
b. Jean s'écrit à lui-même de très longues lettres.
'Jean writes some very long letters to himself.'
(Kayne (1975: 392))

If we assume that this constraint operates at a point in the derivation of these sentences after Se-Placement, (44) will be

excluded because the à NP phrases à lui-même co-occur with se. The constraint does not consider the clitic se as a dative à NP with s'imaginer, or as an accusative NP with verbs like s'évanouir, because se in preverbal position has a "derived non-NP status." That is, it is placed under the V node by Se-Placement, and is no longer an NP. Since other clitics also have the same derived non-NP status, the constraint will have to operate before the rule of Clitic Placement, since (46) a and b are both ungrammatical.

- (46) a. *Elle a évanoui Marie.
'She fainted Marie.'
b. *Elle l'a évanouie.
'She fainted her.'

Further support for such a constraint comes from consideration of the semantic interpretation of verbs which can take both reflexive pronouns and non-reflexive direct object noun phrases. Kayne claims that when the direct object is non-reflexive, the verb receives a 'literal' interpretation, as if something is being done to someone else. When the object is reflexive, however, the interpretation is different, and the literal reading is lost to a more natural one, describing a movement by the subject. Thus in (47), the direct objects of jeter (to throw) have been physically picked up and tossed out the window.

- (47) a. Elle a jeté le jouet par la fenêtre.
'She threw the toy out the window,'
b. Elle n'a jeté par la fenêtre que lui/son frère.
'She threw only him/her brother out the window.'

But (48) is odd since the literal meaning of jeter is the only one available in the presence of the postverbal direct object.

- (48) ? Elle n'a jeté par la fenêtre qu'elle-même.
'She threw only herself out the window.'

In (49) however, the 'natural' interpretation is available.

- (49) Elle s'est jetée par la fenêtre.
'She threw herself out the window.'

The difference then between ordinary reflexives like se jeter and inherent reflexives like s'imaginer and s'évanouir is that only the natural reading is permitted for inherent reflexives, and that no 'literal' interpretation is available. Inherent reflexives would therefore be semantically peculiar in that the only reading allowed is one involving the subject acting on herself, and syntactically peculiar in that the object coreferential with the subject must appear in clitic form.

Kayne extends and adapts the constraint on the appearance of non-clitic reflexive pronouns and other accusative/dative NP's to verbs whose meaning changes when they co-occur with a reflexive clitic. The verb plaindre, for example, means 'feel sorry for', but se plaindre means 'to complain'. Compare the a and b examples in (50).

- (50) a. Elle plaint son mari.
'She feels sorry for her husband.'
- b. Elle se plaint de son mari.
'She complains about her husband.'

Kayne would claim that the 'literal' meaning of "feeling sorry for" disappears when there is no direct object noun phrase present in the sentence. (Recall that se is not considered to be an NP in (50)b.) The 'natural' reading of the verb is therefore "to complain," and the presence of a direct object NP forces a change from a natural to a literal interpretation.

Kayne does not pursue his suggestion any further. If the proposal he makes is examined in more detail, however, it appears to be untenable. The claim Kayne seems to be making is this: there is a large number of verbs which have both transitive and reflexive forms. Ordinary reflexives have a straightforward semantic relation to their transitive counterparts, in that the activity performed by the subject on some object in the transitive form is the same activity performed

by the subject on the subject in the reflexive form. Thus, laver (to wash) and se laver (to wash oneself) both denote a process which subjects can equally well direct towards themselves or something other than themselves. Another class of verbs, however, is associated with two distinct semantic interpretations. One of these is a 'literal' reading, another is the 'normal' or 'natural' reading. The presence of an object forces the literal reading; the absence of an object along with the presence of se brings out the normal interpretation. Hence the two meanings of plaindre in (50) above.

If this is a correct interpretation of Kayne's claim, then a number of questions arise. For example, in what sense is "to feel sorry for" a literal version of "to complain"? The verb complain may imply feeling sorry for oneself, but even though such a sentiment may provoke a complaint, much more is implied. For many verbs having both a non-reflexive and a reflexive version, the semantic relationship between them is not at all transparent, and not attributable to a literal/natural distinction. The verbs in (51) are just a few of the many such pairs whose meaning is only tenuously linked.

(51) mourir	'to die'	se mourir	'to be on the point of dying'
passer	'to pass'	se passer	'to happen'
expliquer	'to explain'	s'expliquer	'to fight'
battre	'to defeat'	se battre	'to fight'
faire	'to do, make'	se faire à	'to get used to'
connaître	'to know'	se connaître à	'to be an expert in'
jouer	'to play'	se jouer de	'to enjoy'
porter	'to carry'	se porter	'to be in good/bad health'
		bien/mal	
trouver	'to find'	se trouver	'to be (located)'
douter	'to doubt'	se douter de	'to suspect'
aviser	'advise, inform, notify'	s'aviser de	'become suddenly aware'
tromper	'to cheat'	se tromper	'to be wrong'
rendre	'to give back'	se rendre à	'to go to'
rire	'to laugh'	se rire de	'to make light of; to laugh off'
dépenser	'to spend'	se dépenser	'to do one's utmost'
employer	'to use'	s'employer	'to devote oneself'

From these few examples, it is obvious that a very flexible notion of 'literal' and 'natural' is going to be necessary in order to account for the unsystematic meaning differences between the members of these pairs. If the relation between these pairs is indeed transformational, and if the transformation of Se-Placement shares the property of preserving meaning along with other transformations, then there will be a large number of verbs entered in the lexicon with two more or less distinct meanings, with one or the other of these meanings suppressed according to whether or not an object noun phrase is present in the sentence.

If we accept the correctness of this view, we also accept that if no object noun phrase is present, the semantic reading of the verb will be the 'normal' or 'natural' one. Kayne attributes the differences in meaning between plaindre and se plaindre, not to the presence of se, but to the presence of the object son mari with plaindre.

But the 'literal' reading does not necessarily disappear in the absence of an object. Consider the sentences in (52)-(57) below, where both meanings are possible despite the lack of an object noun phrase.

- (52) a. Je me suis expliqué avec cet idiot de Pierre.
'I had it out with that idiot Pierre.'
- b. Je me suis expliqué mal.
'I explained/expressed myself badly.'
- (53) a. Je me connais en mécanique.
'I'm an expert mechanic.'
- b. Je me connais très bien.
'I know myself very well.'
- (54) a. Elle se plaint de son sort.
'She complains about her fate.'
- b. Elle se plaint à cause de son sort.
'She feels sorry for herself because of her fate.'
- (55) a. Elles se sont rendues à Paris.
'They went to Paris.'
- b. Elles se sont rendues à la police.
'They gave themselves up to the police.'

- (56) a. Paul s'emploie pour ce travail.
'Paul devotes himself to this work.'
- b. Paul s'emploie comme cobaye pour cette expérience.
'Paul is using himself as a guinea-pig for this experiment.'
- (57) a. Je me suis trompé de chapeau.
'I took the wrong hat.'
- b. Je me suis trompé.
'I cheated myself.'

Since both meanings are apparent in these sentences, it is impossible to attribute the more basic or 'literal' meaning to the presence of an object noun phrase. It seems then, contrary to Kayne's claim, that it is the presence of se, rather than the absence of an object NP, which causes the 'natural' reading to emerge, and furthermore that this 'natural' reading is not obligatory in the absence of an object, as the b sentences above indicate.

If we re-examine Kayne's claim, we can see that it is based on slim evidence. The failure of Pro-même pronouns to appear along with inherent reflexives is interpreted by Kayne as an illustration of the inability of such verbs to occur along with direct or indirect object noun phrases. Yet the same fact could have been seen as evidence that these intrinsic reflexive clitics do not have a postverbal source, and cannot therefore be associated with a postverbal Pro-même emphatic pronoun. What seems more plausible is to equate the Pro-même pronouns which appear in sentences like (45) (i.e. along with se as part of the clause, and not in a detachment construction) with those which appear as 'reduplicative' or 'reinforcing' pronouns in sentences like (58) below.

- (58) a. Je veux le_i voir lui-même_i
'I want to see him himself (i.e. in person)
- b. Paul veut que Marie lui_i parle à lui-même_i
'Paul wants Marie to talk to him (himself)

- c. Nous voulons voir le patron lui-même;
 'We want to see the boss in person (himself).
 (examples from Couquaux (1977: 129))

In both (45) and (58), Pro-même is part of the VP: it is not separated from it by comma intonation. And in both cases, its antecedent is a noun (le patron), or a pronoun which has an obvious postverbal source. The fact that such Pro-même forms fail to occur with inherent reflexives can perhaps be seen as a consequence of the lack of an obvious postverbal source with which a Pro-même pronoun can be associated. Thus the ungrammatical status of (44) might be attributed to the fact that se in inherently reflexive verbs does not have a postverbal source, and that no undetached Pro-même form can therefore be linked with se.

The literal/natural distinction on which Kayne based his constraint also seems founded on slim evidence. The verbs he uses to show the distinction are jeter (to throw) and hisser (to pull/lift up), and he points out that the physical movements accomplished by the subject are different when directed towards some other human object than when directed towards the subject. Throwing or pulling someone else necessarily involves different physical actions from those involved in throwing yourself from a window or pulling yourself up on to a table, for example. But what Kayne claims is that the semantic interpretation of the verb is therefore sensitive to the presence of postverbal, non-derived objects. I would claim, on the contrary, that it is only extralinguistic knowledge that allows us to realize that different physical movements are required in these cases when the subject acts on herself/himself. One can imagine a state of affairs in which throwing or pulling oneself was similar to throwing or pulling other people. Strong, remote-controlled artificial limbs which detach rapidly like ski-bindings might allow people to throw themselves into the air, if they felt so inclined. An automatic block-and-tackle apparatus would

allow one to pull oneself up onto a table in exactly the same manner as pulling other people up. In such situations then, the sentences quoted by Kayne as questionable because only the 'literal' interpretation was available in the presence of an NP object cease to be odd in the least. (repeated in (59))

- (59) a. Elle n'a jeté par la fenêtre qu'elle-même.
'She threw only herself out of the window.'
- b. Elle n'a hissé sur la table qu'elle-même.
'She pulled only herself up onto the table.'

Given some imagination, the oddity of the 'literal' interpretation with a reflexive object disappears, and along with it the claim that the lack of a postverbal object NP permits a 'natural' reading. It seems instead that only our knowledge of the world allows us to know whether subjects' activities will differ according to whether they are directed back towards themselves or towards someone else. In any case, as the examples in (51) demonstrate, the difference in meaning between verbs according to whether or not they are preceded by a reflexive clitic can hardly be ascribed to any meaningful distinction between 'literal' and 'natural'.

We therefore reject Kayne's claim that the se in inherent reflexives can be derived from a postverbal source by the rule of Se-Placement. This source is highly implausible, since the verbs in question are not subcategorized for any postverbal direct (or, for s'imaginer-type verbs, indirect) objects. We accept instead that verbs with intrinsic reflexive clitics are directly entered in the lexicon as inherently reflexive. Se will be considered a kind of affix, one which changes morphologically for non-third person subjects, and which changes position in the presence of other clitics (se is always the leftmost clitic in any sequence of clitics) and of the auxiliary (se attaches to the auxiliary).

Inherent se appears then to conform with one of the characteristics listed by Wasow as criteria for lexical rather than transformational treatment. Among verbs which appear with reflexive clitics attached, these inherently reflexive verbs constitute an unsystematic exception, because they do not correspond to a transitive verb which can take both non-reflexive and reflexive objects. As an isolated, non-productive sub-class of reflexive verbs, not linked with any other verb in a systematic way, they can be considered as simply listed in the lexicon. As Grimshaw (1980: 63, n.12) observes, they are not the output of any lexical rule, constituting instead separate lexical entries.

Furthermore, the verbs in (51) should also be treated lexically. The semantic correspondences between the non-reflexive and reflexive pairs are not predictable on the basis of the meaning of the non-reflexive verb. As Ruwet points out, these correspondences are rather "capricious and idiosyncratic," and not what would be expected if there were a transformational link between them (Ruwet (1972: 103)). These verbs display the characteristic of being unsystematically exceptional on the semantic level, and should therefore be listed as such in the lexicon. Grimshaw, arguing for a lexical treatment of both inherent reflexives like s'évanouir which lack any base évanouir, and reflexives like se trouver, which have a base trouver whose meaning does not allow an accurate prediction of the reflexive version, points out that such semantic drift is typical of well-established lexical rules such as rules of derivational morphology. We conclude, therefore, along with Ruwet and Grimshaw, that both inherent reflexives, and those reflexives whose semantic correspondence with non-reflexive counterparts are unpredictable, should be listed as separate lexical entries and not derived by a transformation.

6.3.2 The Criterion of Structure Preservation

Wasow (1977: 328-331) indicates that one of the properties of lexical rules is that they may not deform basic structures. The structures produced by such rules must be generable by rules of the base. Transformations, however, may result in structures which the base rules will not produce. For example, WH-Movement may displace an element from a position in its own clause to a position outside that clause. On the other hand, transformations may be structure-preserving, if their output could also have been produced by phrase structure rules. This criterion for determining rule types might therefore help choose between lexical and transformational analyses of non-inherent reflexive clitics.

If we could show that the clitic node to which se was attached in surface structure was not a node for which provision had to be made in basic structure, then we might conclude that se had to be transformationally derived. If, on the contrary, we could find evidence for providing such clitic nodes as expansions of the phrase structure rules, then the choice of a lexical or a transformational treatment of se, based on the property of preservation of structure, would be left open.

As indicated in the previous section, there is no plausible postverbal source for inherent se, and so the phrase structure rules will have to ensure that there is at least one clitic node generated which will dominate reflexive clitics in base structure. In addition to these reflexive clitics, there are other cases of idiomatic clitics which have no plausible source in non-clitic position. In (60)-(62) below, the pronouns are part of idiomatic expressions, and have no independent meaning.

- (60)
- | | | |
|----|---|--|
| a. | y avoir | 'to be' |
| b. | y regarder | 'to be choosy' |
| c. | s'y prendre | 'to manage' |
| d. | y paraître | 'to show' (intran.) |
| e. | y aller | 'go ahead, go too far'
(varies with context) |
| f. | il y va de | 'it's about . . . , it depends on . . . ' |
| | (Il y va de votre vie = Your life is at stake.) | |
| g. | y être | 'to understand' |
| | | (examples a-d from Y.C. Morin (1981: 95);
examples e-f from LeBidois (1968: 175)) |
- (61)
- | | | |
|----|---------------------------|---|
| a. | en avoir marre de | 'to be fed up with' |
| b. | en venir de | 'to resort to' |
| c. | s'en aller | 'to leave' |
| d. | il en est de même | 'the same goes for . . . ' |
| e. | en venir aux mains | 'to come to blows' |
| f. | ne pas en croire les yeux | 'not to believe one's eyes' |
| g. | en vouloir à | 'to hold a grudge against' |
| h. | en être | 'to be (homosexual, traitor,
atheist, etc.)' |
| | | (examples a-c from Y.C. Morin (1981: 95);
d-f from LeBidois (1968: 167);
g-h from Pogačnik (1976: 142-143)) |
- (62)
- | | | |
|----|--------------------|---|
| a. | l'emporter sur | 'to win over' |
| b. | l'avoir belle | 'to be at an advantage' |
| c. | l'échapper belle | 'to escape by the skin of one's
teeth' |
| d. | les mettre | 'to leave' |
| e. | la bailler bonne | 'tell a tall tale' |
| f. | la connaître | 'know one's way around' |
| g. | se la couler douce | 'to have it easy' |
| | | (examples a-d from Y.C. Morin (1981: 95);
e-g from LeBidois (1968: 137-138)) |

There appears then to be ample justification for positing base rules which will generate clitic nodes in deep structure. Emonds (1976: 226-331) uses idiomatic clitics to justify two such clitic nodes; if he had considered examples like those in (62), a third would have been required.

It would seem, therefore, that base structures similar to those generated by Emonds' expansion of \bar{V} as (PRO) (CL) V are present in deep structure. We cannot then use this criterion of structure-preservation vs. structure deformation to determine a lexical or a transformational analysis of se. A lexical relation between laver (to wash) and se laver (to wash oneself), for example, will conform to the lexical property of 'not affecting structure' because the structure clitic + verb has to be generated by base rules in any case. On the other hand, if the relation between se and the verb is transformational, it is also structure preserving, since any created structure reflects structures produced in the base.

Application of the criterion of structure-preservation then leaves open the choice of a lexical or transformational treatment of non-inherent reflexives.

If Wasow's (1980) later hypothesis that no transformation is structure preserving can be maintained, then this rule-type criterion would presumably indicate a lexical treatment of se. But as Wasow points out, his hypothesis is only tentative, and requires certain possibly controversial assumptions to be made.

6.3.3 The Criterion of Category Changes

Another criterion which may help to determine the appropriateness of a lexical or a transformational solution to the problem of se is the criterion of category change. Lexical rules may relate items of different grammatical categories, though transformations may not. Wasow cites a number of studies which assume that transformations may

not change the label on an existing node (Wasow (1977: 329-330)).

If we make the assumption then that there is a relation to be described between a and b in (63) below,

- (63) a. Paul s'admire.
'Paul admires himself.'
- b. Paul n'admire que lui-même.
'Paul only admires himself'

and compare the node labels in surface structure which dominate se and lui-même, we may be able to submit this relation at least to one or the other of the competing analyses.

The object lui-même in b is obviously an NP; the se associated with the non-inherent reflexive verb in a appears not to be an NP, since it occupies a position which no NP can occupy. In clitic position, pronouns are dominated by the node V, as Kayne (1975: 92-102) has shown. This node does not dominate lui-même in b. These facts then might suggest that a lexical treatment is called for here.

But both se and lui-même are Pro-forms, whose immediately dominating node is NP. The label PRO which is frequently used to refer to such elements, even figuring, for example, in the structural description of Kayne's rule of Clitic-Placement, is conventionally considered to be a feature on constituents or on syntactic nodes, and not a separate label. If it is a feature, then the categories immediately dominating both se and lui-même in (63) will be NP, with se additionally marked as [+ clitic] to account for its preverbal position. Both se and lui-même then are pronouns, with the labelled bracketing as in (63) c and d.

- (63) c. NP [se]
[+ PRO]
[+ CLITIC]
- d. NP [lui-même]
[+ PRO]

It appears then that the immediately dominating node label does not change: in both sentences of (63), the items to be related are NP Pro-forms. What does change are the labels on nodes higher in the phrase-marker, but this is not unexpected in a transformational analysis. Anderson, commenting on Wasow's criteria for distinguishing rule types, points out that acceptance of the inability of transformations to change category membership "does not entail the further claim that the category label associated with a phrasal node may not be changed as the result of a transformation" (Anderson (1977: 363)).

Again then, this criterion for determining appropriate rule types fails to provide a clear indication in favour of either a lexical or a transformational solution to the problem of non-inherent reflexive verbs, since neither solution is ruled out.

6.3.4 The Criteria of Rule Ordering and the 'Local' Nature of Lexical Rules

These final two rule-type criteria do furnish evidence for one analysis or the other of the question of non-inherent se. The criteria are explained by Wasow as separate characteristics, but as will become apparent, they are related when applied to se.

The criterion of rule ordering follows from the organization of standard theory grammar. Lexical rules relate items in the lexicon; transformations operate on phrase markers into which lexical items have been inserted. Hence, if a transformation feeds a rule, that rule cannot be lexical; if a rule feeds a lexical rule, that feeding rule cannot be transformational.

If we find therefore that se can be cliticised to a verb only on condition that a transformation has applied in the sentence, then the association of se and the verb must have been effected by means of a transformation. Such a case would reinforce Kayne's claim that se

moved into preverbal position by the rule of Se-Placement.

The criterion of the 'local' nature of lexical rules also follows from the organization of the grammar. Since lexical redundancy rules operate within the lexicon, they have access exclusively to information contained in the subcategorization frames of particular lexical items, and not to the sum total of information contained in the P-markers in which these items appear (Hoekstra, Hulst and Moortgat (1980: 19)). Wasow expresses this notion by observing that lexical rules "ought not to be able to refer to aspects of the environment in which the lexical items appear, other than those aspects that must for independent reasons be included in the lexical entries anyway" (Wasow (1977: 330)). Those aspects of the environments in which items appear which have to be included in the lexical entry are "those properties of an element's deep structure environment which condition its appearance" (op. cit.: 330).

To make this notion precise for purposes of determining how much syntactic information should form part of the lexical entry for an item, Wasow puts forward the hypothesis that, for verbs, only NPs bearing deep structure grammatical relations to it may enter into the statement of lexical redundancy rules affecting the verb. These NPs are the subject, the direct object and the indirect object, the NPs most closely associated with a verb's environment. And these NPs are the only ones which can form part of the statement of a lexical rule. Anderson emphasizes that the syntactic material which can be relevant to defining the frame in which an item can be inserted (i.e. its subcategorization features) is generally taken to be limited to other constituents of the same clause (Anderson (1977: 363)). Thus, lexical rules cannot possibly involve reference to elements outside of the immediate clause in which the item is inserted.

The implication of this characteristic of lexical rules (i.e. that they be strictly 'local' in the sense outlined above) is that if se can be shown to be related to a pronoun in a clause different from the one in which se is located, it follows that the relation between se and this pronoun must be transformational. That is, if se cannot be shown to be the direct or indirect object of the verb to which it is cliticised, then a lexical rule is not able to link se with the related construction.

In the evaluation of lexical and transformational approaches to the problem of se, there are therefore two more rule properties to be examined in relation to reflexive verbs. If se can be shown to correspond to strictly local constituents, and if the appearance of se does not depend on prior application of a transformational rule, then there is no reason for not analyzing se lexically. Given the theoretical advantages of treating as many cases of syntactic relatedness as possible in the lexicon, as argued by Bresnan and Anderson, it would be most natural to do so, especially since inherent se must be listed as such in the lexicon. A lexical analysis of non-inherent cases of se would then result in a highly desirable unified treatment of the whole range of se data. It is this unitary approach which Grimshaw (1980) advocates.

On the other hand, if se can be shown to correspond to constituents which are outside its own clause, and if the appearance of se does indeed depend on the prior application of a transformation, then se may not be analyzed lexically. Despite the advantages of such an analysis, a transformational treatment would impose itself. The result would be perhaps theoretically undesirable, in the sense that some se would have to be listed in the lexicon while others were derived by means of transformational rules, but at least the dual approach would be in line with the syntactic facts.

It appears that such a dual approach is in fact necessary. Consider first the local nature of lexical rules in connection with sentences like those in (64) below.

- (64) a. Pierre s'estime intelligent.
'Pierre thinks himself intelligent.'
(i.e. Pierre_i thinks he_i is intelligent)
- b. Cet homme se dit capable de tout.
'This man says himself (to be) capable of anything.'
- c. Paul se sait doué pour les mathématiques.
'Paul knows himself (to be) gifted for mathematics.'
- d. Paul se croit malade.
'Paul thinks himself sick.'
(i.e. Paul_i thinks he_i is sick.)
- (examples a-c from Gaatone (1975: 208-210))

The construction exemplified in (64) is further illustrated in (65) with non-reflexive clitics and full NPs.

- (65) a. On croit Jean fou.
'One-believes-Jean-crazy.'
'They think John is crazy.'
- b. On le croit fou.
'They think he's crazy.'
- c. Elle croyait Jean un grand savant.
'She thought Jean (was) a great scientist.'
- d. Elle le croyait un grand savant.
'She thought him a great scientist.'

This construction has been given various labels. Fauconnier (1974) refers to it in terms of Object Formation; Kayne (1975) calls it the Croire Construction; while Ruwet (1981) labels it the Object Attribute Construction, describing it as a 'verbless predicate construction'.

Kayne observes that there is evidence that the deep structure of these sentences contains an embedded sentence with être, and that this être is subsequently deleted. For example, the noun phrase

following croire can be followed by a variety of elements specific to être. These include past participles from certain passives, past participles of verbs taking être as auxiliary, the 'possessive' à NP, the expression 'en train de' and the date expression être le n.

- (66) a. Jean est aimé de sa femme/poursuivi par ses créanciers.
'Jean is loved by his wife/pursued by his creditors.'
- b. On croit Jean aimé de sa femme/poursuivi par ses créanciers.
'They think Jean loved by his wife/pursued by his creditors.'
- (67) a. Jean est déjà parti.
'Jean has already left.'
- b. Elle croyait Jean déjà parti.
'She thought Jean already gone.'
- (68) a. Ce livre est à Jean.
'This book is Jean's (i.e. to Jean).'
- b. On croyait ce livre à Jean.
'They thought this book Jean's.'
- (69) a. Elle est en train de faire une bêtise.
'She is in the midst of doing something foolish.'
- b. Tout le monde la croyait en train de faire une bêtise.
'Everyone thought her in the midst of doing something foolish.'
- (70) a. Nous sommes le six.
'It's the sixth.'
- b. Je nous croyais le six.
'I thought it was the sixth.'
- (examples adapted from Kayne 1975: 303))

All of the b sentences in (66)-(70) above could presumably be generated directly by appropriate phrase structure rules. But if this lexical analysis is chosen, the similarity between the set of phrases which can appear after croire NP and those which co-occur with être cannot be accounted for. A lexical redundancy rule is clearly excluded in a case like this, since such rules express relations between different constructions in which the same word may appear. Here we

are dealing with different words which may appear in similar constructions. To relate croire NP and être by a lexical rule because they can both be followed by a certain range of complements would be analogous to relating any two verbs which can be followed, for example, by manner adverbials or that-S complements. The network of lexical rules required to make such connections between words would be extremely unwieldy and complex.

A transformational analysis accounts elegantly for the facts of (66)-(70). Subcategorization features and selectional restrictions applicable to être do not have to be repeated for croire when it is followed by an NP, and subsequent deletion of être, whether an auxiliary of the passive or of aspect, or a main verb, explains why the items specific to être in the sentences above can also appear with croire. Kayne concludes that this croire construction is therefore a transformed structure containing an embedded S at the underlying level. He also notes that croire is like laisser and voir, in that it enters into both V-NP-S and V-S deep structures.

It is this latter structure which must provide the source of the clitic pronouns in the following sentences.

- (71) a. Pierre estime Paul intelligent.
'Pierre considers Paul intelligent.'
- b. Pierre l'estime intelligent.
'Pierre considers him intelligent.'
- (72) a. Paul sait Pierre doué pour les sports.
'Paul knows Pierre (to be) gifted for sports.'
- b. Paul le sait doué pour les sports.
'Paul knows him (to be) gifted for sports.'

Neither estimer nor savoir are verbs which can take human objects in the relevant senses, as (73) indicates.

- (73) a. *Pierre estime Paul.
 'Pierre considers Paul.'
- b. *Paul sait Pierre.
 'Paul knows Pierre.'

These verbs will then presumably be marked in the lexicon with a selectional restriction on [+ human] objects. The appearance of a [+ human] NP in direct object position in (71)-(72) does not violate this selectional restriction if we consider that the deep structure of these sentences contains an S. The surface structure [+ human] objects escape the restriction because of their derived nature; in deep structure they are subjects of the embedded sentence. In a framework which rejects the use of selectional restrictions as a guide to deep structure insertion of lexical items, there must be some mechanism available to distinguish deep structure objects from derived surface structure objects and to account for the unacceptability of the former with verbs like estimer if the object is [+ human]. To express the same information, a lexical redundancy rule would have to indicate that verbs like estimer may only have [+ human] objects when certain adjectives, past participles or other predicate expressions follow that object. Moreover, the rule would have to ensure that the main verb object was understood to be the 'subject' of that predicate. Yet such information is in principle not accessible to lexical rules, since the syntactic frame of relevance to a verb is considered, by Wasow at least, to be limited to positions corresponding to subject, direct object and indirect object (i.e. positions within the clause). That is, lexical information about a verb may specify that it takes an object, but it may not select from the stock of possible objects only those which are followed by some predicate and are in some sense the subject of that predicate. A transformation, on the other hand, expresses these facts easily. In (71), (72) Paul and Pierre are deep structure subjects of être which become surface structure objects

of estimer and savoir through deletion of être. Both subjects and objects are configurationally defined, and there is no violation of selectional or subcategorizational requirements. We consider therefore, along with Kayne (1975) and Gaatone (1975), that this construction is transformationally derived.

The pronouns which appear cliticised to savoir, estimer, dire, and croire in (64), (65) are then deep structure subjects of être. This fact has important consequences for Grimshaw's analysis of reflexive and reciprocal clitics.

Her approach is based on the theory of lexical rules developed by Bresnan. The representation of the association between grammatically relevant argument structure and grammatical functions is called a lexical form, similar to Bresnan's mapping rules between functional structure and syntactic context, as in the lexical representation in (8). Thus a verb like voir is represented as in (74)

(74) voir ((SUBJ)(OBJ)),

where SUBJECT is the function assigned to its first argument, and OBJECT to its second (cf. Grimshaw (1980: 5)).

The verb se voir (to see oneself) is analyzed by Grimshaw in the following way. She speculates that se in reflexive/reciprocal verbs like se voir may not be grammatical arguments like accusative and dative pronouns, but instead grammatical reflexes of a lexical rule, and not pronominal arguments at all. Reflexivization is then considered to be an operation on predicate argument structure, whose effect is to bind one argument to another. Thus for any predicate argument structure Predicate (x, y, z), the rule forms a new Predicate_[reflexive] derived from the non-reflexive predicate by binding one of its arguments to its first argument. From P(x, y, z) we get P(x,x,z) or P(x, y, x). As a

result of reflexivization, the lexical entry for voir becomes as in (75)

(75) voir_{reflexive} ((SUBJ)(\emptyset)),

where \emptyset indicates a null grammatical function. That is, in this analysis, reflexive/reciprocal se is never a pronominal direct or indirect object, but simply a marker associated with binding in predicate argument structure (Grimshaw (1980: 20-22)).

The aspect of this approach which is important in connection with the croire construction is that the appearance of reflexive/reciprocal se is predicted to be the result of an operation on the argument structure of a verb with which se appears. That is, it is as a result of the binding operation on the argument structure of voir that se appears cliticised to voir. Grimshaw thereby predicts that the null grammatical function \emptyset resulting from the binding operation must correspond to an object or indirect object function of the same verb voir. The function \emptyset associated with a verb V cannot correspond to the object function of a verb W in another clause, because the lexical entry for V does not contain information about the predicate argument structure of W. In other words, se is predicted to correspond to a complement of the verb to which it is cliticised, and not of any other verb.

Yet we have seen that in the croire construction, the reflexive clitics of (64) correspond to deep structure subjects of être. The verbs estimer, dire, croire and savoir which appear here cannot have undergone a lexical rule of reflexivization. In the relevant sense of these verbs in (64), the OBJECT function cannot be filled by a [+human] NP. The only object which estimer can have with the meaning 'consider' is a que S complement. If a lexical rule were to bind its first argument to this OBJECT function, none of the elements associated with this function would appear along with se. That is, Grimshaw's rule predicts

a relatedness between a and b in (76), and not between a and c.

- (76) a. Pierre_i estime qu'il_i est intelligent.
 'Pierre_i considers that he_i is intelligent.'
 b. Pierre s'estime.
 'Pierre thinks highly of himself.'
 c. Pierre s'estime intelligent.
 'Pierre considers himself intelligent.'

The verb in the b sentence differs in meaning from the verbs in a and c. In c, the adjective intelligent corresponds to part of the sentential object of estimer in a. Yet Grimshaw's rule of reflexivization would predict that no elements corresponding to the object function could be 'left over' in this way, since the second argument of the predicate estimer is rendered null by the rule and may not receive any syntactic expression. Thus the lexical rule of reflexivization predicts that it is b which is related to a, and it cannot account for c.

Since se in this construction corresponds to an element outside of the immediate clause in which the verb is inserted (or, in terms of lexical form, to an element within the string filling the OBJECT function), the verbs involved cannot indicate in their lexical entry that se may appear as clitic complements. Such information is beyond the scope of lexical rules, because they are limited to information contained within the clause in which the word occurs. As se in (64) can only correspond to the subject of an embedded clause, and not to the object NP of the main verb, its appearance as a result of a lexical rule is precluded by the criterion requiring lexical rules to be strictly local. Grimshaw's analysis cannot therefore in principle account for the se in the c sentences above, because the type of operation required to relate se and estimer-type verbs is beyond the power of lexical rules. The situation is exactly analogous to one outlined by Hoekstra, Hulst

and Moortgat (1980: 39). They note that given a verb of the persuade-type, subcategorized as [V NP \overline{VP}], "it would be impossible to write a lexical rule to the effect that it would interchange the object of the complement \overline{VP} with the object or subject of the main verb, so that, e.g. John! persuaded Bill kiss Mary would mean the same as John persuaded Mary to kiss Bill. This type of operation is ruled out because the constituent make-up of the subcategorized \overline{VP} is not defined by the contextual frame of a persuade-type verb. Lexical rules affecting a V of the type [V NP \overline{VP}] do not have information at their disposal as to the internal structure of the VP; therefore, no constituent internal to that phrase can be affected" (op. cit.: 39). In this case, the verb estimer is subcategorized for an S; the se which cliticises to estimer is a sub-part of this S. As the internal structure of S is not accessible to lexical rules, the constituent corresponding to se internal to the S cannot be affected by a lexical rule. A mapping between the structures [NP₁ PRO V [VP]] and [NP₁ V [PRO VP]] is clearly impossible, because such a mapping would be unbounded. The bracketed elements [PRO VP] must, as we have argued above, be contained in an S clause, and thus the PRO must be inaccessible to a lexical rule.

The other characteristic of lexical rules mentioned earlier is also trivially applicable here. This criterion establishes that lexical rules must apply before any transformations. Having determined that sentences like (76)c result from the operation of a transformational rule on a structure like (76)a, in which the pronoun corresponding to se is cliticisable once être is deleted, it is obvious that this cliticisation, depending on prior application of a transformation, must itself be a transformational operation.

While Grimshaw's rule of reflexivization may well be responsible for se in monoclausal reflexive/reciprocal structures, it cannot in

principle account for the se which does not correspond to an object of the verb it occurs with.

Faced with the possibility that some instances at least of se cannot be accounted for in a lexical treatment because the properties of lexical rules themselves preclude the establishment of a relationship across clause boundaries, a lexicalist might attempt to save his analysis by broadening the scope of lexical rules in general. For example, given the clause-bounded nature of these rules on the one hand, and the fact that some sources of se are located beyond the clause containing the verb to which se is attached, one might argue that a particular construction assumed to be a two clause structure is in fact composed of one clause, generated directly by base rules. If elements which are understood to have a grammatical relation with one of the verbs in this structure in fact occur in surface structure attached to the other verb, one would then require some extension of subcategorization rules so that the contextual restrictions of one verb could appear to be respected by the other. In addition, extensions to the rules of semantic interpretation would be required, so that, for example, the grammatical object of one verb could be interpreted as the agent of the other verb.

Just such adaptations and extensions are in fact suggested by some linguists for the causative faire construction. The syntax of this construction has been amply described in Kayne (1975), and widely commented on by Radford (1977), Quicoli (1980), J.Y. Morin (1978), Rouveret and Vergnaud (1980), and Herschensohn (1981), among others.

Kayne argues for a transformational derivation from an underlying bi-sentential source, and other analysts, while disagreeing with Kayne in some respects, generally concur with the two clause underlying structure he proposes. At least two linguists, however, suggest that the faire construction can be base-generated, dispensing with the verb-raising transformation required in Kayne's analysis.

Hendrick (1978) proposes that subcategorization rules can be extended to express co-occurrence restrictions which are "broadly local" instead of strictly local in the sense of Chomsky (1965). He gives a set of phrase structure rules and subcategorization statements which he claims will allow sentences like (77) to be directly generated by rules of the base, though no rules of semantic interpretation are provided to allow the role of Jean in this sentence to be specified.

- (77) Elle fera entendre cette symphonie à Jean.
'She will have Jean hear this symphony.'

Jean-Yves Morin (1978) proposes similar rules of phrase structure which generate the infinitive following faire in the same way as past participles following auxiliary avoir or être are generated. And unlike Hendrick, who does not provide any rules of semantic interpretation, Morin gives a rule which is designed to assign the thematic relation of AGENT to the first (à)NP following the infinitive after faire. His rule is formulated as in (78).

- (78) $NP \longrightarrow [+ \text{thematic function}_1 (V)] / \left\{ \begin{array}{l} \text{faire} \\ \text{laisser} \end{array} \right\} V X (\text{à}) \text{ ---}$
(J.Y. Morin (1978: 410))

This rule, however, makes a number of incorrect predictions. It assigns the role of agent to inanimates, like la voiture in (79).

- (79) Je ferai sortir la voiture.
'I will make the car come out.'

It is generally only animate NPs which can function as agents-- but it may be conceded that inanimates may be agents, given sentences like The car nudged him with its bumper. However, sentence (79) has another interpretation in which the agent of sortir is not expressed, and in which la voiture is object of the transitive verb sortir. In this reading, (79) means "I will have the car brought out." But

Morin's rule still assigns the agent function to la voiture. A transformational analysis provides for these two readings by positing two different sources for (79). In one, the complement of faire is something like [je sortir la voiture] (I will take the car out) and in the other, [la voiture sortir] (the car will come out).

Herschensohn (1981) observes that rule (78) is inadequate for other reasons. There are a number of sources of à NP which can follow faire. In (80), for example,

- (80) Je ferai chanter l' 'Internationale' à Jacques
'I will have the 'International' sung by/to Jacques'

the phrase à Jacques can be understood as the agent of the process or as the goal of a process whose agent is unspecified. In (81), à NP is the prepositional object of obéir.

- (81) La peine capitale fait obéir à la loi.
'Capital punishment ensures obedience of the law.'

And in (82), à NP corresponds to various types of what Y.C. Morin (1981: 102) calls 'extended' datives--benefactive (a), adversative (b), ethical (c).

- (82) a. Je fais écrire tous ses discours au premier ministre.
'I have all her speeches written for the Prime Minister.'
- b. J'ai fait boire toute sa bière à ce pauvre vieillard.
'I had all that poor man's beer drunk on him.'
- c. Paul lui a fait boire deux bouteilles en dix minutes, à Marie.
'Paul had two bottles drunk in ten minutes, for Marie.'

Application of J.Y. Morin's rule to any of these five sentences will give the wrong results. In (80), l'Internationale may be assigned the agent function if the variable X in (78) is not interpreted as null.

If it is considered to contain l'Internationale, then the NP Jacques will be assigned that role, whether or not Jacques is understood to be doing the singing. As the agent of obéir is unexpressed in (81), J.Y. Morin's rule will ensure that la loi is given that function, as will be the case in (82) for the NPs premier ministre, ce pauvre vieillard and lui . . . à Marie.

It is clear then that a rule of semantic interpretation like the one proposed by J.Y. Morin is unworkable, because the sources of (à) NP cannot be distinguished predictably. A bi-sentential analysis of causatives avoids these difficulties because grammatical and thematic functions can be assigned within single clauses at the level of deep structure. Subsequent deformation of the complex base structure into a simplex surface structure by transformational rules allows for correct semantic interpretation of displaced noun phrases. We conclude therefore, along with Kayne (1975), Radford (1977) and Herschensohn (1981), that causative constructions are not base-generated but rather transformationally derived.

The implications of this conclusion for the base-generation of se by means of lexical rules such as those argued for by Grimshaw are the same as those which follow from the transformational derivation of the croire construction. That is, if se appears cliticised to faire and at the same time corresponds to a complement of the infinitive with which faire is constructed, then this se cannot be the result of a lexical process. Since a transformation is necessary to create the faire-infinitive structure, another transformation will be required to move se from a position in the lower clause in deep structure to the matrix clause in surface structure.

Sentences containing se faire + infinitive are not difficult to find. In (83) below, for example, the reflexive clitic is

understood as the object of the infinitive.

- (83) a. Jean se fera connaître à Marie.
'Jean_i will make Marie know him_i.'
b. Jean se fera embrasser par Marie.
'Jean will get himself kissed by Marie.'
(examples from Kayne (1975: 405))

In underlying structures, these sentences would have the following form in Kayne's analysis,

- (84) a. Jean_i fera [_s Marie connaître Pro_i].
b. Jean_i fera [_s Marie embrasser Pro_i],

with the transformations Faire-Infinitive applying in a and Faire-Par applying in b. It is obvious that a rule of reflexivization such as the one Grimshaw advocates cannot account for se in (83). Her rule assigns a null grammatical function to the second logical argument of the verb. In causatives like (84), this argument corresponds to the whole bracketed clause, whereas se corresponds only to an element of that clause. The lexical form of faire cannot in principle contain information about the logical arguments of the predicates connaître and embrasser, and cannot in consequence serve as the input to a lexical rule of reflexivization which would result in the sentences in (83). The only output of such a rule would be (85).

- (85) ? Jean se fera.
'Jean will make himself,'

which no longer has any causative sense, but indicates an act of self-creation.

There are other cases as well of se + faire + infinitive. In

(86), se corresponds to the subject of the infinitive.

- (86) a. Jean se fait passer pour un idiot.
'Jean makes himself pass as a fool.'

- b. Ils se font rire l'un l'autre.
'They are making one another laugh.'

At the deep structure level, these sentences may be represented as in (87).

- (87) a. Jean_i fait [_s PRO_i passer pour un idiot].
b. Ils_i font [_s PRO_i rire . . .]

Again, the information on which the appearance of se depends is not accessible by means of a lexical rule, since the OBJECT function of faire is assigned to the whole clause PRO_i + infinitive . . ., and a rule making the occurrence of se depend on the non-occurrence of the OBJECT cannot account for the fact that this sentential object appears along with se.

A third instance of se occurring with faire is given in (88).

- (88) Jean s'est fait laver les mains par l'infirmière.
'Jean had his hands washed by the nurse.'

Here, se corresponds to an à NP phrase indicating inalienable possession. Kayne (1975: 160-170) argues for an underlying structure like the one in (89) for sentences like these.

- (89) Jean_i fait [_s l'infirmière laver les mains_{NP_{dat}} [PRO_i] par Δ]

Se in this sentence then has its source as a deep structure complement of laver. Since it is cliticised in (88) to the matrix verb faire, only a transformation could ensure its correct pre-faire position, given the principled limitations on lexical rules outlined above.

The fact that the reflexive pronoun may appear as a clitic of faire indicates clearly therefore that se cannot in these cases be the result of a lexical rule. The source of se is not strictly local in the sense required by the subcategorization features associated with

lexical items: it may correspond to the subject, object or inalienable complement of a different verb. And the structure to which se is attached as a clitic is one which is created by prior application of a transformation. This implies, according to the rule ordering criterion discussed earlier, that the rule responsible for the appearance of se must be transformational as well. Grimshaw's lexical rule of reflexivization would require information to which it is denied access in order to account for sentences like (83), (86) and (88). We conclude that, in the causative construction as well as the croire construction, the se which is a clitic of faire and croire must be displaced from its base-generated position to its surface position by means of a transformational rule, such as Kayne's Se-Placement. Wasow's criteria of rule ordering and the local nature of lexical rules exclude a lexical approach to structures containing a se displaced from its original clause. Consequently any solution to the problem of se, in causative and croire constructions at least, must be transformational.

6.4 Conclusion

In earlier sections of this chapter, I outlined some of the reasons given by Bresnan and others for preferring, wherever possible, a lexical analysis over a transformational analysis for the description of syntactic relatedness. It was seen that such a lexical analysis is possible for some instances of se, made all the more compelling by the fact that the deep structure syntactic configurations required by a transformational account of inherent se are in fact never realized on the surface. But a lexical approach to the problem of reflexive/reciprocal se was excluded in certain constructions with faire and croire because well established operations which must be transformational have to take place to create the correct environment for the appearance of se. We are therefore forced to conclude that both types

of rules are necessary in describing the syntax of the reflexive clitic pronoun.

In support of this conclusion, we provide a further piece of evidence that se has to be accounted for by both types of rules. The se which is part of the lexical entry for certain reflexive verbs is predicted to be immobile. That is, as a sister to the verb, dominated by a V node, its position is relatively fixed: it occurs as the leftmost item in any string of clitics, and is attached to the auxiliary être. But it may not move away from the verb with which it is generated by base rules as a result of the application of any transformation. On the other hand, transformationally derived se is predicted to be mobile, and may well end up cliticised to a verb of which it is not a deep structure complement as in (64), (83), (86), and (88).

As a test of the prediction that lexical se is immobile, it is interesting to note that those instances of se which were argued to be base-generated are precisely the ones which do not cliticise to faire in the causative construction. Two types of base-generated se were argued for: inherently reflexive se like the examples in (34), and the se whose appearance with a verb which may occur in non-reflexive form caused an unpredictable semantic change (cf.(51)).

The attempt to cliticise se to faire with inherently reflexive verbs results in the ungrammatical examples in (90). (*The English equivalents of 90 b-e are quite uninterpretable, and so only a literal gloss is given.*)

- (90) a. *Napoléon s'est fait arroger tous les pouvoirs.
'Napoleon had all the powers appropriated to himself.'
- b. *Je me suis fait repentir de mes péchés.
'I - myself - has - made - to repent - the - next day'
- c. *Elle s'est fait dédire le lendemain.
'She - herself - has - made - to repent - the - next day'
- d. *Paul s'est fait souvenir de son enfance.
'Paul - himself - has - made - to remember - of - his - childhood'
- e. *Je me ferai abstenir de faire cela.
'I - myself - will make - to stop - of - to do - that - ...'

And when se cliticises to faire with the second class of base-generated reflexives, the result is grammatical, but the meaning of the infinitive is that of the non-reflexive instead of the reflexive form. In the b sentences in (91)-(94) below, the meaning of the infinitive is that of the non-reflexive verb. Sentence c is what the sentence would mean if the se attached to the infinitive was mobile and could be moved by a transformational rule. The d and e sentences indicate that the meaning associated with the reflexive form can only be conveyed if the reflexive is cliticised to the infinitive, and if the subject of faire is not coreferential with the subject of the infinitive, whether this subject is expressed or not.

- (91) a. battre 'to defeat' ~ se battre 'to fight.'
 b. Je me suis fait battre.
 'I got myself defeated.'
 c. *(I made myself fight.)
 d. J'ai fait se battre Pierre et Paul.
 'I made Pierre and Paul fight.'
 e. *J'ai fait me battre.
- (92) a. connaître 'to know' ~ se connaître (en) 'to be an expert in.'
 b. Paul s'est fait connaître en mécanique.
 'Paul got himself known in mechanics (i.e. in the field of mechanics).'
 c. *(Paul made himself be an expert in mechanics.)
 d. Ce professeur a fait se connaître en histoire tous ses étudiants.
 'This teacher made all his students be experts in history.'
 e. *Ce professeur a fait se connaître en histoire.
 'This teacher made himself an expert in history.'
- (93) a. jouer 'to play' ~ se jouer (de) 'to enjoy.'
 b. Elle s'est fait jouer.
 'She got tricked.'
 c. *(She made herself enjoy. . . .)

- d. Elle a fait se jouer de la pièce tous ces jeunes comédiens.
'She made all these young actors enjoy the play.'
 - e. *Elle a fait se jouer de la pièce.
'She made herself enjoy the play.'
- (94)
- a. rire 'to laugh' ~ se rire (de) 'to make light of.'
 - b. Il s'est fait rire de ses problèmes.
'He got himself laughed at for his problems.'
 - c. *(He made himself take his problems lightly.)
 - d. Il a fait se rire de leurs problèmes plusieurs couples malheureux.
'He made several unhappy couples take their problems lightly.'
 - e. *Il a fait se rire de ses problèmes.
'He made himself take his problems lightly.'

Whereas reflexive/reciprocal se may appear with faire under certain conditions, these inherent se and the se causing semantic differences between reflexive and non-reflexive verbs may not be dissociated from their own clause by a transformation. These facts are consistent with our conclusion that neither a wholly lexicalist nor a wholly transformationalist analysis of the syntax of se is possible.

CHAPTER 7

7. The Preverbal Order of French Clitic Pronouns

This chapter attempts to provide an explanation for clitic order in French. Several explanations have already been made by linguists of the divergence between preverbal and postverbal ordering of pronouns, but these have been shown to be in some degree artificial or unworkable. Very general proposals governing the functioning of transformational rules were seen to make wrong predictions about the order in which underlying postverbal Pro-forms became eligible to be moved by the rule of Clitic Placement. More specific proposals by Emonds (1974), Herschensohn (1980) and Fiengo and Gitterman (1978) involved questionable feature assignment, complex and ad hoc rules, and several predictions of incorrect order.

In this chapter I propose to align French clitics correctly without adding any rules to the grammar of French. In fact, the theoretical constructs needed for an observationally adequate description of French clitics are actually reduced. I claim, along with Emonds (1976), that no positively specified output constraints are required to ensure the right preverbal order of these pronouns. But unlike Emonds, I need no rules to reverse the order of clitics or to pick out a subset of clitics to be dealt with in a different manner from the others. Instead, I claim that the rules already motivated to move Pro-forms from postverbal position need no modification at all, and that these rules will assign the correct order to clitics as a consequence of general considerations of pronoun structure and conventions on rule functioning.

If this claim is upheld, the theoretical advantages are obvious. The reduction in the number of transformations postulated for a fragment of grammar serves to decrease the degree of abstractness of the grammar, because there are fewer steps between underlying and surface structure. The grammar is thereby made psychologically more real in Bresnan's sense, since the amount of labour assigned to the transformational component to achieve observational adequacy with respect to clitic order is not increased. If it is accepted that transformations are psychologically unreal as analogues of mental operations of speech production and perception, then the description of French clitic order without appeal to additional transformations will be seen as more 'realistic' than descriptions requiring extra work on the part of the transformational component.

My proposal has the further advantage of permitting us to dispense with the device of a positive output constraint, argued for by Perlmutter in the form of a clitic chart, and advocated by Kayne. Negative output constraints will still be necessary in the form of a single surface filter, but it will not be necessary to specify the order of those clitics which can combine with each other. The consequence of doing away with this device is to constrain the power of the grammar by eliminating a component from it. Since the analysis put forward here does without a positive output constraint, it can be considered as one small contribution to the task of constraining the class of available grammars for natural languages. Achievement of observational adequacy for a fragment of grammar through the use of rules already strongly motivated and a single surface filter could also be considered a step towards the achievement of descriptive adequacy, as discussed by Chomsky (1965), in the sense that it may mirror the native speaker's intrinsic competence.

A final advantage of this proposal is that no parochial ordering constraints need to be applied to those rules which interact to

ensure the correct preverbal order of clitics. It will be shown that universal principles governing applicational precedence of transformational rules make exactly the right predictions about which rules must apply in which order to underlying Pro-forms so that the correct preverbal clitic order is guaranteed. French clitic facts then support the hypothesis that statements of rule ordering in the extrinsic sense can be eliminated from the grammar, and that universally determined principles of rule application govern the order of transformational rules.

The following sections then will deal with reflexive clitics, non-reflexive personal clitics, and finally y and en, assigning each of these pronouns its correct surface order.

7.1 Reflexive Clitics

In Chapter 6, I argued that both lexical and transformational solutions to the problem of se were required. Preverbal positioning is very straightforward for this first, lexical class of reflexives, and just slightly less straightforward for the second, transformational class.

Those reflexive pronouns which accompany the verb in the lexicon are assured their preverbal position as a consequence of their lexical listing. These se are not 'placed', because they originate as part of a word. They are in fact a special type of affix, which can be separated from the verb under certain conditions. The clitic of s'évanouir, for example, attaches to the auxiliary être in (1).

- (1) Jean s'évanouit souvent; il s'est évanoui hier.
'Jean faints often; he fainted yesterday.'

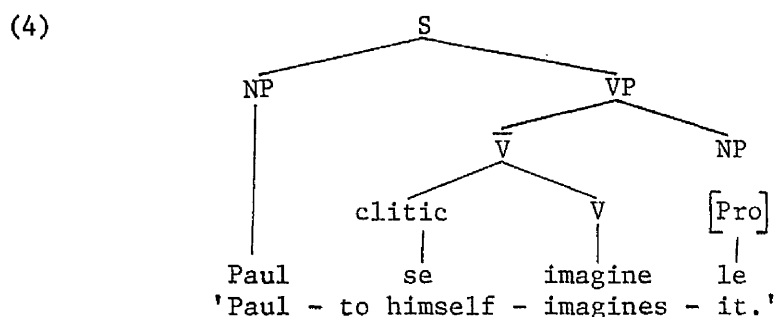
This se also continues to occupy the leftmost position in the presence of other clitics. In (2), l' and en intervene between the verb and the lexically-generated se.

- (2) a. Paul se l' imagine.
 'Paul is imagining it.'
- b. Il s'en est évanoui deux.
 'Two of them fainted.'

The position of se in (2) might appear surprising, especially in light of its proposed lexical source. The non-reflexive clitics l' and en, which have postverbal sources and are displaced by the rule of Clitic Placement, could have taken up a position to the left of se in surface structure, unless their 'landing-site' was specified by the rule. That such a specification must exist is suggested by the ungrammaticality of (3).

- (3) a. *Paul le s'est imaginé.
 b. *Il en s'est évanoui deux.

I assume that the order of the clitics in (2) is governed in the following way. The deep structure of sentence (2)a resembles (4), with se attached as a clitic under the \bar{V} node.



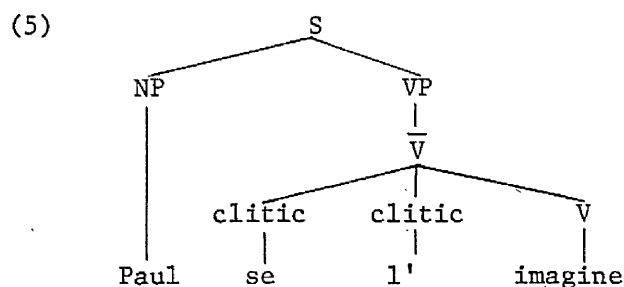
Application of Kayne's Clitic Placement (Chapter 2 (2)) to le places this pronoun to the left of the V. Nothing more precise than this is specified as the target position for displaced pronouns, since Kayne assumes that Perlmutter's positive output constraint will arrange clitics in the correct order. The assumption we make is that pronouns affected by Clitic Placement are not simply positioned somewhere to the left of the V, but immediately to the left of the V dominated by the leftmost \bar{V} . This is the effect of our modification of Clitic

Placement suggested in Chapter 2 ((7)b), repeated here for convenience.

Chapter 2

(7) b. $VP[(CL) (CL) V X PRO Y]$
 1 2 3 4 5 6 \rightarrow 1 2 5+3 4 \emptyset 6

Clitics which are base-generated as well as clitics already put into preverbal position by this rule will be 'displaced' leftwards by any new arrivals infixed by iterative application of the rule. The 'landing site' for clitics is therefore the position immediately to the left of the first V in a \bar{V} constituent. The derived constituent structure resulting from application of Clitic Placement to (4) will then be as in (5), with the 'displaced' le occupying a position between se, already shown to be mobile in (1) and (2), and the verb.



Thus, in a surface structure containing two clitics, one a base-generated reflexive and the other a transformationally derived non-reflexive, the pronoun whose position is assured by means of a rule will always end up closer to the verb than the one which accompanies the verb as part of its lexical entry.

In a surface structure containing two clitics, including a reflexive which is transformationally derived, the preverbal pronoun order is the same as in (2). For example, (6)b indicates that se must be the leftmost clitic in any sequence of clitics.

- (6) a. Elle s'est achetée cette nouvelle auto.
 'She has bought this new car for herself.'
- b. Elle se l'est achetée.
 'She has bought it for herself.'

Assuming that the deep structure for this sentence is (7), in which the Pro-forms to be cliticised are in the canonical direct~indirect object postverbal order, we would expect (8) to be the result of the application of Clitic Placement.

(7) Elle_i - acheter - Pro [1a] - à Pro_{i+R}

(8) *Elle 1a s'est achetée.

If the first Pro-form to be eligible for movement by the Clitic Placement rule is the one which is closest to the verb acheter, an intermediate stage in the derivation of (6)b would be something like (9).

(9) Elle_i - 1a - acheter - à Pro_{i+R}

And if Clitic Placement then applied to the coreferential form à Pro_i in (9), the specification of the target site incorporated in the structural change of the rule would ensure that the reflexive would be positioned closest to the verb, between 1a and acheter, as in (8).

But in Kayne's analysis, reflexive pronouns are not moved by the transformation of Clitic Placement. They are instead subject to a rule of Se-Placement which, unlike its non-reflexive counterpart, operates cyclically. Kayne provides evidence that there are indeed two different rules placing clitics, and citing the interaction of Se-Placement with Passive, NP-Extrapolation and FAIRE-Infinitive, concludes that this rule must operate within the cycle (cf. Kayne (1975: 375-383 and 411)). Clitic Placement, on the other hand, is a postcyclic transformation. Evidence for this claim is provided by its failure to apply before Faire-Infinitive (op. cit.: 281) and Tough-Movement (op. cit.: 341).

Although the existence of some of these rules has been called into question, I consider that the arguments offered by Kayne establishing Faire-Infinitive as a transformation are very convincing. Two separate movement rules for reflexive and non-reflexive clitics are

therefore required, since reflexive clitics are positioned before Faire-Infinitive can apply. Herschensohn's (1981) analysis of Faire-Infinitive and related rules concluded however that only one cyclic rule of Clitic Placement is needed, and that Se-Placement is not strongly motivated within her set of assumptions. She explains the different positions which can be occupied by the two types of clitics by presuming that (most) reflexives are base-generated in clitic position (Herschensohn (1981: 236)). If her arguments are valid (a question we will not pursue here), clitic order in sentences like (6)b can be accounted for in the same way as clitic order with inherently reflexive verbs, like s'évanouir in (5). Under our assumptions, the correct reflexive~non-reflexive ordering follows naturally, whether there are two kinds of movement rules for clitics or there is only one, with the reflexives generated in preverbal position. Given the arguments advanced in Chapter 6 for a transformational derivation of at least some reflexives, we accept the necessity of two placement rules for clitics, with the reflexive rule operating within the cycle.

By virtue of its inclusion in the set of cyclic rules, therefore, Se-Placement must apply before Clitic Placement in any derivation. This intrinsic ordering follows from the organization of the transformational component into cyclic and non-cyclic rules, and ensures, without any imposition of parochial ordering in the sense of Pullum (1979), that in any string of postverbal Pro-forms, the reflexive pronoun will be moved first. Thus the intermediate stage (9) in the derivation of (6)b is impossible, since this configuration could arise only if Clitic Placement had applied prior to Se-Placement. Since these transformations must apply in the opposite order, the intermediate stage in the derivation of (6)b must be (10).

(10) Elle - se - acheter - la.

Application of Clitic Placement positions la to the immediate left of the V, between se and acheter, in the right surface order. No appeal needs to be made therefore to a clitic chart or any other type of positive output constraint to ensure the correct ordering of these pronouns. General principles of grammar and the requirement specifying that the target site for displaced pronouns is to the immediate left of the leftmost V in the \bar{V} constituent, are sufficient for proper clitic alignment.

7.2 The Necessity of Two Cliticisation Rules

The analysis of French clitic order presented so far depends on the existence of two separate rules which move pronouns to preverbal position. If it were the case that French required only one cliticisation rule, then according to whether the reflexive pronoun was direct or indirect object, it might be moved before or after other pronoun complements and not always be positioned as the leftmost clitic in any sequence (cf. the discussion of (6)-(9) and the possible misgeneration of (8)). It is important therefore that there be two entirely independent cliticisation rules, with different properties, operating in different ways.

Radford (1979: 168) however, finds the postulation of two different rules to position clitics 'more or less ad hoc' and undesirable, and proposes an alternative analysis. The main evidence for separating Se-Placement and Clitic Placement is the fact that non-reflexive clitics attach to faire in the causative construction, whereas reflexive clitics which are not coreferential with the subject of faire attach to the embedded infinitive, as (11)-(12).

- (11) a. Il a fait manger la tarte à son fils.
'He made his son eat the pie.'
- b. Il l'a fait manger à son fils.

- (12) a. (Deep Structure) La crainte du scandale a fait
 [_S le juge_i tuer Pro_{i+R}]
 'The fear of the scandal made the judge_i
 kill Pro_{i+R}.'
- b. La crainte du scandale a fait se tuer le juge.
 'The fear of the scandal made the judge kill himself.'

The non-reflexive direct object in (11)b is cliticised to faire, but the reflexive direct object in (12)b remains with the lower verb tuer. Cyclic application of Se-Placement as opposed to postcyclic application of Clitic Placement ensures the different surface position of the pronouns in (11)b and (12)b in Kayne's analysis.

But Radford would prefer to treat clitics uniformly, and to account for the different surface position of non-reflexive and reflexive clitics in sentences like (11)-(12) without positing separate cliticisation rules. Two possible solutions are suggested. The first is that reflexive clitics attach to the "highest accessible verb of which they are dependents" (Radford (1979: 178)). In sentences like (12), the reflexive pronoun is an initial dependent of tuer, but is also a dependent of faire, since the transformation of Verb-Raising (i.e. Faire-Infinitive) creates a monoclausal structure, with both faire and tuer Chomsky-adjoined under a single V node in derived constituent structure. Thus the highest verb to which the reflexive might be accessible is faire. But se will not attach to faire because the resulting structure would violate a filter which Radford calls the "Self-Control" Constraint, whose effect would be to mark as ill-formed any structure containing a reflexive pronoun cliticised to a verb to whose ultimate subject it is not coreferential (Radford (1979: 143)). Thus faire is not "accessible" to se which attaches then to the next highest accessible verb, tuer. This solution to the question of why some reflexive pronouns cliticise to the infinitive in faire constructions is not pursued further, because a more detailed examination of the

Accessibility Hypothesis in Radford (1978) reveals several problems with this approach.

The other solution proposed by Radford is that reflexive causatives are not derived by a rule of Faire-Infinitive, alias Verb Raising, but by a rule traditionally known as the Accusative and Infinitive. In this construction, there are two VP nodes in surface structure, instead of the simplex, one-clause structure which remains after Verb Raising has applied. Consequently, subordinate non-subject clitics generally attach to the subordinate verb. Radford establishes that the Accusative and Infinitive analysis is plausible for certain non-reflexive causative constructions. In particular, it appears that this rule applies predominantly in cases where a corresponding Verb Raising construction would produce ungrammatical results. For example, in (13) below, Verb Raising results in the contiguity of two pronouns which only co-occur when the second-person pronoun is an 'ethical dative'.

- (13) a. *Je te lui ferai inviter. (Verb Raising)
'I will make him invite you.'
- b. Je le ferai t'inviter. (Accusative and Infinitive)
'I will make him invite you.'

Citing Y.C. Morin and St. Amour, Radford observes that even with a full NP as subject of the subordinate verb, many speakers accept causative constructions in which the subordinate subject is not postposed and is not preceded by à, when the subordinate infinitive has a reflexive or an idiomatic clitic attached to it. Thus, both sentences in (14) are grammatical according to Y.C. Morin and St. Amour.

- (14) a. Ce n'est pas ça qui ferait Pierre se retourner.
- b. Ce n'est pas ça qui ferait se retourner Pierre.
'It's not that which would make Pierre turn around.'

Again, a functional reason could explain why in the case of subordinate reflexive clitics, a transformation other than Verb Raising

might have applied. The monoclausal structure resulting from the operation of Verb Raising would require any uncliticised subordinate pronouns to attach to the main verb faire. Since the attachment of se to faire in a sentence like (14) would violate the Self-Control constraint, the alternative Accusative and Infinitive construction is available to make such sentences 'sayable'. Kayne's analysis, of course, avoids postulating that a second rule is involved in causative constructions by ensuring that subordinate reflexive pronouns are already cliticised to the infinitive before Faire-Infinitive (Verb Raising). As a cyclic rule, Se-Placement applies on the lower S in initial structure before Faire-Infinitive can apply on the higher cycle. Se-Placement also removes a noun phrase (i.e. the reflexive Pro-form) from postverbal position, so that the postposed infinitive subject is not marked as an indirect object as a result of the operation of Faire-Infinitive. This rule has the effect of marking the displaced infinitive subject as a direct object if there is not already a direct object after the verb. If there is one, the subject is preceded by à. The early removal of a postverbal direct object by Se-Placement ensures that Pierre in (14) or le juge in (12) are not indirect objects.

Radford's analysis makes the same predictions about the position of the reflexive clitic and the case marking of the subordinate subject. In the Accusative and Infinitive, or Subject-to-Object Raising analysis, all infinitive subjects become direct objects of the superordinate verb, and are never preceded by à or any other oblique marking. And the reflexive clitic, as a subordinate object, remains with the embedded verb because in this construction, "subordinate clitics generally attach to the subordinate infinitive" (Radford (1979: 167)). This attachment to the lower verb is perhaps a result of a convention which is proposed in Radford (1977 : 191) to the effect that "clitics attach to the leftmost lexical V of the minimal VP containing them." Since

Subject-to-Object Raising leaves intact the lower VP, so that there are two VPs in surface structure, it is only natural in this analysis that se should attach to the infinitive and not to faire.

Both Kayne's and Radford's analyses account for the linear position of the reflexive clitic and the case-marking of the subordinate subject, so the question arises of which is preferable. Kayne's treatment of the problem requires two cliticisation rules; Radford's requires two rules for causative constructions. But Radford's Accusative and Infinitive rule is also plausibly responsible for constructions which appear with laisser (to allow), and certain perception verbs like voir (to see), entendre (to hear), in which the subordinate subject may be argued to surface as main clause direct object, as in (15).

- (15) a. J'ai laissé Jean partir.
 'I let Jean leave.'
- b. On a entendu Marie chanter.
 'We heard Marie sing.'

(Kayne analyses these as V NP S constructions whose lower clause subject is deleted by Equi.)

As Se-Placement is obviously not a rule used in constructions other than those containing se, no argument can be made to show that this rule might be necessary elsewhere in the grammar, as one can for the Subject-to-Object Raising rule which gives the Accusative and Infinitive structure. This preliminary consideration would seem then to make the Accusative and Infinitive analysis preferable to the one postulating two separate cliticisation rules, because the former solution to the problem of reflexive causatives uses a rule which may well be necessary elsewhere in the grammar. However, there are other considerations which I shall argue make the Se-Placement solution the more plausible.

The first piece of evidence that it is not the Accusative and Infinitive construction which is involved in reflexive causatives is

provided by the position of the subordinate subject. The preferred order of constituents in structures resulting from Subject-to-Object Raising is illustrated in (15) c and d, where the infinitive subject is positioned before the infinitive.

- (15) c. J'ai entendu Marie chanter.
'I heard Marie sing.'
- d. Paul a laissé Pierre le dénoncer.
'Paul let Pierre denounce him.'

Sentences exactly like (15) except for postposition of the subject are felt to be stylistically slightly more marked than their preposed variants.

- (16) a. J'ai entendu chanter Marie.
- b. Paul a laissé le dénoncer Pierre.

In contrast, reflexive causatives with a preposed infinitive subject are highly marked. Informants uniformly rejected sentences like (17)a while one informant found prepositioned infinitive subjects acceptable only if the infinitive was modified by adverbial complements, as in (17)b.

- (17) a. *J'ai fait Paul s'en aller.
'I made Paul go away.'
- b. *?J'ai fait Paul s'en aller hier.
'I made Paul go away yesterday.'

Most speakers find sentence c to be the only grammatical version of (17).

- (17) c. J'ai fait s'en aller Paul.

It appears therefore that in clear-cut cases of Subject-to-Object Raising, the resulting Accusative and Infinitive structure accepts postposition of the infinitive subject optionally as a stylistically marked phenomenon, while in reflexive causatives, postposition of the infinitive subject is obligatory for most speakers. This anomaly

does not preclude an Accusative and Infinitive analysis for the causative construction in question, since postposition is in fact allowed in other cases of Subject-to-Object Raising, but it is not immediately obvious why some structures undergoing this rule require postposition of the subject while others only permit it. It is possible that faire is idiosyncratic in that it is subject to a version of Postal's (1974) Derived Object Constraint (cf. Radford (1979: 166)). This constraint would forbid an NP which had become an object of faire through application of a transformational rule from appearing immediately after faire in canonical direct object position. If this constraint is in fact operating in reflexive causative constructions, then the quasi-obligatory postposition of the infinitive subject with faire would follow, and my first argument would lose some of its force. But in view of the theoretical disadvantages of ^{global} derivational constraints, the appeal to such a device to justify an Accusative and Infinitive analysis of these structures would seem to weaken the case for Subject-to-Object Raising here and favour an alternative analysis.

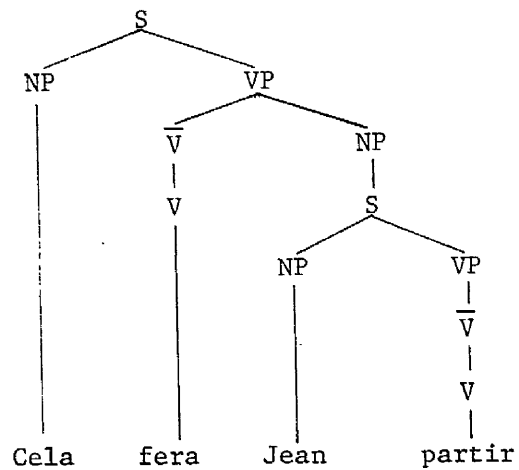
The second piece of evidence which can be advanced to support my claim that Faire-Infinitive and Se-Placement, and not Subject-to-Object Raising, must operate in the derivation of reflexive causatives, is based on considerations of the derived constituent structure following the application of these rules. If two different rules are in fact responsible for non-reflexive and reflexive causatives, different output structures will be created for sentences like (18) a and b.

- (18) a. Cela fera partir Jean.
'That will make Jean leave.'
- b. Cela fera s'évanouir Jean.
'That will make Jean faint.'

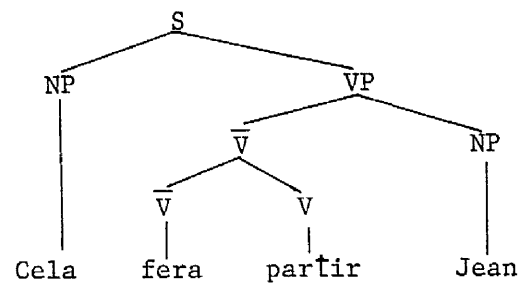
The first sentence will contain a single VP node, and will be a single clause structure, whereas the second sentence will contain two separate VP nodes. The initial structure of (18)a is given in (19)a, to be

converted by the rule of Faire-Infinitive to the structure in (19)b.

(19) a.

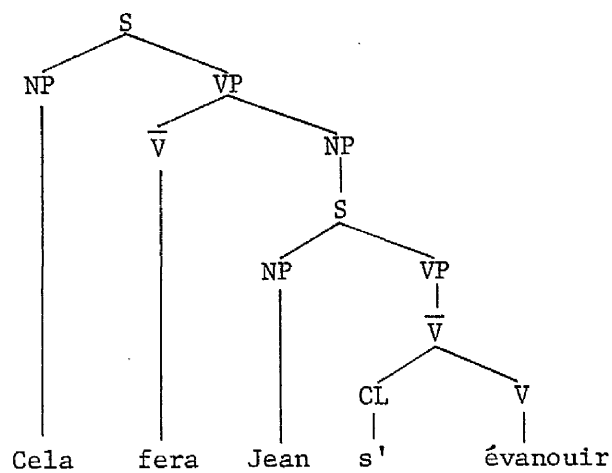


b.

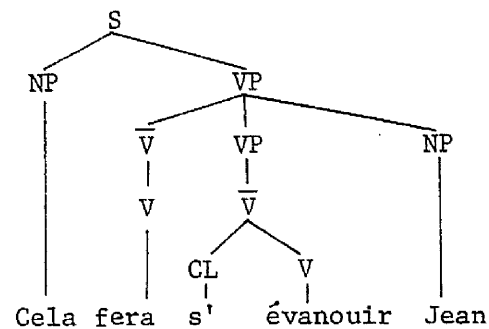


Subject-to-Object Raising applies to (20)a to yield (20)b.

(20) a.



b.



If (19)b and (20)b do in fact represent two different derived structures which must be assigned to non-reflexive and reflexive causatives by virtue of their having been affected by two different rules, then it might be possible to confirm this difference in structure by observing a systematically different reaction to syntactic rules. That is, if non-reflexive causatives may undergo a process which a reflexive causative may not, then that difference in syntactic behaviour may be attributed to a difference in structure.

One possible test to distinguish Verb Raising from Subject-to-Object Raising derivations is to determine whether the rule responsible for forming emphatic non-clitic reflexives, or alternatively the rule which interprets reflexive coreference, can operate down into infinitival complements of faire. There does seem to be some evidence that the non-reflexive class of causative constructions does permit these emphatic reflexives to reach down into the infinitival complement, as in (21).

- (21) Le général a fait servir le repas d'abord à lui-même et
ensuite au colonel.
'The general had the meal served first to himself and then
to the colonel.'

On the other hand, (22) would seem to indicate that in reflexive causatives, emphatic reflexives may not appear.

- (22) J'ai fait se méfier de moi-(*même) le frère du juge.
'I made the judge's brother wary of me (*myself).'

Assuming that there are two different derived structures in (21) and (22), the first a monoclausal Verb Raising structure and the second a two-clausal Accusative and Infinitive structure, we might conjecture that the appearance of the emphatic reflexive here depended on a monoclausal structure, and that its failure to appear in (22) results from the inability of the rule responsible for emphatic reflexives to operate across a verb phrase boundary. If this is the case, then the "two-rule" approach to causatives might be justified.

Unfortunately, however, the rules governing emphatic reflexives are not always clear. First, there is some doubt that the rule responsible for non-clitic reflexive Pro-même forms is in fact strictly limited to clause-internal operation. Kayne (1975: 347) remarks that sentences like (23) are quite acceptable, even under declarative intonation.

- (23) ?Elle veut que tu parles d'elle-même.
'She wants you to speak about herself.'

Here, the emphatic reflexive is coreferential with an element from which it is separated by an S-boundary. It does not seem likely therefore that the VP-boundary which is claimed to intervene between fait and se méfier in (22) could block the appearance of an emphatic reflexive.

The second point to be made about these emphatic reflexive Pro-même forms is that their occurrence is in fact possible in both non-reflexive and reflexive causatives under certain conditions. For example, even in monoclausal Verb-Raising structures, a contrastive context is necessary before the appearance of such pronouns is sanctioned. Under normal intonation, the pronoun eux in (24) is understood to be coreferential with the subject ils; only when there is some confusion about the intended referent of eux can même be attached to clarify that eux refers to the subject of faire.

- (24) Ils_i ont fait beaucoup parler d'eux_i (-mêmes).
'They caused a lot of talk about themselves.'

On the other hand, it seems that Pro-même emphatic reflexives can indeed occur in the alleged Accusative and Infinitive reflexive causatives. The conditions regulating the appearance of these forms are that the subject of faire must be of the same number and gender as a third-person Pro-form in the infinitival complement of faire. In (24) for example, the third-person prepositional objects may refer to the subject of faire or to someone else.

- (24) a. Paulette a fait s'approcher d'elle les enfants du voisin.
'Paulette made the neighbor's children approach her.'
- b. Ce journaliste a fait s'attaquer à lui ses confrères de la presse.
'This journalist made his fellow press-men attack him.'

The attachment of même to elle and lui makes the referents of these pronouns clear. But where there can be no such confusion, addition of même results in an ungrammatical sentence, even in a contrastive context, as (25) indicates.

- (25) *J'ai fait se méfier de moi-même le juge et non ma soeur.
'I made the judge, and not my sister, suspicious of me.'

The appearance of these Pro-même forms then seems to be governed by the requirement that the referent of the Pro-form be made clear. Sentences supposedly exemplifying the Accusative and Infinitive construction, like (20)b, as well as one-clause structures like (19)b, both allow these emphatic reflexives under certain conditions. This fact provides no evidence therefore for the claim that reflexive verbs under causatives enter into different syntactic configurations as a result of the application of different causative rules.

The different derived structures proposed for causatives in (19)b and (20)b suggest that these sentences may not display the same behaviour under negation. That is, the presence of a VP complement in (20)b suggests that the lower infinitive alone may be negated in reflexive causatives, whereas the presence of a complex \bar{V} node in (19)b seems to indicate that the whole verbal complex of faire + infinitive must be negated. The predicted distinction however does not seem to hold. Informants made consistent judgements on negated causatives. One informant accepted both sentences in (26), where both reflexive and non-reflexive infinitival complements are negated.

- (26) a. Voilà ce qui a fait ne pas se préoccuper le juge de ses affaires.
'Here's what made the judge not concern himself with his business.'

- b. Voici ce qui a fait ne pas partir mon frère.
'Here's what made my brother not leave.'

But other informants strongly rejected both a and b of (26). That is, they did not accept any negated complement of faire, whether it is reflexive or not.

The claim that there is a difference in derived structure between non-reflexive and reflexive causatives is therefore not substantiated by evidence from negative sentences or from the appearance of emphatic Pro-même forms. A final consideration may well disconfirm this claim, because it can be shown to make certain incorrect predictions about the position of non-reflexive clitic complements of reflexive infinitives in causative constructions.

Recall that one of Radford's objections to a Verb Raising (i.e. Faire-Infinitive) analysis of reflexive causatives was that it required Kayne to postulate two independent cliticisation rules, one operating cyclically on reflexives and the other postcyclically on non-reflexives. Radford contends that this splitting of the cliticisation process into two rules with different properties is undesirable, and in fact unnecessary if embedded reflexives in causatives are instances of the Accusative and Infinitive construction. Ironically, however, even if an Accusative and Infinitive analysis is adopted, two different cliticisation rules may be necessary anyway.

Because the Accessibility Hypothesis was dismissed as a plausible convention governing cliticisation in French (see Radford (1978)), I assume that in both the Accusative and Infinitive construction argued for in Radford (1979) and in the Verb Raising structure, cliticisation is governed by the convention that "clitics attach to the leftmost V of the minimal VP containing them" (cf. Radford (1977 : 191)). This single rule of cliticisation does indeed ensure the correct surface position of the clitics in (27), if the Accusative and Infinitive

analysis is adopted.

- (27) Cela l'a fait se tuer.
'That made him kill himself.'

The pronoun l' corresponds to the subject of the lower clause. Application of Subject-to-Object Raising makes this subject a derived object, dominated by the VP node of the superordinate sentence. The leftmost V in this constituent is the auxiliary a, to which l' attaches. The pronoun se originates as the NP object of the subordinate sentence; application of Subject-to-Object Raising leaves the lower VP node intact. Hence, this clitic remains with the embedded infinitive.

Consider now other cases in which the subordinate reflexive is not the only cliticisable complement of the infinitive. In (28), for example, which is the deep structure corresponding to the sentence in (30), en is eligible for cliticisation.

- (28) Sa mère a fait [_S elle_i griller un-en à Pro_{i+R}].
Her-mother-made-she_i-light-one of them-to Pro_{i+R}.
'Her mother made her_i light one (i.e. a cigarette) for herself.'

Subject-to-Object Raising results in the cliticisation of elle to faire, because this pronoun is now dominated in derived structure by the main clause VP. The reflexive, which continues to be dominated by the subordinate VP, remains with the embedded infinitive in the form of se. And since en is likewise attached to the subordinate VP, it should remain with griller, and not migrate to faire, in accordance with the convention on clitic attachment mentioned earlier. The surface structure predicted by the Accusative and Infinitive analysis is therefore (29).

- (29) *Sa mère l'_i a fait s'en griller un.
'Her mother made her light one up.'

But the grammatical surface structure corresponding to (28) is (30).

- (30) Sa mère lui en a fait se griller un. (cf. Kayne (1975: 427))

The implication of these facts for the Accusative and Infinitive analysis is undesirable: an additional rule of cliticisation will be required to ensure that embedded non-reflexive pronouns in reflexive causatives attach to the superordinate verb faire, and not remain within the VP in which they are generated. If no such stipulation is made, ungrammatical sentences like (29) will result, because of the inability of these pronouns to leave their VP.

Whichever analysis of causative constructions is chosen then, two independent cliticisation rules appear to be necessary. One analysis requires a separation into se-cliticisation and non-reflexive cliticisation. The other requires non-reflexive clitics embedded in reflexive causatives to be dealt with in a different way from clitics elsewhere. The choice then is between an analysis involving two clitic movement rules and one causative construction rule, and an analysis involving two clitic movement rules and two causative construction rules. From the point of view of observational adequacy, the analyses are equivalent, but it seems intuitively obvious that the criterion of descriptive adequacy is better met by the analysis having fewer rules. We conclude therefore that Kayne's rule of Faire-Infinitive affects both non-reflexive and reflexive infinitive complements of faire, and that the rule of Se-Placement, operating cyclically, accounts for the different linear position of se in reflexive causatives. Though the Accusative and Infinitive construction may well be responsible for some instances of the causative construction, it is by no means certain that this analysis can be extended to all cases of reflexive infinitives embedded under faire.

The leftmost position of se in any clitic sequence is therefore guaranteed: lexical se is already in place, and moves to the left if any other clitics are inserted under the \bar{V} node, while transformational se, moved by a cyclic rule of Se-Placement, will be similarly already

in place if other postverbal pronouns are subject to the postcyclic rule of Clitic Placement.

7.3 Non-Reflexive Personal Pronouns

The class of pronouns referred to here are those of Table 1 in Section 1.1, which includes the non-reflexive Pro NP clitics. The clitics which correspond to the categories PP (y and some instances of en) and N (other cases of en) will be considered later.

As was shown in 1.1, the canonical deep structure order of constituents, in which direct object precedes indirect object in left-to-right order after the verb, is not reflected in the clitic order when one of the clitics in the preverbal sequence is a first- or second-person indirect object. These first- and second-person clitics, whether direct or indirect objects, are always leftmost in any string of clitics. Thus the symmetry of constituent order is lost when certain pronouns are fronted, but remains intact if none of the pronouns is first or second person. It was to account for this asymmetry that Perlmutter proposed a positive output constraint in the form of surface structure clitic charts. But the specification of clitic ordering is not necessary, for reasons to be given below.

In Chapter 3, two transformational analyses of clitic ordering by Emonds and Herschensohn were outlined. In both of them, the third-person direct object pronouns were singled out and treated as a natural class. In contradistinction to this claim, I suggest that these pronouns do not share enough characteristics to justify their separate treatment, but that another group of pronouns does constitute a unitary class, and that by virtue of differences in structure between these pronouns and the rest, the order of French clitics follows as an automatic consequence.

7.3.1 The Non-Uniformity of the Pronoun System

The syntactic characteristics which all French conjunct pronouns share, such as their complementary distribution with respect to corresponding strong forms, lack of stress, domination by the node V, and inability to conjoin, make it natural to treat these pronouns as a syntactic class. Traditional grammars of French list the clitic forms as a group on the basis of their preverbal position, and deal with their idiosyncracies of ordering by means of clitic charts.

Emonds (1976) subdivides the clitics by singling out le, la, les as a group to be dealt with separately. The reasons he gives for doing so, however, are unconvincing. He makes four claims, none of which withstands scrutiny. He claims:

(i) There can be two preverbal object pronouns only if one of them is le, la, les.

(ii) Le, la, les are of radically different form from strong pronouns generated under NP, whereas the other preverbal object pronouns are essentially of the same form as the latter.

(iii) Le, la, les are the only preverbal object pronouns that can be marked for grammatical gender, whereas the other preverbal object pronouns can never be so marked.

(iv) The contrast between le, la, les and lui, leur in preverbal position is the sole instance in French where one might seem to have a distinction in grammatical case. (Emonds (1976: 232))

Claim (i) is true only if reflexive se, y, en and the ethical dative construction are all omitted from consideration as preverbal object pronouns. As there is no reason to exclude them, this claim is falsified by sentences like (31).

- (31) a. Elle m'en donne.
'She gives me some (of them).'
- b. Je m'y fie entièrement.
'I trust it completely.'

- c. Tu vas me lui obéir!
'You're going to obey him!'
- d. Il s'y en est passé des choses ici.
'It looks like some things happened here.'
(Y.C. Morin (1981: 102))

Claim (ii) makes the point that, whereas clitic nous, vous, me, te, are essentially the unstressed counterparts of the strong forms nous, vous, moi, toi without a major morphological alternation, le, la and les are morphologically very different from their strong forms lui, elle and eux/elles. But exactly the same point can be made for lui, leur. The singular form, corresponding to à lui, à elle is largely unchanged, but the form of leur is as different from à eux and à elles as les is from eux.

Claim (iii) is correct only for le and la; les is not morphologically marked for gender. All direct object pronouns in French which precede the verb can cause gender agreement on the past participle. The class of pronouns able to trigger direct object verb agreement includes the accusatives le, la, les, me, te, se, nous, vous, but the class of pronouns morphologically marked for gender consists of only le and la.

Claim (iv) is correct, but the relevant conclusion would seem to be that lui and leur are the special cases here, being the only two words in French morphologically marked as dative only.

On the basis of these questionable claims, Emonds justified placing le, la, les into preverbal position at a different stage in the derivation from the other personal pronouns. The result, as has been shown in Chapter 3, is that these are the only clitics not dominated by a clitic node in derived structure, and the only clitics subject to two different clitic movement transformations.

Herschensohn's (1980) analysis does not provide any justification for treating le, la, les as separate class. Assigning the feature

[+GEND] to just these pronouns, and providing a preverbal slot in the Clitic Placement rule which only these pronouns can fill, allow the rule to work. But, as indicated in Chapter 3, this feature assignment has no other motivation and so lacks any explanatory value.

The ad hoc nature of the analyses put forward by Emonds and Herschensohn can be avoided if one looks elsewhere in the French pronoun system for natural subclasses. I reject the claim that le, la, les form a separate group, and maintain instead that the pronouns which stand apart from the others are those of the first and second person. It is reasonable that these be considered a natural group, with strong evidence being provided by clitic ordering restrictions. Leaving aside en whose source is within a direct object noun phrase, and the ethical dative, preverbal clitic order exactly reflects postverbal NP order except for first- and second-person indirect objects. It is to the point therefore to examine any systematic differences between these and third-person personal pronouns which might justify a separate treatment of first- and second-person pronouns.

7.3.2 Morphological, Distributional and Semantic Differences

Morphological differences between personal object pronouns suggest that first- and second-person pronouns (henceforth, 1s, 2s), form a separate class. For example, there is no allomorphy between the clitic form and the full form of 1, 2s, as the me ~ moi [mə ~ mwa] and te ~ toi [tə ~ twa] clitic variation is a function of stress assignment, and the me ~ m' [mə ~ m] and te ~ t' [tə ~ t] variation is a sandhi feature, the reduction being triggered by the following vowel. But the variation between clitic and full form of 3s is not attributable to obviously regular phonological or morphophonemic processes of French. The following alternations among third-person pronouns illustrate to what extent this system of pronouns displays allomorphy.

(32)	<u>Third-Person Pronouns</u>		<u>First- and Second-Person Pronouns</u>	
	<u>Full Form</u>	<u>Clitic Form</u>	<u>Full Form</u>	<u>Clitic Form</u>
	lui	le	moi	me, moi
	elle	la	toi	te, toi
	eux	les	nous	nous
	elles	les	vous	vous
	à lui	les	à moi	me, moi
	à elle	lui	à toi	te, toi
	à eux	leur	à nous	nous
	à elles	leur	à vous	vous

There are other morphological differences as well:

(i) Third-person pronouns (henceforth abbreviated as 3s) must be marked for case when clitics, whereas first- and second-person pronouns are undifferentiated as to case in clitic form.

(ii) Direct object 3s are marked for gender in the singular; no 1 or 2 is so marked morphologically.

(iii) The clitics in (32) above are all marked for number, but while each of the set of 3s is unambiguously singular or plural, the two so-called plural members of the set of 1s, 2s can be used to refer to a singular entity. The 'polite' vous and the 'royal' or 'editorial' nous may be used to designate a single individual. Les and leur have no such use.

The history of clitic order in French also provides evidence for treating 1, 2s as a class. Wanner (1974) points out that in the twelfth century the ordering constraint holding among clitics was as in (33).

(33) [III acc] - [III dat] - II, I, se - en - y

but that between the thirteenth and sixteenth centuries, the order gradually changed to (34).

(34) II, I, se - [III acc] - [III dat] - y - en.

The position and order of third-person pronouns relative to each other did not change, but that of 1, 2s relative to 3s certainly did. Whether

the 3s moved closer to the verb or the 1, 2s moved further away from it is a question for historical syntax. The point is that first- and second-person pronouns display similarities of positioning and ordering (shared with the reflexive pronoun) which make them distinct from third-person pronouns.

Next, a distributional difference. Yves-Charles Morin (1979a) makes the observation that in popular French, there are restrictions on the co-occurrence of personal pronoun clitics with y and en. In particular le, la, les are rarely used with y and en by speakers of popular French, so that the sentences of (35) which are perfectly grammatical in standard French are not normally produced in this dialect.

- (35) a. Il l'en a convaincu.
'He convinced him of it.'
- b. Je l'y ai conduit.
'I drove him there.'
- c. Empêche-l'en.
'Stop her from (doing) it.'
- d. Emmène - l'y.
'Take her there.'

This co-occurrence restriction is especially noticeable with the predicates voici and voilà; the sentences of (36) are ungrammatical in popular French.

- (36) a. L'en voilà débarrassé; les en voilà débarrassés.
'Now he/they are rid of it.'
- b. L'y voilà enfin arrivé; les y voilà décidés.
'Now he's finally arrived there; now they've decided about it.'

But 1, 2s are exempt from these restrictions; the sentences in (37), exactly parallel to those in (36) but for the difference in pronoun, are grammatical in popular French.

- (37) a. M'en voilà débarrassé; nous en voilà débarrassés.
- b. T'y voilà enfin arrivé; nous y voilà décidés.

Finally, a semantic difference. The interpretation of first- and second-person pronouns is fixed indexically, by the context, whereas the interpretation of third-person pronouns is determined by various syntactic and semantic constraints. (This observation thanks to Ruth Kempson (personal communication)).

7.3.3 Syntactic Similarities

The morphological, distributional, and semantic differences noted above, and the appearance of 1, 2s in the leftmost position in any cluster of clitics in the preverbal space, make it plausible to think that 1, 2s are processed by the grammar differently from 3s. One possibility is that 1, 2s are generated by the base rules in preverbal position, while 3s are generated in object NP position, and subject to a clitic placement rule to account for their position in front of the verb. However, this possibility is extremely unlikely, given the syntactic parallels between 1s, 2s and 3s in various environments. The complementary distribution between the object full forms (moi, toi, lui, elle, nous, vous, eux, elles) and their corresponding weak forms (me, te, nous, vous, le, la, les, lui, leur) is the most cogent argument against inserting 1, 2s directly into their surface position. Everywhere, except in direct object and indirect object position, the full, stressed form is found, as object of a preposition (a), in a ne . . . que construction (b), in conjoined NPs (c), and in isolated expressions (d).

- (38) a. Il viendra après elle et avant moi.
'He will come after her and before me.'
- b. Elle n'aime que moi; je n'aime qu'elle.
'She loves only me; I love only her.'
- c. Lise accompagnera Charles et toi et moi.
'Lise will come along with Charles and you and me.'
- d. Qui a fait ça? - Moi. Lui. Eux.
'Who did that? - Me. Him. Them.'

Various grammatical operations can be much more simply described if we assume that 1, 2s have a different position in basic sentence structure from 3s. For example, cleft sentences in French can extract certain constituents like subjects or objects from a sentence and focus them between *c'est* _____ *que* . . . or *c'est* _____ *qui* . . . From (39)a we derive b and c.

- (39) a. Paul voit l'église.
'Paul sees the church.'
- b. C'est Paul qui voit l'église.
'It's Paul who sees the church.'
- c. C'est l'église que Paul voit.
'It's the church that Paul sees.'

In (40) however, neither the clitic subject nor object can be extracted in clitic form.

- (40) a. Je la vois.
'I see her.'
- b. *C'est je qui la vois.
- c. *C'est la que je vois.

They must appear in their strong form.

- (41) a. C'est moi qui la vois.
- b. C'est elle que je vois.

These facts are most easily accounted for if at the point of application of the extraction operation, the pronouns of (40) are represented as in (42), with object Pro-forms in their basic postverbal position, and with moi and elle understood to represent NPs with the features [+PRO] [+SING], and [+ 1 PERSON] / [+3 PERSON].

- | | | |
|------|--------------------|--------------------|
| (42) | Moi - vois - elle. | Elle - voit - moi. |
| | 'I see her.' | 'She sees me.' |

That is, because the surface form of subject and object clitics may not appear in this construction, a unified statement of cleft sentences in French is only possible if the structure on which the cleft rule

operates does not contain clitic forms. On the other hand, a unified statement is possible if we assume that pronouns are occupying NP positions when the rule is applied.

Another related argument is that this cleft construction does not extract verbs, as (43)d shows.

- (43) a. Jean vient demain.
 'Jean is coming tomorrow.'
 b. C'est Jean qui vient demain.
 c. C'est demain que Jean vient.
 d. *C'est vient que Jean demain.

Kayne (1975) demonstrates that clitics form part of the verb constituent in derived structure. If the cleft rule had to operate on structures containing clitics, the statement of the rule would be made more complicated: normally prohibited from working on V constituents, it would have to be allowed to extract a clitic from under the \bar{V} -node, with some provision built into the rule for converting clitic form to strong form, to avoid the ungrammatical (40)b,c. No such complication would result if the basic form of the pronoun is assumed to occupy a normal NP position.

Finally, the hypothesis that l, 2s are not moved by a clitic placement rule, but are instead generated preverbally by the base rules, is not consistent with clitic ordering facts in affirmative imperatives. In sentences like (43)e, f

- (43) e. Donnez - le - moi. f. Parlez - m'en.
 'Give it to me.' 'Speak to me about it.'

the pronoun moi, which is a clitic here and not a strong form pronoun, appears after the verb, and, when phrase-final as in e, with a different phonological shape. The hypothesis would have to provide for a rule moving just l, 2s into postverbal position only in affirmative imperatives. No such special rule would be necessary for imperatives if l, 2s were already positioned after the verb in underlying structure.

It seems obvious therefore that the morphological and positional differences between first- and second-person clitics and third-person clitics cannot be accounted for by generating only the former directly into surface position by means of the base rules. It is possible, however, to motivate a structural difference between 1, 2s and 3s, from which the clitic ordering restrictions follow.

7.4 A Single Clitic Placement Rule, without Positive Output Constraints

7.4.1 The Deep Structure of Personal Object Pronouns

Kayne's (1972) analysis of subject inversion in French interrogatives shows that the postverbal position of the subject NP in such sentences must be accounted for by a rule distinct from the one which postposes subject clitics. The apparently similar structures in (44) do not therefore occur as the result of applying the same rule to the declarative versions of these sentences.

- (44) a. Quand partira ce garçon?
'When will this boy leave?'
b. Quand partira-t-il?
'When will he leave?'

Instead, two separate rules apply in (44) a and b.

Several facts point to this conclusion. Only the subject clitic may be inverted in yes-no questions; inversion of the clitic in pourquoi (why) questions is fully acceptable whereas postposition of the subject NP is not nearly as acceptable; the presence of certain types of postverbal complements and modifiers affects the productivity of NP-inversion but not of clitic inversion; the surface structure position of the clitic pronoun is not always identical to that of the inverted subject NP; inversion of the NP subject but not of the subject clitic is allowed in embedded questions and relative clauses.

On the basis of these facts, Kayne proposes that the inversion of the subject pronoun clitic be construed as a simple interchange of the pronoun and the verbal form with which it is in contact. The postposition of the subject NP, on the other hand, is interpreted as a displacement of the subject NP rightward. Thus a rule labelled Stylistic Inversion is responsible for the NP postposition in (44)a, while (44)b is explained by a process Kayne calls Subject Clitic Inversion.

There exists in French another type of interrogative construction, involving preverbal position of the subject noun phrase, and postposition of a subject clitic agreeing with this NP in number and gender. Known commonly as 'complex inversion', this construction is exemplified in (44)c.

- (44) c. Quand ce garçon partira-t-il?
'When will this boy leave?'

There is extensive parallelism between complex inversion and subject clitic inversion: in every case in which the former construction is possible, so is the latter. Both are found in yes-no questions and with pourquoi; neither is affected by following complements; both position the clitic after the first tensed V; neither construction is possible in embedded questions or relatives.

It appears desirable therefore to reduce both complex inversion and subject clitic inversion to a single rule. Kayne considers two possibilities for accomplishing this goal. The first is to consider that (44)c results from a copying operation. But, as Kayne points out, the copying hypothesis requires ad hoc complications to account for the appearance of on and the singular verb agreement in sentences like (45).

- (45) Pourquoi Jean et moi ne devrait-on pas partir tout de suite?
'Why shouldn't Jean and I leave right away?'

In addition, the copying hypothesis, which produces il as the copy of all third-person singular subjects in complex inversion, would

have to be complicated to account for the appearance of on and ce in postverbal position in sentences like (46).

- (46) a. Nous attend-on?
'Are they waiting for us? (i.e. Is one waiting for us?)'
- b. Est-ce vrai?
'Is it true?'

These postverbal ce and on would be best described by means of a simple inversion rule. This implies that two distinct rules are at work in the inversion of subject pronouns, a highly undesirable situation.

Kayne therefore rejects the copying hypothesis in favour of an inversion hypothesis, accounting for both (44) b and c by means of the same rule. Therefore sentences like (44)c must have an intermediate stage in their derivation in which the subject clitic associated with the subject NP is present preverbally, as in (47).

- (47) Quand-ce garçon-il-partira?
'When - this boy - he - will leave?'

Kayne ensures that strings like (47) are made available to the rule of Subject Clitic Inversion by generating all NPs in French along with a subject clitic. That is, the base category NP will be expanded as NP'-SCL, where SCL stands for a subject clitic. The base rules for NP are given as in (48).

- (48) a. $NP \rightarrow NP' - SCL$
- b. $NP' \rightarrow Det - N - COMP$

In the mixed bar notation we have been using, these rules could be translated as in (49).

- (49) a. $NP \rightarrow \bar{N} - SCL$
- b. $\bar{N} \rightarrow Det - N - COMP$

(If the node NP was in fact a three-bar category, as suggested in Jackendoff (1977a), then (49)a could be rewritten as (49)c.

- (49) c. $NP \rightarrow \bar{\bar{N}} - SCL \quad \text{or} \quad \bar{\bar{N}} \rightarrow \bar{\bar{N}} - SCL$).

Only the features of number and gender on the \bar{N} would determine the surface form of the subject clitics, so that il, for example, could be the clitic corresponding to NPs as diverse as quelqu'un (someone), cela (that), que + S (that + S), and the nominal component of idioms, such as cas in faire cas de (to value) (cf. Kayne (1972: 90)).

The limited distribution of subject clitics in surface structure indicates that a rule is required to remove them from NPs if they have not already been moved by the Inversion rule. These clitics can be found postverbally in both 'complex' and 'simple' inversion constructions, as in (50).

- (50) a. Jean est-il là?
'Is Jean there?'
b. Est-il là?
'Is he there?'

Preverbally, they may only appear if no subject NP is present.

- (51) Il est là.
'He is there.'

The only condition under which a subject clitic and NP may co-occur preverbally is the 'detachment' construction; without comma intonation,

(52) is ungrammatical.

- (52) a. Jean, il est là.
b. *Jean il est là (no comma intonation).

Kayne proposes therefore a rule of Subject Clitic Deletion, stated as (53), which applies to subject clitics still preceded by their associated NP.

- (53) Subject Clitic Deletion

$$NP [NP' - SCL] \longrightarrow NP [NP' - \emptyset]$$

(Kayne (1972: 90))

The derivation of complex inversion sentences such as (54)a

- (54) a. L'argent est-il important?
'Is money important?'

will therefore procede as follows. The basic structure is assumed to be as in (54)b.

(54) b. $NP [L'argent - il]$ est important.

Application of the rule of Subject Clitic Inversion detaches the clitic from the NP and attaches it as a right sister of the V node (i.e. as a right sister of the V dominated by the leftmost \bar{V} in the 'verbal complex' constituent described by Emonds (1978)). This rule is formulated by Kayne as (55).

(55) Subject Clitic Inversion

$$\begin{array}{c} X \\ +Q \end{array} NP [Y - SCL] \quad V \rightarrow \begin{array}{c} X \\ +Q \end{array} NP [Y] \quad V + SCL$$

The result of this operation is sentence (54)a, containing a postposed subject clitic. Non-application of this rule leaves a string to which the obligatory rule of Subject Clitic Deletion applies, giving (56).

(56) L'argent est important.

In order to derive a sentence whose subject is a clitic, Kayne assumes a similar derivational history, with an extra rule. A sentence like (57)a originates as (57)b, in which the subject NP is a strong form pronoun to which a subject clitic is attached.

(57) a. Il est important.
'It is important.'

b. $NP [lui-il]$ est important.

In emphatic environments, Subject Clitic Deletion may apply, so that lui appears as subject in surface structure, as in (58).

(58) Lui est important.

In non-emphatic environments, a rule of Strong Form Deletion (59) erases the NP' constituent and leaves behind the clitic, as in (57)a.

(59) Strong Form Deletion

$$NP [PRO - SCL] - V \rightarrow NP [\emptyset - SCL] - V.$$

Kayne's proposal to generate subject clitics as part of the NP constituent in French, along with his further proposal to introduce the subject clitics ce and on into preverbal subject position in a manner we will not describe here, allow the single rule of Subject Clitic Inversion to account for all cases of both simple and complex inversion of subject clitics. The rejected copying hypothesis required two rules to do the same work, and could not account for some cases of inversion.

We accept this analysis of Kayne's in its essentials without further discussion, noting that Kayne continues to assume its validity in other published work (cf. Kayne (1978: 611) and (1979: 52, no. 38)). But we do not accept the claim that all NPs in French are accompanied by a base-generated subject clitic. It is not immediately obvious, for example, that we should want to extend this analysis to the whole range of personal pronouns. While the derivation of the sentence in (57) may well be accounted for by rules applying to pronouns as well as full NPs, no evidence is offered by Kayne that the base form of pronouns should have clitics on them in deep structure.

It would be equally plausible to assume that the phrase structure rules generate pronouns without clitics, and that the deep structure Pro-forms more closely resembles a than b in (60).

- (60) a. NP[moi] NP[nous]
 NP[toi] NP[vous]
 NP[lui] NP[eux]
 NP[elle] NP[elles]
- b. NP[NP[moi] - SCL[je]] NP[NP[nous] - SCL[nous]]
 NP[NP[toi] - SCL[tu]] NP[NP[vous] - SCL[vous]]
 NP[NP[lui] - SCL[il]] NP[NP[eux] - SCL[ils]]
 NP[NP[elle] - SCL[elle]] NP[NP[elles] - SCL[elles]]

To decide between these possibilities, syntactic evidence is needed to motivate one structure or the other. If sentences like (54) make it plausible that the NP subject here is $NP[NP[l'argent] - CL[il]]$, sentences parallel to (54) with pronoun subjects would support underlying structures similar to (60)b. Such structures cannot, however, be

found for first- and second-person pronouns. Sentences like (61) which may appear to be complex inversion sentences are in fact detached constructions characterized by comma intonation.

- (61) Toi, viens-tu?
'You, are you coming?'

The absence of complex inversion with 1, 2s cannot be attributed to the fact that first- and second-person tonic pronouns cannot be subject of a sentence, as in (62),

- (62) a. *Moi suis arrivé.
'I arrived.'
b. *Toi es très chic.
'You are very smart.'

because when qualified by seul (only), the tonic pronoun can be subject of a sentence.

- (63) a. Toi seul as été prévenu.
'Only you have been warned.'
b. Moi seul finirai ce travail.
'Only I will finish this work.'

Nevertheless, complex inversion is incompatible with these sentences.

- (64) a. *Pourquoi toi seul as-tu été prévenu?
'Why is it that only you have been warned?'
b. *Pourquoi moi seul finirai-je ce travail?
'Why is it that only I will finish this work?'
c. *Pourquoi vous seul avez-vous été prévenu?
(examples from Y.C. Morin (1978: 32))

Since there are no sentences with a first- or second-person strong form in subject position and the corresponding subject clitic inverted after the finite verb, it follows that there is no reason to assume that these pronouns have a structure like (60)b. We conclude that first- and second-person pronouns have the form NP[moi], NP[toi], etc., rather than NP[NP[moi] - SCL[je]], NP[NP[toi] - SCL[tu]], etc. Kayne would have to account for the absence of complex inversion in (64) by imposing a

derivational constraint on the pairs moi-je, toi-tu, vous-vous, nous-nous so that the clitic part of the pair will have to be deleted if for some reason the NP part of the pair is not deleted, as Y.C. Morin (1978) points out. The non-application of an otherwise regular rule is explained naturally if the pronoun NPs of (63) simply do not meet the structural description of Subject-Clitic Inversion.

On the other hand, there are sentences like (65) displaying complex inversion with a third-person tonic pronoun as subject.

- (65) a. Pourquoi lui seul a-t-il été prévenu?
'Why is it that only he was warned?'
b. Pourquoi eux seuls veulent-ils partir?
'Why is it only they want to leave?'

These sentences suggest that the structure of lui, eux, and the other third-person pronouns, must be like the structure of (60)b, with the subject clitic attached to the pronoun.

Evidence from complex inversion leads to the conclusion that different deep structures must be posited for 1, 2s on the one hand, and for 3s on the other. The 1, 2s are 'bare' pronouns at the underlying level, while 3s are associated with a subject clitic. This deep structure difference is consistent with other differences already noted between these classes of pronouns, and also has important consequences for solving the problem of clitic ordering without appeal to positive output constraints or to a multiplicity of transformational rules.

7.4.2 An Account of Clitic Ordering

The claim I am making in this section is that the order of object clitics follows automatically from the order in which transformations apply to deep structures containing object pronouns. This would be a less interesting claim if the transformations involved in the derivation of clitics were parochially ordered, in the sense of Pullum (1979). However, no extrinsic ordering pattern needs to be imposed

because of presumably universal constraints on the determination of rule precedence which ensure the correct order of application of transformations. The fact that French clitic order can be explained without mechanisms added to grammatical theory and without increasing the number of clitic movement rules provides support for the hypothesis that universal principles can account for the order of rule application.

Consider therefore the derivation of (66)a, for which we assume the underlying structure (66)b.

(66) a. Jean me le donne.
'Jean gives it to me.'

b. NP[Jean-il] donne NP[NP[lui] - CL[i]] PP[P[à] NP[moi]]

The underlying string (66)b satisfies the structural descriptions of three rules:

- (i) Clitic Placement (Chapter 2, (7)b)
- (ii) Subject Clitic Inversion (55)
- (iii) Subject Clitic Deletion (53)

Without making any aprioristic assumptions about the order of application of one type of transformational rule relative to another type, and in particular about the requirement in certain versions of the theory of generative grammar that deletion rules as a class must follow transformational rules (cf. Chomsky and Lasnik (1977)), we shall attempt to motivate within the fragment of grammar under consideration an intrinsic ordering among these rules.

As a starting point, we accept Kayne's (1975) arguments that Clitic Placement is a postcyclic rule. The interaction of this rule with the cyclic rules of Faire Infinitive and Se-Placement shows that Clitic Placement must be postcyclic. Arguments advanced in Rouveret and Vergnaud (1980) and Herschensohn (1981) for the cyclicity of Clitic Placement crucially depend on generating the reflexive clitic se in the base. We have argued in Chapter 6, however, that many instances of se

are transformationally derived, and that Se-Placement is a syntactic rule operating within the cycle. From the cyclicity of Se-Placement, the postcyclicity of Clitic Placement naturally follows.

An important characteristic of this rule is that failure to apply it except as noted in Chapter 1, results in ungrammatical sentences. Clitic Placement is therefore an obligatory rule.

Subject Clitic Inversion, however, is optional, because non-application does not leave ungrammatical strings. This rule does not operate in embedded sentences, but only on root sentences, in the sense of Emonds (1976), as (67) indicates.

- (67) *Je me demande quand ce garçon partira-t-il?
'I wonder when this boy will leave.'

The earliest point in the derivation at which this rule could apply would be the final cycle. As Pullum (1979: 332f.) has argued convincingly that the distinction between last-cyclic and postcyclic rules is spurious, this rule too is postcyclic (cf. Kayne's (1975: 149 n.) observation that Subject Clitic Inversion is postcyclic).

Given that both Clitic Placement and Subject Clitic Inversion are postcyclic rules, it is possible to determine their ordering with respect to each other by referring to Ringen's (1972) Obligatory Precedence Principle, stated in (68).

(68) Obligatory Precedence Principle

If a phrase marker meets the structural description of both an optional and an obligatory rule, the obligatory rule must apply to that phrase marker.

According to this principle, we can establish that the obligatory rule of Clitic Placement will be tested for applicability before the optional rule of Subject Clitic Inversion.

The third rule under consideration, Subject Clitic Deletion is also an obligatory rule. If it were to apply in a phrase marker before Clitic Placement, there would be no consequences for the operation

of this latter rule, since each operates on different terminal elements.

There would, however, be an important consequence if Subject Clitic Deletion operated before Subject Clitic Inversion had a chance to apply. Consider this order of application with respect to the string in (69), in which the subject clitic is attached to the NP in underlying form.

- (69) Jean-il est parti.
'Jean has left.'

The deletion rule removes the clitic, leaving (70)a.

- (70) a. Jean est parti.

And now, there is no way to derive the 'complex inversion' construction (70)b, because there is no source for the postposed subject clitic.

- (70) b. Jean est-il parti?

It was to prevent the non-generation of grammatical strings that a principle of Counter-Bleeding Precedence was established (cf. Pullum (1979: 68), quoting Koutsoudas, Sanders and Noll (1974), and Koutsoudas (1980)). This proposal ensures that if there is a representation which meets the structural description of two rules A and B, then A takes precedence over B if there is some string included in the inputs of both A and B, but not in the output of B. This principle, which prevents rules from applying in an order that bleeds one of them if an alternative non-bleeding order exists, clearly applies here. The two rules of Subject Clitic Inversion and Subject Clitic Deletion can both apply to (69), which contains the item il. The output of the deletion rule does not include this item, but the output of the inversion rule does. The optional nature of the inversion rule further ensures that the NP' - SCL string to which the deletion rule applies will be present in case inversion fails to take place. The inversion rule

therefore takes precedence, applying before Subject Clitic Deletion.

This conclusion implies that Ringen's (1972) Obligatory Precedence Principle (68) must be qualified. The optional rule of inversion must apply before the obligatory rule of deletion to ensure that complex inversion constructions can be generated. A qualification like (71) must therefore be added to (68).

(71) . . . unless application of the obligatory rule violates the Principle of Counter-Bleeding Precedence.

Pullum (1975: 51) makes a similar observation with respect to another universal principle, called Proper Inclusion Precedence. He shows that any formulation of Obligatory Precedence must indicate that it is a subordinate principle which, other things being equal, takes second place to presumably universal principles of Counter-Bleeding and Proper Inclusion.

We have established therefore that Clitic Placement precedes Subject Clitic Inversion, and that this latter rule precedes Subject Clitic Deletion, and that therefore these rules must apply in the following order:

1. Clitic Placement
2. Subject Clitic Inversion
3. Subject Clitic Deletion

We are now able to account for the order of the clitics in (66)a, starting from the underlying structure (66)b, repeated here for convenience.

(66) a. Jean me le donne.

b. $NP[Jean-il]$ donne $NP[NP [lui] - SCL[il]]$ $PP[P[à] NP[moi]]$

The first rule able to apply to (66)b is Clitic Placement, which moves an $NP[+PRO]$ to preverbal position. Two such pronominal elements are present in this string. The natural assumption to make is that

the leftmost PRO in any string be considered the first target of the rule. In that way the variable X mentioned in the structural description of Clitic Placement will not contain any instance of PRO (and thus be an abbreviatory variable in the sense of Smith, Pullum and Wilson (1977)). But this natural interpretation of the variable can be overridden by other factors. For example, the variable X must include more than one instance of V in compound tenses, as (72) indicates.

- (72) a. Quand elle a eu terminé son travail, . . .
 'When she had finished her work, . . .'
 b. *Quand elle a eu le terminé, . . .
 c. *Quand elle a l'eu terminé, . . .
 d. Quand elle l'a eu terminé, . . .

The overriding factor in determining that the variable X may contain V is the stipulation in the structural description of Clitic Placement that clitics attach to the leftmost V of the VP constituent, with only clitics able to intervene between the VP boundary and the target V. This rule, discussed in Chapter 2, Section 2.1, is restated below as (73).

(73) Clitic Placement

VP[(CL) (CL) V X PRO Y]
 1 2 3 4 5 6 → 1 2 5+3 4 Ø 6

We must assume similarly that in the derivation of (66)a, this rule interprets the string (66)b in such a way that the variable X contains the leftmost PRO lui, so that an intermediate stage in this derivation is (66)c, with the bare preposition à deleted.

- (66) c. NP[Jean-i1] \bar{V} [CL[me] V[donne]] NP[NP[lui] - SCL[i1]]

According to our interpretation of the infixing function of this rule, discussed in Section 2.1, a later application of Clitic Placement will insert the clitic version of lui between me and donne

in this string to give the correct preverbal pronoun order me le of (66)a.

If lui was selected as the first pronoun to be moved by the rule, the intermediate stage produced by one application of the rule would be (66)d.

(66) d. Jean-il le donne à moi.

Subsequent application would insert me between le and donne, giving the incorrect *le me surface order.

Given that Clitic Placement could potentially select either of the pronouns in (66)a, we must ask whether the rule can be constrained so that the first-person pronoun was chosen to be moved before the third-person pronoun.

There is such a constraint available, in the form of the very general A-over-A Principle proposed by Chomsky and stated in Chomsky (1973: 235) as (74).

(74) A-over-A Principle

If a transformation applies to a structure of the form
 [a . . . [A . . .] . . .]
 where a is a cyclic node, then it must be so interpreted
 as to apply to the maximal phrase of type A.

Chomsky makes it clear that two interpretations of the principle are possible. In its absolute formulation, this condition legislates against any rule that extracts a phrase of type A from a more inclusive phrase A. In the 'loose' interpretation of the principle, the condition does not establish an absolute prohibition against transformations that extract a phrase of type A from a more inclusive phrase of type A. Rather, it states that if a transformational rule is non-specific with respect to the configuration defined, it will be interpreted in such a way as to satisfy the condition.

Kayne has already established that of these two 'absolute' and 'loose' interpretations of the A-over-A Principle with respect to Clitic Placement, the absolute interpretation is the one which predicts the correct results. In his discussion of sentences like (75), Kayne (1975: 117) notes that a natural explanation of the ungrammaticality of (75)b follows from the absolute inability of Clitic Placement to extract the NP[+PRO] les from the more inclusive NP containing the pronoun modified by a relative.

- (75) a. Elle connaît ces garçons, qui sont d'ailleurs très intelligents.
'She knows those boys, who moreover are very intelligent.'
- b. *Elle les connaît, qui sont d'ailleurs très intelligents.
'She knows them, who moreover are very intelligent.'

We take the absolute interpretation of this Principle to be the one determining which PRO is selected as the rule target for Clitic Placement in strings like (66)b. The leftmost PRO here is lui, which is contained in the larger phrase bracketed as in (76)a, or, alternatively, as in (76)b.

- (76) a. NP[NP'[lui] - SCL[i1]]
- b. $\overline{\overline{N}}[\overline{\overline{N}}[lui] - SCL[i1]]$

This clearly constitutes an instance of a category A contained within a larger phrase of category A, since the Pro-form is a noun phrase, or at least a nominal category with one bar less than the highest nominal node dominating it. Until the subject clitic is removed from within this phrase, the pronoun will be immobile, because movement of this form would violate the absolute interpretation of the A-over-A Principle.

Clitic Placement is therefore inapplicable to this constituent, because the NP[+PRO] mentioned in the structural description of the rule is located within a larger noun phrase. The NP[+PRO] moi is not contained, however, within a larger noun phrase, because, as we demonstrated in the previous section, this pronoun is not generated by the base rules

accompanied by a subject clitic. Clitic Placement may therefore apply to this Pro-form, resulting in the intermediate stage of the derivation illustrated in (66)c, with me preverbal and lui still postverbal.

The next rule to be tested for applicability (of the three under consideration) is Subject Clitic Inversion, which is optional, and does not feed or bleed either of the other two rules. Then Subject Clitic Deletion is free to apply, removing the subject clitics from Jean and lui, leaving the intermediate structure (66)e.

(66) e. NP[Jean] \bar{V} [CL[me] V[donne]] NP[lui].

As this structure meets the structural description of Clitic Placement, and since such obligatory rules apply whenever their structural descriptions are met, Clitic Placement applies once again to move the NP[+PRO] lui to immediate preverbal position, in accordance with our assumptions governing the operation of this rule discussed in 2.1 of Chapter 2. Clitic Placement behaves therefore just as Leftward Tous Movement does in applying iteratively (cf. Kayne (1975: 199, 222)).

As only one PRO is mentioned in the structural index of the rule, it is obvious that the simplest solution to the problem of how to get two or more clitics into the preverbal space is to allow the rule to reapply every time its structural description is met. Thus, once a third-person pronoun has undergone the rule deleting its associated subject clitic, it then becomes eligible for Clitic Placement.

A further derivation will show how the interaction of Clitic Placement with the A-over-A Principle can account elegantly for clitic order in French. Sentence (77)c contains two third-person pronouns: its underlying structure is assumed to be (77)b corresponding to (77)a.

- (77) a. J'ai donné la lettre à Georges.
'I gave the letter to George.'
- b. Je ai donné NP[elle-elle] PP[à NP[lui-il]]
- c. Je la lui ai donnée.
'I gave it to him.'

In (77)b, neither pronoun is able to be moved by Clitic Placement: both are contained within larger phrases of the same category. Application of Subject Clitic Deletion yields the string (77)d.

(77) d. Je ai donné elle à lui,

with both the underlined forms able to undergo the rule. The pronoun to be moved first will be the one satisfying the condition we assume to govern the interpretation of the variable X, to the effect that unless other factors immobilize a PRO (e.g. its confinement within a larger NP), the variable will be understood to contain no instance of a bare PRO dominated by a phrasal node. Should a PRO, however, be contained within a larger phrase, but belong to a category different from the one dominating the phrase, the variable may or may not contain the PRO. We consider that the condition on variables prohibiting them from containing categories mentioned in the structural descriptions of rules be understood to be applied absolutely to 'bare' pronouns exhaustively dominated by phrasal nodes, and to not apply absolutely to pronouns which are not bare, in the sense that the node dominating them also dominates other lexical material. This interpretation captures the spirit of Wilkin's Variable Interpretation Convention and of Smith, Pullum and Wilson's Abbreviatory Variable Convention, and ensures that elle, whose clitic form is la, is moved first. The intermediate stage so produced is (77)e.

(77) e. Je la ai donnée à lui.

Subsequent application of Clitic Placement infixes le between la and donnée within the \bar{V} constituent. This process of infixing does not itself violate the A-over-A Principle, because the affixed clitics, though dominated by the category \bar{V} in derived structure, are not themselves members of the category V at the point in the derivation when they are affected by the rule. Moving elements of category V

into a structure dominated by V may constitute a violation of the principle, but it is not obvious that moving an NP[+PRO] category under a \bar{V} node, even when this \bar{V} node dominates other clitics, implies a violation of the A-over-A Principle. The result therefore of a second application of Clitic Placement to the string (77)e is the sentence (77)c, with the clitics aligned in the correct order.

The advantages of this analysis of clitic order over other attempts to predict the surface alignment of clitics are therefore clear. No extensive clitic chart is needed to get the order right; no supplementary transformations are required to rearrange misplaced clitics; no dubiously motivated syntactic features are necessary. The correct order is a natural outcome of independently motivated facts: a difference in deep structure between first- and second-person personal pronouns, and third-person personal pronouns, in conjunction with universal principles determining applicational precedence among transformational rules. Perlmutter's clitic template, which constitutes a positive output constraint, can be abandoned, in view of the fact that it is simply not necessary.

The next sections investigate the preverbal position of en to determine whether this natural interpretation of the interaction of Clitic Placement and the A-over-A Principle can also account for its preverbal position.

7.5 The Preverbal Position of En

In Chapter 4, a case was made for considering that the pronoun en was not unitary in underlying structure, serving both as the nominal form of a prepositional phrase and as a pronoun in the literal sense of the word, dominated by the category N. Pro PP en originates in deep structure as a verb phrase complement and as a complement of a direct object noun phrase. The placement of Pro PP en which is a

VP complement will be dealt with first.

7.5.1 Pro PP en Dominated by VP

Sentences (78) and (79) below show that in any preverbal sequence of clitics, en always appears as the rightmost element.

- (78) a. Nous avons parlé à Marie de vos problèmes.
'We spoke to Marie about your problems.'
- b. Nous lui en avons parlé.
We-to her-about them-have-spoken
'We spoke to her about them.'
- c. Je veux vous récompenser de vos peines.
'I want to repay you for your trouble.'
- d. Je veux vous en récompenser.
'I want to repay you for them.'
- (79) a. Thomas a retiré le chat du puits.
'Thomas pulled the cat out of the well.'
- b. Thomas l'en a retiré.
'Thomas pulled it out of there.'

The mechanics already in place to ensure the ordering of other clitics before the verb can be naturally extended to account for the positioning of en in (77)-(79) above. We assume that at the point of application of the Clitic Placement transformation, the pronoun en is marked as cliticisable (as in Kayne (1975: 150)) and is present in deep structure postverbally, to the right of any direct and/or indirect object NP complements of the verb. In accordance with the conventions assumed to govern the operation of Clitic Placement, en will not become eligible to be moved in front of the verb until other verbal complements have been cliticised. As clitics are successively attached under the \bar{V} node to the left of the verb, with each "new arrival" displacing the last, en is assured its rightmost position in any string of clitics by virtue of the fact that it will always be the last clitic to be placed. Thus the fact that en is the clitic which in surface structure appears closest to the verb follows directly from the deep

structure position of its source, furthest from the verb, to the right of any other cliticisable complements.

An apparent counter-example to this analysis is illustrated in (80).

- (80) a. J'ai parlé de mes problèmes à Marie.
'I spoke about my problems to Marie.'
b. Je lui en ai parlé.
'I spoke to her about them.'

The prepositional phrase which is the source for en precedes the source of the indirect object clitic lui in (80)a; if Clitic Placement operated on the structure (80)c, the result would be ungrammatical.

- (80) c. Je-ai-parlé-en-lui.
b. *J'en lui ai parlé.

However, this objection ceases to be a problem if Clitic Placement operates on structures which reflect the canonical deep-structure order of elements. If we make the natural assumption that direct and indirect objects of the verb are generated by base rules as the second and third constituents respectively in the expansion of the VP node, with any other PP complements following these, then the deep structure source of (80)b will be (80)e, f and not (80)a.

- (80) e. Je-ai-parlé-à Marie-de mes problèmes.
f. Je-ai-parlé-lui-en.

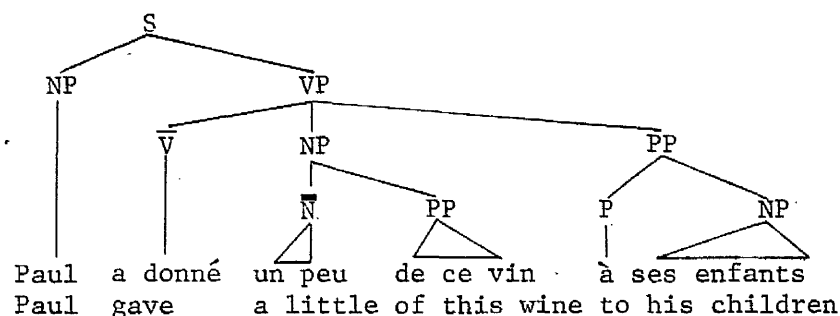
The fact that the order of complements in (80)e is felt to be slightly more natural by native French speakers supports the claim that (80)a is to be derived by a stylistic rule permuting the indirect object with a prepositional phrase. If, as Chomsky (1980) suggests, such stylistic rules operate on the output of the transformational component, then the rule responsible for rearranging the constituents of sentences like (80)e would apply only after the Clitic Placement

transformation had had a chance to apply. Thus (80)a does not constitute a counter-example to the proposed analysis of Pro PP en.

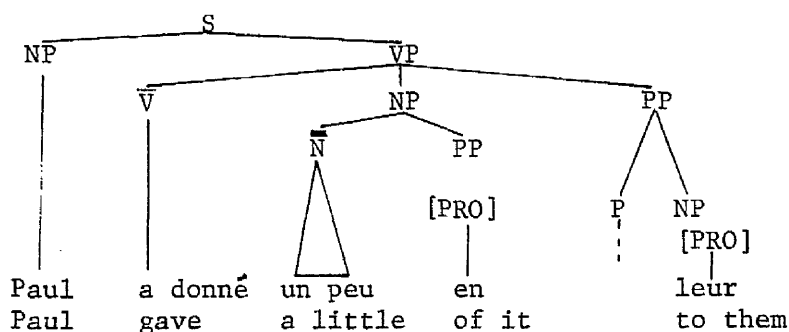
7.5.2 Pro PP en Dominated by NP, and Pro N en

The sources of these en are NPs which are direct objects of the verb, and therefore positioned postverbally to the right of the verb. If other cliticisable pronouns are present in the sentence, they are located in underlying structure in indirect object position or as the pronominal form of prepositional phrases, and so even further to the right of the verb than en. Structures in which en is the first cliticisable pronoun to the right of the verb are given in (81)-(82). I shall assume that the subject clitic generated on all NPs in French is also present on the NPs which presumably form part of prepositional phrases which ultimately appear in pronominal form. I further assume that the morphological rules responsible for the appearance of the Pro PPs convert strings of the form P NP to en and y, not strings of the form P NP-SCL. In what follows, therefore, the rule of Subject Clitic Deletion is understood to have applied to these and subsequent phrase markers.

(81) a.



b.



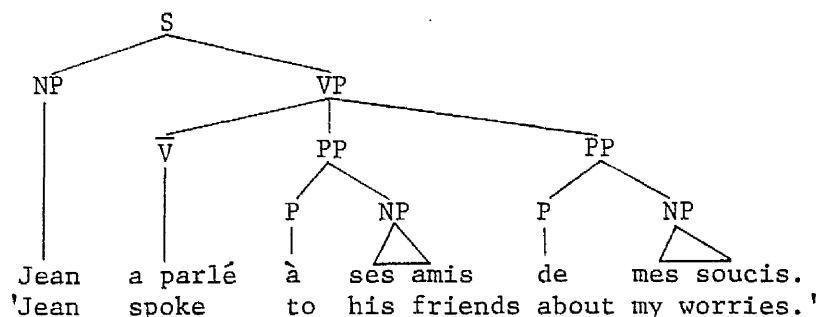
rules such as the Superiority Condition. This condition was shown in Chapter 2 to make false predictions about the order in which pronouns became eligible to be moved by Clitic Placement. In any case, the Superiority Condition is clearly inapplicable here. In the structure (81)b, for example, the same two categories dominate the Pro-forms en and leur: en is dominated by PP, NP while leur is dominated by NP, PP.

Wilkins' Variable Interpretation Convention does not prevent these en from being cliticised before other pronouns. Even if this convention was reinterpreted so that the most deeply embedded constituents of the same category as other constituents in the string were the last to be affected by iterative application of a rule, it would be unlikely that we would want to consider a Pro dominated by PP, NP to be more deeply embedded than a Pro dominated by NP, PP. Incorrect outputs sanctioned by the convention would contain, for example, sequences in which en was the first pronoun to be cliticised, so that subsequent cliticisation inserted a pronoun between en and the verb, resulting in strings like (83).

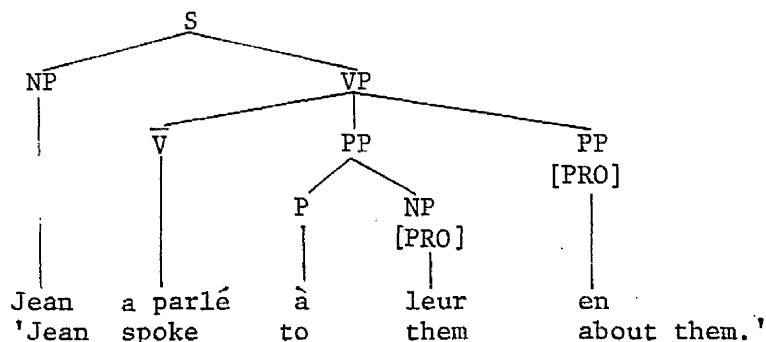
De Haan's Minimal String Principle, incorporating the notion of "grossest constituent analysis" which is also central to Wilkin's convention, makes similar predictions about the sequence of cliticisation in the structures underlying (84). With en and leur in (81)b at the same level of embedding, en will naturally be moved first, and leur second, again yielding (83), given the assumptions about the operation of Clitic Placement outlined earlier.

Finally, Koster's Locality Principle would assign the en of (81) a different index from the en which corresponds to a PP dominated by VP. This principle would allow Pro N en or Pro PP en dominated by NP, to move before leur moves in (81)b. But in (85)b, leur would move first, and then en.

(85) a.



b.



The Locality Principle predicts that (86) is correct,

(86) Jean leur en a parlé.
'Jean spoke to them about them.'

because 'closer' constituents are moved before more remote constituents. But it likewise predicts that (83) contains grammatical sentences. The pronoun en here moves first since it is closest to the verb. Subsequent insertion of leur between en and the verb gives the illicit *en leur order of clitics.

It appears very unlikely, therefore, that any justifiable "delay" in the operation of Clitic Placement can be successfully motivated for these cases of en having an NP source. Despite the fact that they originate postverbally in close proximity to the verb, and therefore are positioned prior to the cliticisation of any other pronoun, which implies that they give up the space to the immediate left of the verb node to these arriving clitics, they nonetheless occupy the pre-verbal slot next to the verb.

In view of the various postverbal positions in which en may be generated, including Pro PP en dominated by VP, together with its

fixed clitic position, we suggest that the grammar of French must contain some means of blocking sentences like the ungrammatical (83), which will be produced if our assumptions about the operation of Clitic Placement are correct. Such a means is provided by a negative output constraint which marks as ungrammatical any string produced by the natural operation of transformational rules which does not conform to certain constraints on what constitutes acceptable surface structure. Such devices are used by various linguists, such as Chomsky (1980, 1981), Chomsky and Lasnik (1977), Radford (1979), as a way of discarding strings which would otherwise have to be avoided through complication of the transformational component of the grammar. Perlmutter's clitic chart, for example, is intended to be a negative output constraint as well as a positive output constraint. In specifying clitic order, it is 'positive', and it is this appeal to a surface device to arrange surface order, or to approve those orders of elements which happen to emerge from transformational operations in conformity with the chart, which I argue can be dispensed with. But the chart is also 'negative', in that it rejects those strings which violate co-occurrence restrictions which hold between certain clitics. Such negative filters are indeed necessary, since there is no plausible way to restrict the co-occurrence of elements in deep structure which only become incompatible in preverbal clitic position. Some kind of filter showing that the direct object clitic me cannot appear next to the indirect object clitic te will be required. These filters may well take the following form:

Negative Output Constraint: * \bar{V} [. . . me te . . .] .

This filter indicates that, when dominated by the node \bar{V} , and therefore in clitic form, these pronouns may not occur together. Exactly how many filters must be specified in the grammar of French to block sequences of clitics which may not appear together is not investigated here. The question is complicated by the ethical dative construction, which in

some registers of French displays clitic ordering (me lui, te me, vous te) which is not permitted when these pronouns are direct and indirect objects.

A simple extension to the range of negative output constraints required in French grammar is the filter in (87).

(87) * \bar{V} [. . . en Pro . . .].

What this filter signifies is that the arrangement of clitics indicated in (87), which would be produced, for example, by early application of Clitic Placement to a structure containing a Pro N en, is simply not sanctioned in French. In applying to phrase markers like those in (81), the rule of Clitic Placement is considered free to apply to either pronoun, en or leur. The conventions in the interpretation of the variable discussed in Section 7.4.2 do not prevent the rule from 'passing over' en, because the NP node dominating en also contains other lexical material. These conventions will ensure that, of two or more bare Pros in a postverbal string, the leftmost is the first to be affected by the rule. If the pronoun is not 'bare', it may be included in the variable.

Should the rule apply first to en in the structure V . . . en . . . leur of (81), and then to leur, the result would be as in (88).

(88) \bar{V} [. . . en leur . . .].

Nothing restricts the transformational operation which produces this output. But the surface configuration so produced is in violation of filter (87), and thus is marked as ungrammatical.

If in (81), leur is the first target of Clitic Placement, and en the second, the outcome of the rule will be (89).

(89) \bar{V} [. . . leur en . . .].

This clitic sequence violates no filter, and is grammatical.

7.5.3 The Placement of Y

An immediate advantage of such a filter is that nothing now needs to be said about the surface position of y. This pronoun is a Pro PP (cf. Kayne (1975)), and may originate as an indirect object or as a prepositional locative phrase. The only Pro-form therefore which may follow y in underlying structure is another Pro PP, i.e. en, given that, in the phrase structure expansion of the category VP, the direct object NP precedes the indirect object NP, which in turn precedes various possible prepositional and adverbial phrases. If en follows y in underlying structure, it will be normally cliticised after y and be placed closer to the verb than y, so ensuring the correct y en sequence. If en is embedded in the direct object noun phrase, and if it is cliticised prior to y, then the output of two applications of Clitic Placement would be the ungrammatical en y order, which would be rejected by filter (87). Thus the order of y with respect to en is guaranteed by the filter we have proposed. When y co-occurs with other clitics, these are direct or indirect objects generated by phrase structure rules in positions closer to the verb than y. This means that these Pro-forms are cliticised before y is, and therefore end up further to the left of the verb than y does, guaranteeing preverbal orders such as l'y V, les y V, vous y V, and so on.

The preverbal position of y, as the rightmost of any sequence of clitics unless one of the clitics is en, follows as an automatic consequence of the position of the Pro-forms in underlying structure to which y corresponds and of the operation of the negative output constraint in (87). The simplicity of this solution to the problem of ordering y with respect to the other clitics supports our conclusion that the only device needed in a comprehensive description of French clitic order not already justified elsewhere in the grammar of French is the filter described in (87).

7.5.4 The Placement of Ethical Datives

There was some discussion of 'ethical datives' in Chapter 1. It was pointed out that these were not compatible with a detachment construction, indicating that they were unlike any indirect object. The examples given are repeated below for convenience.

- (90) a. Elle te parle souvent, à toi. (Indirect Object)
'She often speaks to you.'
- b. *Ici, la mer te monte à une vitesse, à toi.
'Here, the sea rises at a fantastic rate.'

Their limited distribution and marked stylistic nature, together with the impossibility of finding a plausible postverbal source for them, and the fact that they flout co-occurrence restrictions which normally hold between clitics, suggest that these pronouns may well not be subject to the transformation of Clitic Placement.

There is some evidence that these ethical datives may be base-generated. They share with some base-generated idioms the property of violating certain restrictions on constituent structure. For example, idioms like those in (91) contain nouns not preceded by a determiner, unlike non-idiomatic NPs.

- (91) a. porter assistance à : to bring aid to
b. rendre justice à : to do (someone) justice
c. rendre grâce à : to give thanks to
d. faire cas de : to value

And ethical datives are similar to idioms in the sense that they may combine with other clitics to form what are normally incompatible sequences, such as me te, te vous, me lui. The assumption that the idioms of (91) are entered directly in the lexicon as separate lexical entries, and that ethical datives are directly attached to verbs in the lexicon, allows phrase structure rules and transformational rules to preserve their general nature, and not be adapted on an ad hoc basis to accommodate what are arguably marginal phenomena.

If these ethical datives are already in clitic position in underlying structure, just as 'idiomatic' and inherent se are generated in the lexicon, then their position in surface structure as the leftmost clitics in any sequence of clitics is assured by the normal operation of Clitic Placement. Any 'arriving' clitics will displace the ethical datives leftward, so that these will always occur furthest from the verb. As a confirmation of this assumption, consider sentence (92) below, repeated from Chapter 1.

- (92) Paul te m'a donné une de ces gifles!
'Paul gave me a real slap!'

The pronouns me and te are both 'datives': me is indirect object, while te is ethical dative. Normally, a co-occurrence restriction prevents me and te from appearing together. Here, the restriction is relaxed because te is an ethical dative. If te had had a postverbal source, generated to the right of the indirect object, the expected preverbal clitic order would have been me te. Instead, we find te me, which is consistent with the notion that ethical datives are base-generated in the lexicon attached to the verb of which they are dependents.

7.5.5 The Order of Clitics in Affirmative Imperatives

A final advantage of positing a filter (87) to account for the preverbal position of en is that the order of clitics in affirmative imperatives follows as an automatic consequence.

As enclitics, these pronouns have the order indicated in (93).

(93) Affirmative Imperative Order

	Direct		Indirect				
V	-	Object	-	Object	-	y	- en
		Clitic		Clitic			

Sentences like those in (94) indicate that, with one exception, pronouns which are enclitic to the imperative verb occur in canonical

deep structure order.

- (94) a. Parlez-m'en.
'Talk to me about it.'
- b. Montrez-la-moi.
'Show it to me.'
- c. Donnez-le-lui.
'Give it to him.'
- d. Donnez-m'en trois.
'Give me three of them.'

Because no V elements are crossed by these pronouns in cliticising to the right of the verb, it appears unlikely that the rule of Clitic Placement operates in the derivation of these imperatives. Instead, the process responsible for attaching these Pro-forms seems to move them into position so that the surface order exactly mirrors deep structure order (with the exception of en which originates as part of a noun phrase). This suggests that this rule, unlike Clitic Placement, does not conform to the absolute interpretation of the A-over-A Principle, and is in this respect similar to detachment operations in French which may remove phrases of category A from containing phrases of the same category, in some cases. Filter (87) acts to exclude strings like (95)a which would have been produced if the Affirmative Imperative rule had selected en in (95)b as the first pronoun to be encliticised.

- (95) a. *Donnez-en-moi trois.
- b. Donnez-trois-en-à moi.

This filter then is the only mechanism required to ensure the correct ordering of enclitics, and this fact reinforces our claim that this filter alone is the only device needed in a grammar of French to produce sequences of clitics properly aligned.

We conclude therefore that within our framework of assumptions, the order of French clitic pronouns follows as a natural consequence of the interaction of transformational rules on deep structure Pro-forms.

BIBLIOGRAPHY

- Akmajian, A. (1975) More evidence for the NP Cycle. Linguistic Inquiry 6, 115-129.
- Akmajian, A. and Lehrer, A. (1976) NP-Like Quantifiers and the Problem of Determining the Head of an NP. Linguistic Analysis 2, 4, 395-414.
- Anderson, Stephen R. (1977) Comments on the Paper by Wasow, in Culicover, P., Wasow, T. and Akmajian, A. (eds.). Formal Syntax, Academic Press, New York.
- Barbaud, Philippe (1976) Constructions superlatives et structures apparentées. Linguistic Analysis 2, 4, 125-174.
- Bled, E. and Bled, O. (1954) Cours Supérieur d'Orthographe, Hachette, Paris.
- Bordelois, Ivonne (1980) Review of Kayne, R.S. (1975) French Syntax: The Transformational Cycle, in Language 56, 1, 146-157.
- Borillo, A., Tamine, J. and Soublin, F. (1974) Exercices de Syntaxe Transformationnelle du Français, Armand Colin, Paris.
- Bresnan, Joan (1973) Syntax of the Comparative Clause Construction in English. Linguistic Inquiry 4, 3, 275-345.
- Bresnan, Joan (1976) On the form and functioning of transformations. Linguistic Inquiry 7, 1, 3-40.
- Bresnan, Joan (1977) Transformations and Categories in Syntax, in Butts, R. and Hintikka, J. (eds), Logic, Methodology and Philosophy of Science, University of Western Ontario, London, Ontario, Canada.
- Bresnan, Joan (1978) A Realistic Transformational Grammar, in Halle, M., Bresnan, J. and Miller, G. (eds.). Linguistic Theory and Psychological Reality, M.I.T. Press, Cambridge, Mass. and London.
- Bresnan, Joan (1980) Polyadicity, in Hoekstra, T., van der Hulst, H., and Moortgat, M. (eds), Lexical Grammar, Foris, Dordrecht.
- Brunot, Ferdinand (1922) La Pensée et la Langue, Masson, Paris.
- Burton-Roberts, Noel (1975) Nominal Apposition. Foundations of Language 13, 391-419.
- Chomsky, N. (1965) Aspects of the Theory of Syntax, M.I.T. Press, Cambridge, Mass. and London.
- Chomsky, N. (1970) Remarks on Nominalization, in Jacobs, R. and Rosenbaum, P., Readings in English Transformational Grammar, Ginn, Waltham, Mass.
- Chomsky, N. (1973) Conditions on Transformations, in Anderson, Stephen R. and Kiparsky, Paul (eds), A Festschrift for Morris Halle, Holt, Rinehart and Winston, New York.

- Chomsky, N. (1977) On WH-Movement, in Culicover, P., Wasow, T., and Akmajian, A. (eds), Formal Syntax, Academic Press, New York.
- Chomsky, N. (1980) On Binding. Linguistic Inquiry 11, 1, 1-46.
- Chomsky, N. (1981) Lectures on Government and Binding, Foris, Dordrecht.
- Chomsky, N. and Lasnik, H. (1977) Filters and Control. Linguistic Inquiry 8, 3, 425-504.
- Couquaux, Daniel (1977) "Même" marque-t-il qu'un pronom est réfléchi? Le Français Moderne 2, 126-143.
- Couquaux, Daniel (1979) Sur la syntaxe des phrases prédicatives en français. Lingvisticae Investigationes 3, 2, 245-284.
- Coursaget-Colmerauer, Colette (1975) Etude des Structures du Type Nom de Nom. Ph.D. Thesis, Université de Montréal.
- Coursaget-Colmerauer, Colette (1976). En et les problèmes de référence. Recherches Linguistiques à Montréal 6, 67-74.
- DeHaan, Ger (1979) Conditions on Rules. The Proper Balance between Syntax and Semantics, Foris, Dordrecht.
- DeHaan, Ger (1981) On a Distinctive Property of Rules of Syntax: The Accessibility Condition. Linguistic Analysis 8, 2, 145-184.
- Emonds, Joseph (1976) A Transformational Approach to English Syntax, Academic Press, New York.
- Emonds, Joseph (1978) The Verbal Complex V' - V in French. Linguistic Inquiry 9, 2, 151-176.
- Fauconnier, G. (1974) La Coréférence: syntaxe ou sémantique, Seuil, Paris.
- Fiengo, Robert and Gitterman, Martin R. (1978) Remarks on French Clitic Order. Linguistic Analysis 4, 2, 115-147.
- Fodor, Jerry A. and Fodor, Janet Dean (1980) Functional Structure, Quantifiers, and Meaning Postulates. Linguistic Inquiry 11, 4, 1980.
- Gaätone, David (1975) Réflexions sur les verbes pronominaux réfléchis et réciproques. Folia Linguistica 8, 1, 4, 199-222.
- Gaätone, David (1976) Sur quelques particularités syntaxiques de certains substituts en français. International Review of Applied Linguistics in Language Teaching 14, 3, 273-284.
- Gaätone, David (1980) La Syntaxe de EN et l'obsession de la solution unitaire. Lingvisticae Investigationes 4, 1, 181-201.
- Gazdar, Gerald (1982) Phrase Structure Grammar, in Jacobson, Pauline and Pullum, Geoffrey. The Nature of Syntactic Representations, D. Reidel, Boston, Dordrecht and London.
- Grevisse, Maurice (1964) Le Bon Usage, Gembloux, Paris.

- Grimshaw, Jane (1980) On the Lexical Representation of Romance Reflexive Clitics. Occasional Paper #5. Center for Cognitive Science, M.I.T. (Also appears in Bresnan, J. (ed) (1981) The Mental Representation of Grammatical Relations, M.I.T. Press, Cambridge, Mass. and London.)
- Gross, Maurice (1967) Sur une règle de cacophonie. Langages 7, 105-119.
- Guéron, Jacqueline (1976) Interpretation of PP Complements: A Semantic Filter for PP Extraposition, in van Riemsdijk, H. (ed), Green Ideas Blown Up: Papers from the Amsterdam Colloquium on Trace Theory, University of Amsterdam.
- Guéron, Jacqueline (1980) On the Syntax and Semantics of PP Extraposition. Linguistic Inquiry 11, 4, 637-678.
- Hankamer, J. and Sag, I. (1976) Deep and Surface Anaphora. Linguistic Inquiry 7, 3, 391-426.
- Harmer, L.C. (1979) Uncertainties in French Grammar, ed. by Rickard, P. and Combe, T.G.S., Cambridge University Press, Cambridge.
- Hendrick, Randall (1978) The Post-Cyclicity of Clitic Placement and the FAIRE Construction in French. Cahier de Linguistique 8, Syntaxe et Sémantique du Français, Les Presses de l'Université du Québec, Montréal.
- Herschensohn, J. (1980) On Clitic Placement in French. Linguistic Analysis 6, 2, 187-219.
- Herschensohn, J. (1981) French Causatives: Restructuring, Opacity, Filters and Construal. Linguistic Analysis 8, 3, 217-280.
- Hirschbühler, Paul (1974) La dislocation à gauche comme construction basique en français, in Rohrer, C. and Ruwet, N. (eds), Actes du Colloque Franco-Allemand de Grammaire Transformationnelle, Niemeyer, Tübingen.
- Hoekstra, T., van der Hulst, H., and Moortgat, M. (eds) (1980) Lexical Grammar, Foris, Dordrecht.
- Hust, Joel (1977a) The Syntax of the Unpassive Construction in English. Linguistic Analysis 3, 1, 31-64.
- Hust, Joel (1977b) Lexical Redundancy Rules and the Unpassive Construction. Linguistic Analysis 4, 1, 61-89.
- Jackendoff, R.S. (1972) Semantic Interpretation in Generative Grammar. M.I.T. Press, Cambridge, Mass. and London.
- Jackendoff, R.S. (1975) Morphological and Semantic Regularities in the Lexicon. Language 51, 3, 639-671.
- Jackendoff, R.S. (1977a) \bar{X} Syntax: A Study of Phrase Structure, M.I.T. Press, Cambridge, Mass. and London, England.
- Jackendoff, R.S. (1977b) Constraints on Phrase Structure Rules, in Culicover, P., Wasow, T., and Akmajian, A. (eds), Formal Syntax, Academic Press, New York.

- Kayne, R.S. (1972) Subject Inversion in French Interrogatives, in Casagrande, J. and Saciuk, B. (eds), Generative Studies in Romance Languages, Newbury House, Rowley, Mass.
- Kayne, R.S. (1975) French Syntax: The Transformational Cycle, M.I.T. Press, Cambridge, Mass. and London.
- Kayne, R.S. (1978) Stylistic Inversion, Successive Cyclicity and Move NP in French. Linguistic Inquiry 1, 4, 595-622.
- Kayne, R.S. (1979) Extensions du Liage et du Marquage du Cas. Lingvisticae Investigationes 3, 1, 22-59.
- Kayne, R.S. (1980) Vers une Solution d'un Problème Grammatical: *Je l'ai voulu lire, J'ai tout voulu lire. Langue Française 46, 32-40.
- Kempson, Ruth M. (1975) Presupposition and the Delimitation of Semantics. Cambridge University Press, Cambridge.
- Kempson, Ruth M. (1977) Semantic Theory. Cambridge University Press, Cambridge.
- Koster, Jan (1978) Locality Principles in Syntax, Foris, Dordrecht.
- Koutsoudas, Andreas (1980) The Question of Rule Ordering: Some Common Fallacies. Journal of Linguistics 16, 19-35.
- Koutsoudas, A., Sanders, G.A., and Noll, C. (1974) On the application of phonological rules. Language 50, 1-28.
- Larsson, Eva (1979) La Dislocation en français. Etude de syntaxe générative. Etudes Romanes de Lund, 28, CWK Gleerup, Lund.
- Le Bidois, G. and R. (1968) Syntaxe du français moderne, Picard, Paris.
- Leclère, C. (1976) Datifs Syntaxiques et Datif Ethique, in Chevalier, J.C. and Gross, M. (eds), Méthodes en Grammaire Française, Klincksieck, Paris.
- McCloskey, James (1979) Transformational Syntax and Model Theoretic Semantics. D. Reidel, Dordrecht, Boston and London.
- Milner, Jean-Claude (1978) De la Syntaxe à l'interprétation, Seuil, Paris.
- Moody, Marvin D. (1980) The Interior Article in De-Compounds in French. University Press of America, Washington, D.C.
- Morin, J.Y. (1978) Une Théorie Interprétative des Causatives en Français. Lingvisticae Investigationes 2, 2, 363-417.
- Morin, Y.C. (1978) There is no Inversion of Subject Clitics in Modern French. Duplicated, Université de Montréal.
- Morin, Y.C. (1979) More Remarks on French Clitic Order. Linguistic Analysis 5, 3, 293-312.
- Morin, Y.C. (1979a) La Morphophonologie des pronoms clitiques en français populaire. Cahier de Linguistique 9, Les Presses de l'Université du Québec, Montréal.

- Morin, Y.C. (1981) Some Myths about Pronominal Clitics in French. Linguistic Analysis 8, 2, 95-109.
- Morin, Y.C. and St. Amour, M. (1977) Description historique des constructions infinitives du français. Recherches Linguistiques à Montréal 9, 113-152.
- Newmeyer, Frederick J. (1980) Linguistic Theory in America, Academic Press, New York.
- Oehrle, Richard (1977) Remarks on the paper by Selkirk, in Culicover, P., Wasow, T., and Akmajian, A. (eds), Formal Syntax, Academic Press, New York.
- Pavel, Thomas G. (1976) Noun phrases: logical and linguistic properties. The Canadian Journal of Linguistics 21, 2, 133-152.
- Perlmutter, D. (1971) Deep and Surface Structure Constraints in Syntax, Holt, Rinehart and Winston, New York.
- Pogačnik, Vladimir (1976) Les Unités Sémantiques de l'Anaphorique en dans la Représentation Elliptique. Linguistica (Yugoslavia) 16, 2, 137-152.
- Postal, Paul (1974) On Raising. M.I.T. Press, Cambridge, Mass. and London.
- Pullum, G.K. (1979) Rule Interaction and the Organization of a Grammar, Garland, New York and London.
- Pullum, G.K. (1979a) The Nonexistence of the Trace Binding Algorithm. Linguistic Inquiry 10, 2, 356-362.
- Pullum, G.K. (1982) Appositive Relatives, Anaphora and the Nature of Logical Form, in Jacobson, Pauline and Pullum, Geoffrey, The Nature of Syntactic Representations. D. Reidel, Boston, Dordrecht and London.
- Pullum, G.K. and Borsley, R.D. (1980) Comments on the Two Central Claims of 'Trace Theory'. Linguistics 18, 73-104.
- Querido, Antonio (1975) L'interprétation des structures syntaxiques et l'ambiguïté fonctionnelle. Les pronoms agglutinés incompatibles. Recherches Linguistiques à Montréal 5, 151-173.
- Quicoli, A. Carlos (1980) Clitic Movement in French Causatives. Linguistic Analysis 6, 2, 131-185.
- Radford, Andrew (1977) Italian syntax: Transformational and Relational Grammar. Cambridge University Press, Cambridge and London.
- Radford, Andrew (1977a) Review of Kayne, R.S. (1975), French Syntax: The Transformational Cycle, in Journal of Linguistics 13, 118-128.
- Radford, Andrew (1978) Agentive Causatives in Romance: accessibility versus passivization. Journal of Linguistics 14, 35-58.
- Radford, Andrew (1979) Clitics under Causatives in Romance. Journal of Italian Linguistics 4, 1, 137-181.
- Ringen, C. (1972) On Arguments for Rule Ordering. Foundations of Language 8, 266-273.

- Rivero, Maria-Luisa (1980) Left-Dislocation and Topicalization in Spanish. Linguistic Inquiry 11, 2, 363-393.
- Robert, Paul (1968) Le Petit Robert. Dictionnaire Alphabétique et Analogique de la Langue Française. Société du Nouveau Littre, Paris.
- Rouveret, A. and Vergnaud, J.R. (1980) Specifying Reference to Subject: French Causatives and Conditions on Representations. Linguistic Inquiry 11, 1, 97-202.
- Ruwet, Nicolas (1972) Théorie Syntaxique et Syntaxe du Français, Seuil, Paris.
- Ruwet, Nicolas (1981) The 'Epistemic Dative' Construction in French and its Relevance to Some Current Problems in Generative Grammar, in Klein, W. and Levelt, W. (eds), Crossing the Boundaries in Linguistics: Studies Presented to Manfred Bierwisch, D. Reidel, Dordrecht.
- Selkirk, Elisabeth (1977) Some Remarks on Noun Phrase Structure, in Culicover, P., Wasow, T., and Akmajian, A. (eds), Formal Syntax, Academic Press, New York.
- Smith, N., Pullum, G.K. and Wilson, D. (1977) Transformational Grammar for a Fragment of English. Duplicated, Linguistics Section, University College, London.
- Stéfanini, Jean (1962) La Voix Pronominale en Ancien et en Moyen Français, Ophrys, Gap.
- Stéfanini, Jean (1971) A Propos de Verbes Pronominaux. Langue Française 11, 110-125.
- Stockwell, R., Schachter, P. and Partee, Barbara Hall (1973) The Major Syntactic Structures of English, Holt, Rinehart and Winston, New York.
- Vinet, Marie-Thérèse (1977a) La Controverse entre \bar{N} et \bar{N} en français. Recherches Linguistiques à Montréal 8, 141-162.
- Vinet, Marie-Thérèse (1977b) An Analysis of French Right-Dislocated Structures. Recherches Linguistiques à Montréal 9, 209-231.
- Wanner, D. (1974) The Evolution of Romance Clitic Order, in Campbell, R.J., Goldin, M.G. and Wang, M.C. (eds), Linguistic Studies in Romance Languages, Georgetown University Press, Washington, D.C.
- Wartburg, Walter von and Zumthor, Paul (1974) Précis de Syntaxe du Français Contemporain, Francke, Berne.
- Wasow, Thomas (1977) Transformations and the Lexicon, in Culicover, P., Wasow, T., and Akmajian, A. (eds), Formal Syntax, Academic Press, New York.
- Wasow, Thomas (1980) Major and Minor Rules in Lexical Grammar, in Hoekstra, T., van der Hulst, H. and Moortgat, M. (eds), Lexical Grammar, Foris, Dordrecht.

Wilkins, Wendy (1979) The Variable Interpretation Convention. A Condition on Variables in Syntactic Transformations. Indiana University Linguistics Club, Bloomington, Indiana.

Wilkins, Wendy (1980) Adjacency and Variables in Syntactic Transformations. Linguistic Inquiry 11, 4, 709-758.

Zwicky, Arnold (1977) On Clitics. Indiana University Linguistics Club, Bloomington, Indiana.