WORKING PAPERS IN LINGUISTICS # 24

CLITICS AND ELLIPSIS

Edited by Arnold M. Zwicky

Papers By

Robert J. Jeffers, Nancy S. Levin,
Gregory T. Stump, and
Arnold M. Zwicky

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Stump's contribution is a later version of a seminar paper written
in 1978; the Jeffers/Zwicky survey appears here essentially as given
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1979; Levin's contribution is her 1979 Ph.D. dissertation; and
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<div align="right">AMZ</div>

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An Inflectional Approach to French Clitics*

Gregory T. Stump

The present paper is an attempt to account for French clisis in a well-motivated fashion. The subject is one which has, both traditionally and in recent years, received a lot of attention, especially since Perlmutter (1971) proposed that cooccurrence and ordering restrictions on French clitics be formalized as a surface structure constraint; but it has lately led researchers reacting against Perlmutter's approach (e.g. Henry (1974), Emonds (1975) and Fiengo and Gitterman (1978)) to analyses requiring extrinsic rule orderings and such ad hoc devices as 'clitic-flip' transformations. My thesis here is that these analyses suffer from at least one substantially erroneous assumption, namely that clitics should derive transformationally from full noun phrases or prepositional phrases. I propose, instead, a contrary assumption: that French clitics, far from corresponding syntactically to full noun phrases or prepositional phrases, are instead verbal inflections realized by late spelling-out and allomorphy rules after the application of all syntactic transformations-- that both those clitics fulfilling a selectional/subcategorization requirement on a constituent within V' and those clitics adverbially modifying a constituent occur underlyingly as aggregates of features on that constituent. My treatment avoids the necessity of surface structure constraints, extrinsic orderings, and clitic-rearranging transformations.

The basic facts motivating such an inflectional approach are important, and deserve a bit of discussion. In his 1976 article, 'On Clitics', Arnold Zwicky observes that there are at least three basic types of clitics, each with its own peculiarities of syntax and phonology. Simple clitics are bound or cliticized forms of words, showing the same syntax as their unreduced versions, and the regular phonology common to all unaccented forms in the language. In contrast, special clitics, although they serve as bound variants of independent words, may show idiosyncratic syntax, and are often merely similar in pronunciation to their 'strong' forms, sharing no underlying identity with them. Bound words, finally, are clitics not clearly to be identified with any free form, but showing notable combinatory freedom; they are often 'semantically associated with an entire constituent while being phonologically attached to one word of this constituent.' (p. 8)

The French pronominal and adverbial clitics are, evidently, special clitics: although they are semantically like strong pronouns or full prepositional phrases, they have no systematic phonological connection with such forms, nor do they bear any likeness to them in syntactic behavior.

1

It has nevertheless become the custom in recent generative work to assume that clitics are underlyingly identical with synonymous strong forms, and that their clitic status is derivative--the product of clitic placement and rearrangement transformations moving strong forms to the verb and binding them to it (whether through rebracketing or by a requirement that only those strong forms marked with a certain feature ([-strong], [-stress], or the like) may be 'placed'). That is, the semantic identity of French clitics with full pronouns or prepositional phrases has become sufficient justification for assuming their underlying syntactic identity as well. This in spite of over-whelming evidence inviting a contrary conclusion: Zwicky's six diagnostic properties of affixes reveal the French clitics to have a very affix-like character;[1] the wordhood criteria of uninterruptibility and internal stability suggest that French clitic-verb sequences ('groups', in Zwicky's terminology, hereafter adopted) are single words, a conclusion corroborated by the fact that such sequences appear to ful-fill the role of simple verbs with respect to several transformations (see Kayne (1975:92-102)). In short, previous analyses have treated the French clitics as though they were simple clitics--reductions of transparently related free forms. Historically, they are--special clitics quite commonly derive from simple clitics (but, by retaining their once-transparent phonology and their once-regular syntax while the phonology and syntax of their strong counterparts evolves, they become less and less clearly associated with their independent synonyms); but special clitics have abandoned their systematic phono-logical and syntactic identity with synonymous free forms--they have begun the second leg of a characteristic course of evolution: 'After the development from independent word to clitic, the next step is, of course, the incorporation of clitics into morphology proper: what is a clitic at one stage is reinterpreted as a derivational or inflectional affix at the next.' (Zwicky (1976:8)). Previous analysts have un-questioningly assumed that this reinterpretation hasn't yet taken place; in what follows, I shall make just the contrary assumption--that the French special clitics have attained the status of inflectional affixes.

This point of view isn't entirely new.[2] In her important paper 'Towards an Inflectional Theory of Clitics', Anneke Groos has suggested that, in Spanish, one might posit underlyingly empty clitic-nodes sister to V which are transformationally filled so as to agree with strong object nouns or pronouns (which may or may not be subsequently deleted); that is, Spanish pronominal clitics might be treated as agreement inflections rather than as superficial manifestations of underlyingly strong pronouns which have undergone a clitic-placement transformation. I am very sympathetic to Groos' refreshing approach-- I share many of her fundamental assumptions. But a reasonable treat-ment of Spanish (and French) clitics must, I believe, diverge from Groos' approach in two respects. First, all the evidence suggests that such clitics aren't to be dominated by separate nodes, but should

simply be part of what is dominated by the lexical node V. I
accordingly assume all superficial groups to be dominated by V. I
do not, however, assume the internal constituent structure ascribed
to groups in many recent transformational approaches, such as the
analysis (1) for the verb me le donner.

(1)

```
              V
           /     \
        me          V
                  /    \
                le       V
                         |
                       donner
```

(2)

```
      V
      |
 me le donner
```
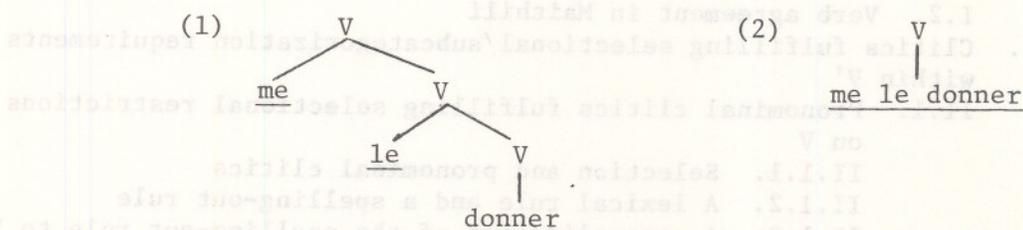
This analysis implies that in the verb me le donner, le donner forms
a syntactic constituent independent of me. There is, however, no
evidence that me le donner has any internal syntactic constituent
structure; rather, the facts suggest merely that it has the internal
morphological structure me+le+donner. Thus, in the present treatment,
this verb is to be structurally represented as in (2).

Second, although it is clear that in a Spanish sentence such as
(3), the clitic expresses agreement with an explicit object, it isn't
necessarily the case that clitics always express agreement--in
sentence (4), the clitic, far from expressing agreement with some
object, itself serves as the object of the verb; to assume in such
instances that an object was present when the clitic was spelled out
but was subsequently deleted is to beg the question.

(3) Me vieron a mí.
(4) Me vieron. (examples from Groos (1977:12))

This is especially true in French, in which verbs never have both a
clitic and a full noun phrase or prepositional phrase fulfilling the
same relational/semantic role.³ Thus, I don't take French clitics to
mark agreement; rather, I treat them as verbal affixes fulfilling
relational roles⁴ otherwise filled by full noun phrases and preposi-
tional phrases.

The present approach to French clisis is therefore distinguished
from all prior treatments in two important ways: (i) I assume that
clitics are verbal inflections represented as groups of features on
constituents dominated by V' and that they are not spelled out until
after the application of all syntactic rules; (ii) I assume that all
clitics, whether they are pronominal or 'adverbial', whether they
fulfil a selectional/subcategorization requirement on a constituent
dominated by V' or merely adverbially modify a constituent, occur
underlyingly as a collection of features on this constituent (whether
or not this is the verb to which they end up clitic).

The discussion of the inflectional approach will proceed according
to the following scheme:

I.   Complex symbols of second order
    I.1.   Verb agreement in English
    I.2.   Verb agreement in Maithili
II. Clitics fulfilling selectional/subcategorization requirements
    within V'
    II.1.   Pronominal clitics fulfilling selectional restrictions
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IV. Justification of the inflectional approach to French clisis

I.   Complex symbols of second order.

    My treatment requires a piece of formalism that is normally un-
assumed in generative treatments of inflection, namely complex symbols
of second order (i.e. embedded within other complex symbols). Before
proceeding to the discussion of French clitics, I wish to establish the
independent motivation for this device in the description of natural
language verbal inflection. I shall do this by demonstrating that,
despite the relative simplicity of the formalism required for the
description of verb agreement in English, this more complex device is
necessary for the description of verb agreement in a language such
as Maithili.

I.1.   Verb agreement in English.

    An uncontroversial assumption in the transformational analysis
of English is that verb agreement should be formulated as a trans-
formation copying features from the constituent dominated by TNS and
from the subject constituent onto the leftmost verb in the predicate.
That is, it is supposed that a sentence like (5) has (6) as its
structure at some derived stage of derivation; a transformation of
subject-verb agreement operates on (6), copying the features [+III,
+sg] from the subject NP and the feature [+pres] from the auxiliary
onto like.

(5)   John likes Mary.

(6)

```
                        S
              ┌─────────┴─────────┐
             NP                 PRED
              │           ┌───────┴───────┐
              N          AUX              VP
              │           │          ┌────┴────┐
          ┌───────┐      TNS         V        NP
          │ John  │      │           │         │
          │ +III  │    [+pres]     like        N
          │ +sg   │                            │
          └───────┘                          Mary
```

(7)

```
                        S
              ┌─────────┴─────────┐
             NP                 PRED
              │           ┌───────┴───────┐
              N          AUX              VP
              │           │          ┌────┴────┐
          ┌───────┐      TNS         V        NP
          │ John  │      │       ┌───────┐     │
          │ +III  │    [+pres]   │ like  │     N
          │ +sg   │              │ +III  │     │
          └───────┘              │ +sg   │   Mary
                                 │ +pres │
                                 └───────┘
```
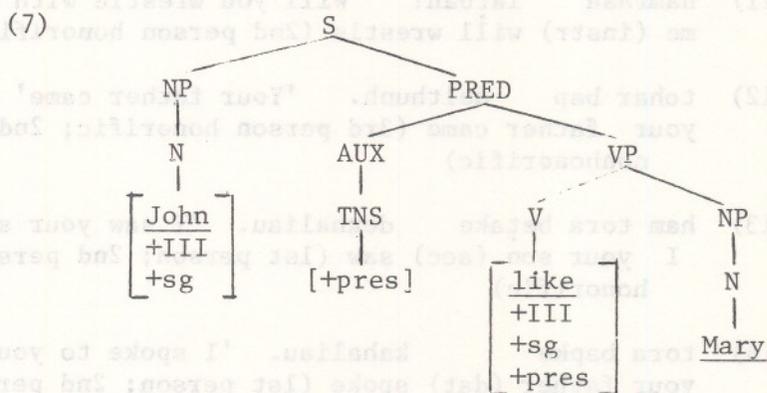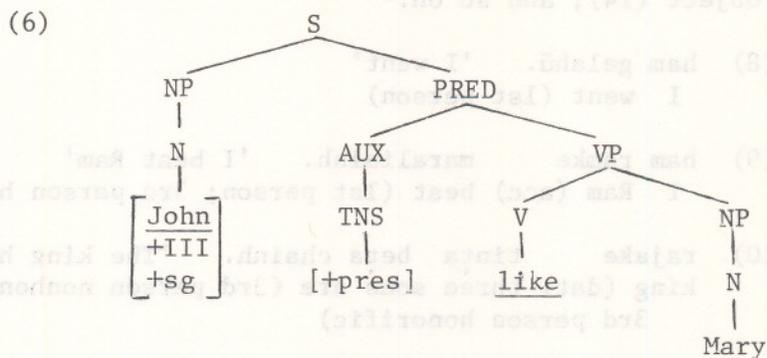
A very late rule eventually spells out [like, +III, +sg, +pres] as
likes.

An important question for the theory of transformational grammar
is whether verb agreement may be as simply formulated in descriptions
of other languages--or whether recourse to a more complicated formal
device is called for. Evidence from the Maithili language suggests
that the latter is the case.

I.2. Verb agreement in Maithili.
     Maithili is a modern Indic language of the Bihari family, spoken
by roughly 20 million speakers in the Bihar state of northeastern
India and in the tarai of Nepal. It is unusual among Indo-European
languages for its verb agreement system, which allows verbs to agree
in person and honorific grade not only with their subject, but with
any one of their oblique objects, or with a genitive noun phrase
modifying one of these (the choice being determined by the relative
'prominence' of the different noun phrases in the predicate--see Jha
(1958:472)). Thus, a verb might agree only with its subject (as in (8));
or, in addition to its subject, with its direct object (9); with its
dative object (10); with its instrumental object (11); with a genitive
noun phrase modifying the subject (12); with a genitive noun phrase

modifying the direct object (13); with a genitive noun phrase modifying the dative object (14); and so on.[5]

> (8) ham gelahũ.   'I went'
>   I went (1st person)
>
> (9) ham ramke   maraliainh. 'I beat Ram'
>   I Ram (acc) beat (1st person; 3rd person honorific)
>
> (10) rajake   tinta beta chainh.   'The king has 3 sons'
>   king (dat) three sons are (3rd person nonhonorific;
>   3rd person honorific)
>
> (11) hamrasã   larbah?   'Will you wrestle with me?'
>   me (instr) will wrestle (2nd person honorific; 1st person)
>
> (12) tohar bap   aelthunh.   'Your father came'
>   your father came (3rd person honorific; 2nd person
>   nonhonorific)
>
> (13) ham tora betake   dekhaliau. 'I saw your son'
>   I your son (acc) saw (1st person; 2nd person non-
>   honorific)
>
> (14) tora bapke   kahaliau. 'I spoke to your father'
>   your father (dat) spoke (1st person; 2nd person
>   nonhonorific)

As Jha (1958:473) observes, this flexibility in the reference of the inflections can lead to ambiguity; for example, sentence (15) is ambiguous as to whether the third person reflected in the desinence fulfils a dative or a genitive function.

> (15) puchlahunh. 'You asked him'/'You asked his'
>   asked (2nd person nonhonorific; 3rd person honorific)

What's at issue here is the formal mechanism necessary to spell out Maithili verb agreement; I shall show that this mechanism must be more complex than is necessary for the spelling out of English verb agreement.

Consider sentence (16). We might characterize its underlying structure as in (17).

> (16) ram tora betake   dekhalthunh. 'Ram saw your son'
>   Ram your son (acc) saw (3rd person honorific; 2nd
>   person nonhonorific)

(17)

```
                          S
             ┌────────────┴────────────┐
            NP                         VP
            │              ┌───────────┴──────────┐
            N             NP                       V
            │        ┌─────┴─────┐                 │
         ┌──────┐   DET          N            ┌────────┐
         │ Ram  │    │           │            │ dekh   │
         │ +III │ ┌──────┐    ┌──────┐        │ -pres  │
         │ +hon │ │ tora │    │ beta │        └────────┘
         │ +nom │ │ +II  │    └──────┘
         └──────┘ │ -hon │
                  │ -nom │
                  └──────┘
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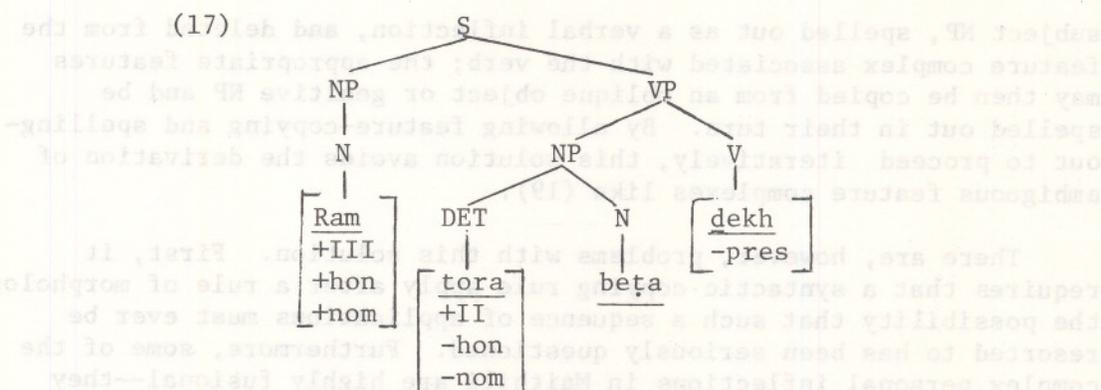
(17) must undergo a verb-agreement transformation copying the features [+III, +hon, +nom] from Ram and the features [+II, -hon, -nom] from the possessive determiner tora onto the verb. Notice, however, that this cannot be simple copying, of the type employed in English, for if the Maithili verb agreement transformation were to consist simply of feature copying, then (18) would result as the transform of (17). Now, complex symbols such as (19) have no internal linear structure—they are simply sets of specified features.

(18)

```
                          S
             ┌────────────┴────────────┐
            NP                         VP
            │              ┌───────────┴──────────┐
            N             NP                       V.
            │        ┌─────┴─────┐                 │
         ┌──────┐   DET          N            ┌────────┐
         │ Ram  │    │           │            │ dekh   │
         │ +III │ ┌──────┐    ┌──────┐        │ -pres  │
         │ +hon │ │ tora │    │ beta │        │ +III   │
         │ +nom │ │ +II  │    └──────┘        │ +hon   │
         └──────┘ │ -hon │                    │ +nom   │
                  │ -nom │                    │ +II    │
                  └──────┘                    │ -hon   │
                                              │ -nom   │
                                              └────────┘
```

(19)

```
┌────────┐
│ dekh   │
│ -pres  │
│ +III   │
│ +hon   │
│ +nom   │
│ +II    │
│ -hon   │
│ -nom   │
└────────┘
```
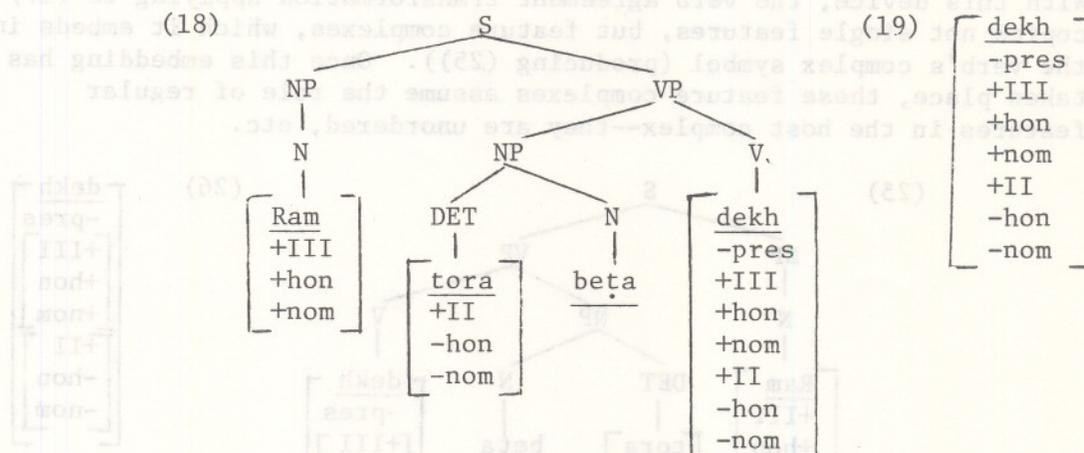
This makes it impossible for (19) to be associated with a unique inflection of dekh-; the rule spelling out inflectional endings from features could not, in principle, match specifications of person with those of case and honorific grade in exactly the right way and none of the wrong. That is, (19) could be spelled out as any of (20)-(23).

(20) dekhaliai 'You (hon.) saw him/his (nonhon.)'
(21) dekhlahunh 'You (nonhon.) saw him/his (hon.)'
(22) dekhalthunh 'He (hon.) saw you/yours (nonhon.)'
(23) dekhlak 'He (nonhon.) saw you/yours (hon.)'

What are our alternatives? There are two obvious ones. The first is to allow the appropriate features to be copied from the

subject NP, spelled out as a verbal inflection, and deleted from the feature complex associated with the verb; the appropriate features may then be copied from an oblique object or genitive NP and be spelled out in their turn. By allowing feature-copying and spelling-out to proceed iteratively, this solution avoids the derivation of ambiguous feature complexes like (19).

There are, however, problems with this solution. First, it requires that a syntactic copying rule apply after a rule of morphology; the possibility that such a sequence of applications must ever be resorted to has been seriously questioned. Furthermore, some of the complex personal inflections in Maithili are highly fusional--they resist segmentation into two discrete personal terminations (for example, compare the complex inflections in (24a-c)); the above solution, however, requires uniformly agglutinative inflections.

(24) a. dekhal<u>thinh</u>   'He (hon.) saw him/his (hon.)'
     b. dekhl<u>anh</u>   'He (hon.) saw me/mine'
     c. dekhl<u>iainh</u>   'I saw him/his (hon.)'

The second solution is the use of complex symbols of second order. With this device, the verb agreement transformation applying to (17) copies not single features, but feature complexes, which it embeds in the verb's complex symbol (producing (25)). Once this embedding has taken place, these feature complexes assume the role of regular features in the host complex--they are unordered, etc.

(25)

```
                          S
              _____/ _____
            NP                         VP
            |                  _____/  \
            N                NP            V
            |              /    \          |
        ┌ Ram ┐        DET       N      ┌ dekh ┐
        │ +III│         |        |      │ -pres│
        │ +hon│     ┌ tora ┐  beta      │┌+III ┐│
        │ +nom│     │ +II  │            ││+hon ││
        └     ┘     │ -hon │            ││+nom ┘│
                    │ -nom │            │┌+II ┐ │
                    └      ┘            ││-hon│ │
                                       ││-nom┘ │
                                       └      ┘
```

(26)

```
┌ dekh ┐
│ -pres│
│┌+III ┐│
││+hon ││
││+nom ┘│
│┌+II ┐ │
││-hon│ │
││-nom┘ │
└      ┘
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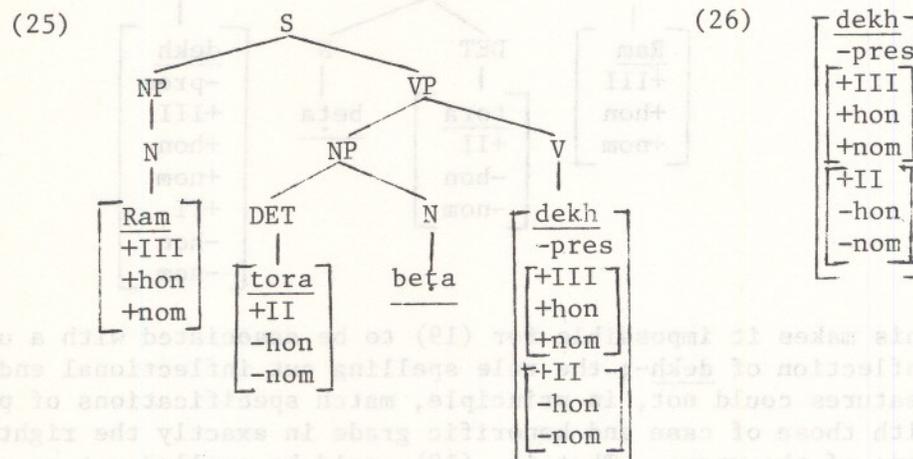
Their only distinguishing characteristic is that, unlike other features, they have internal structure. Now, observe that (26), unlike (19), isn't ambiguous--it uniquely represents (22), as desired.

This solution--the use of embedded complex symbols--avoids the practical and theoretical shortcomings of the iterative application solution; and it allows the Maithili facts to be cleanly described

(and similarly for any other language in which verbs agree with more than one noun phrase). Whether higher-order complex symbols are necessary for the description of natural languages is an empirical question (whose answer I don't know); but it is clearly just a consequence of the fact that English verbs agree only with their subject that the need for this theoretical device hasn't been countenanced.

It is just this device that will be employed in the following sections toward the description of French clisis as an inflectional phenomenon.

II. Clitics fulfilling selectional/subcategorization requirements within V'.

II.1. Pronominal clitics fulfilling selectional restrictions on V.

II.1.1. Selection and pronominal clitics.
Consider the following pairs of sentences.

(27) a. Jean trouve Marie.
b. Jean la trouve.

(28) a. Jean téléphone à Marie.
b. Jean lui téléphone.

(29) a. Jean donne le livre à Marie.
b. Jean le lui donne.

Several facts are illustrated here. One is that in these sentences, the kind and number of pronominal clitics that occur are clearly determined by the verb. In sentence (27b), la fulfils the relational role of direct object, required by trouver; in (28b), lui fulfils the role of dative object, required by téléphoner; in (29b), le and lui fulfil the respective roles of direct and indirect object required by donner; similarly, the absence of pronominal clitics in (30) is required by partir.

(30) Jean part.

These French verbs are, evidently, restricted not merely for categorial context, but for the case of their complements. That is, in addition to the subcategorization restriction [+__NP], trouver must also bear a selectional restriction [+__+acc], since (27b) contrasts in grammaticality with sentence (31):

(31) *Jean lui trouve.

Similarly, téléphoner must bear a selectional restriction [+__-acc] (where [-acc] means 'dative') to account for the acceptability of

sentences like (28b) beside the unacceptability of (32):

(32) *Jean le téléphone.

Likewise, <u>donner</u> must be restricted as both [+__+acc] and [+__-acc].
Observe that if we include such selectional restrictions in the
lexical specifications of French verbs, subcategorization restrictions
on these verbs (e.g. [+__NP], [+__à NP]) actually become unnecessary,
since they're predictable from the selectional restrictions.

Thus, the lexicon of a transformational grammar of French might
very reasonably be thought to contain entries something like those in
(33).

$$(33) \quad \begin{bmatrix} \text{trouver} \\ +V \\ +\underline{}+acc \end{bmatrix} \quad \begin{bmatrix} \text{téléphoner} \\ +V \\ +\underline{}-acc \end{bmatrix} \quad \begin{bmatrix} \text{donner} \\ +V \\ +\underline{}+acc \\ +\underline{}-acc \end{bmatrix}$$

Now, despite the obvious transitivity of <u>trouve</u> in (27a), the
verb <u>la trouve</u> in (27b) is intransitive, as are <u>lui téléphone</u> and <u>le
lui donne</u> in (28b) and (29b). In each case, it is clearly the presence
of a clitic which alters the selectional (and hence subcategorization)
restrictions on the verb. How can this alteration best be accounted
for?

Let us assume, for the moment, the inclusion of the following
tentative rule in the lexicon of French (here and henceforth, double-
bracketing is used to represent complex symbols of second order):

(34) For any verb γ such that γ is [+__ αacc], there
is a corresponding verb γ' that is like γ except
in that [[αacc]] occurs in place of [+__ αacc]
in the complex symbol associated with γ'.
(3 further reformulations)

In accordance with (34), several other verbs would occur in the French
lexicon, namely those in (35).

$$(35) \quad a. \begin{bmatrix} \text{trouver} \\ +V \\ [+acc] \end{bmatrix} \qquad b. \begin{bmatrix} \text{téléphoner} \\ +V \\ [-acc] \end{bmatrix}$$

$$c. \begin{bmatrix} \text{donner} \\ +V \\ [+acc] \\ +\underline{}-acc \end{bmatrix} \qquad d. \begin{bmatrix} \text{donner} \\ +V \\ +\underline{}+acc \\ [-acc] \end{bmatrix}$$

$$e. \begin{bmatrix} \text{donner} \\ +V \\ [+acc] \\ [-acc] \end{bmatrix}$$

Let us further assume that the third person feminine clitics receive
the feature compositions given in (36), and are available to the
following recursive spelling-out rule (37):

(36)
$$\begin{bmatrix} \text{la} \\ +\text{ProNP} \\ +\text{acc} \end{bmatrix} \quad \begin{bmatrix} \text{lui} \\ +\text{ProNP} \\ -\text{acc} \end{bmatrix}$$

(37) For any verb γ, if γ is $[[\alpha\text{acc}]]$, then $[_V\gamma]$ is
replaced by $[_V\beta\gamma]$, which is $[+\text{ProNP}]$ and inherits
all features but $[[\alpha\text{acc}]]$ from γ, where β is
$$\begin{bmatrix} +\text{ProNP} \\ \alpha\text{acc} \end{bmatrix}.$$ (3 further reformulations)

(37) would allow (35a)-(35e) to be supplanted by (38a)-(38e) at a
post-transformational stage of derivation:

(38) a.
$$\begin{bmatrix} \text{la trouver} \\ +\text{V} \\ +\text{ProNP} \end{bmatrix}$$
b.
$$\begin{bmatrix} \text{lui téléphoner} \\ +\text{V} \\ +\text{ProNP} \end{bmatrix}$$

c.
$$\begin{bmatrix} \text{la donner} \\ +\text{V} \\ +\text{ProNP} \\ +\_\_\text{-acc} \end{bmatrix}$$
d.
$$\begin{bmatrix} \text{lui donner} \\ +\text{V} \\ +\text{ProNP} \\ +\_\_\text{+acc} \end{bmatrix}$$

e.
$$\begin{bmatrix} \text{la lui donner} \\ +\text{V} \\ +\text{ProNP} \end{bmatrix}$$

The lexical rule (34) and the spelling-out rule (37) are the
kinds of rules I envision for the introduction of inflectional
features onto underlying lexical expressions and the spelling out of
these inflections with clitics. (34) is, however, too weak in its
present statement--it doesn't allow verbs to be marked with the full
range of features by which the different pronominal clitics may be
distinguished. Similarly, (37) is too powerful a formulation of the
spelling-out process--(37) allows the ungrammatical inflection in
(39):

(39) *
$$\begin{bmatrix} \text{lui la donner} \\ +\text{V} \\ +\text{ProNP} \end{bmatrix}$$

How must (34) and (37) be revised if they are to provide for the
proper spelling-out of all and only possible groups?

II.1.2. A lexical rule and a spelling-out rule.

First, these rules must be made to jointly embody all of the
cooccurrence and ordering restrictions known to govern surface

pronominal clitic sequences. There are four such restrictions, which may be summarized as follows:

(i) No two clitics that are nonthird person or reflexive[6] may cooccur in a clitic sequence (henceforth, the reflexive clitic se will be considered devoid of any inherent person specification (and hence nonthird person), since it may, by a subject-agreement allomorphy rule, be superficially realized as any of me, te, nous, vous, or se); that is, all of the sentences in (40) are unacceptable:

$$(40) \quad *\text{Jean} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \text{présente.}$$

(ii) A nonthird person clitic may cooccur with a third person clitic provided that the former is dative, the latter, accusative; thus, the sentences in (41) are acceptable, while those in (42) aren't.

$$(41) \quad \text{Jean} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \left\{ \begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array} \right\} \text{présente.}$$

$$(42) \quad \text{a.} \quad *\text{Jean} \left\{ \begin{array}{l} \text{lui} \\ \text{leur} \end{array} \right\} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \text{présente.}$$

$$\text{b.} \quad *\text{Jean} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \left\{ \begin{array}{l} \text{lui} \\ \text{leur} \end{array} \right\} \text{présente.}$$

(iii) A nonthird person clitic occurring with a third person clitic must precede it; thus, in contrast with (41):

$$(43) \quad *\text{Jean} \left\{ \begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array} \right\} \left\{ \begin{array}{l} \text{me} \\ \text{te} \\ \text{nous} \\ \text{vous} \\ \text{se} \end{array} \right\} \text{présente.}$$

(iv) Two third person clitics may cooccur in a clitic sequence provided the accusative one precedes the dative; thus, the sentences in (44) are acceptable, but those in (45) aren't:

(44) Jean $\left\{\begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array}\right\} \left\{\begin{array}{l} \text{lui} \\ \text{leur} \end{array}\right\}$ présente.

(45) *Jean $\left\{\begin{array}{l} \text{lui} \\ \text{leur} \end{array}\right\} \left\{\begin{array}{l} \text{le} \\ \text{la} \\ \text{les} \end{array}\right\}$ présente.

More restrictive versions of (34) and (37) must be found which have the effect of (i)-(iv). In order to facilitate these restatements, the following feature compositions will be assumed for the pronominal clitics of French (here and henceforth, '$\pm$' is to be understood disjunctively: '+' or '-'):

(46)

$$\begin{bmatrix} \underline{\text{me}} \\ +\text{ProNP} \\ \pm\text{acc} \\ -\text{III} \\ +\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ +\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{te}} \\ +\text{ProNP} \\ \pm\text{acc} \\ -\text{III} \\ -\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ +\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{nous}} \\ +\text{ProNP} \\ \pm\text{acc} \\ -\text{III} \\ +\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ -\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{vous}} \\ +\text{ProNP} \\ \pm\text{acc} \\ -\text{III} \\ -\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ -\text{sg} \end{bmatrix}$$

$$\begin{bmatrix} \underline{\text{se}} \\ +\text{ProNP} \\ \pm\text{acc} \\ -\text{III} \\ -\text{I} \\ +\text{refl} \\ \pm\text{fem} \\ \pm\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{le}} \\ +\text{ProNP} \\ +\text{acc} \\ +\text{III} \\ -\text{I} \\ -\text{refl} \\ -\text{fem} \\ +\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{la}} \\ +\text{ProNP} \\ +\text{acc} \\ +\text{III} \\ -\text{I} \\ -\text{refl} \\ +\text{fem} \\ +\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{les}} \\ +\text{ProNP} \\ +\text{acc} \\ +\text{III} \\ -\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ -\text{sg} \end{bmatrix}$$

$$\begin{bmatrix} \underline{\text{lui}} \\ +\text{ProNP} \\ -\text{acc} \\ +\text{III} \\ -\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ +\text{sg} \end{bmatrix} \quad \begin{bmatrix} \underline{\text{leur}} \\ +\text{ProNP} \\ -\text{acc} \\ +\text{III} \\ -\text{I} \\ -\text{refl} \\ \pm\text{fem} \\ -\text{sg} \end{bmatrix}$$

(34) may now be restated as in (47):

(47)   For any verb γ such that γ is [+__αacc], there are corresponding verbs like γ except in that

$$\begin{bmatrix} \begin{bmatrix} \alpha\text{acc} \\ \pm\text{III} \\ \pm\text{I} \\ \pm\text{refl} \\ \pm\text{fem} \\ \pm\text{sg} \end{bmatrix} \end{bmatrix}$$
occurs in place of [+__αacc] in their associated complex symbol.

(2 further reformulations)

By (47), the following four verbs would all occur in the lexicon of French:

(48) a.
$$\begin{bmatrix} \underline{\text{trouver}} \\ +V \\ \begin{bmatrix} +acc \\ -III \\ -I \\ +refl \\ \pm fem \\ \pm sg \end{bmatrix} \end{bmatrix}$$

b.
$$\begin{bmatrix} \underline{\text{trouver}} \\ +V \\ \begin{bmatrix} +acc \\ +III \\ -I \\ -refl \\ +fem \\ +sg \end{bmatrix} \end{bmatrix}$$

c.
$$\begin{bmatrix} \underline{\text{trouver}} \\ +V \\ \begin{bmatrix} +acc \\ +III \\ -I \\ -refl \\ -fem \\ +sg \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} \underline{\text{trouver}} \\ +V \\ \begin{bmatrix} +acc \\ +III \\ -I \\ -refl \\ \pm fem \\ -sg \end{bmatrix} \end{bmatrix}$$

The spelling-out rule (37) must be restated as in (49):

(49)
$$\begin{bmatrix} \underline{z} \\ +V \\ \begin{bmatrix} \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \epsilon fem \\ \zeta sg \end{bmatrix} \end{bmatrix}$$
is obligatorily rewritten
$$\begin{bmatrix} \underline{x}\ \underline{z} \\ +V \\ +ProNP \\ \beta III \end{bmatrix},$$

where $\underline{x}$ is
$$\begin{bmatrix} +ProNP \\ \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \epsilon fem \\ \zeta sg \end{bmatrix}$$
. Condition: If $\underline{z}$ is [+ProNP], then $\underline{x}$ is [αIII] and $\underline{z}$ is [+III].

(2 further reformulations)

The condition on (49), which effects (i)-(iv) above, guarantees that a pronominal clitic that is to be spelled out on a verb already bearing a pronominal clitic must be either third person and accusative or nonthird person and dative, and that the clitic already on the verb must be third person; if this isn't the case, then the verb cannot already have a pronominal clitic. By (49), the different verbs in (48a)-(48d) are spelled out as (50a)-(50d):[7]

(50) a.
$$\begin{bmatrix} \underline{\text{se trouver}} \\ +V \\ +ProNP \\ -III \end{bmatrix}$$

b.
$$\begin{bmatrix} \underline{\text{la trouver}} \\ +V \\ +ProNP \\ +III \end{bmatrix}$$

(50) c. $\begin{bmatrix} \text{le trouver} \\ \text{+V} \\ \text{+ProNP} \\ \text{+III} \end{bmatrix}$ d. $\begin{bmatrix} \text{les trouver} \\ \text{+V} \\ \text{+ProNP} \\ \text{+III} \end{bmatrix}$

The reformulation of (37) as (49) has the effect of all of (i)-(iv); I shall briefly demonstrate that this is so.

Suppose that we attempt to derive any of the sentences in (40) by means of (47) and (49); if (49) prevents us from doing so, then we will have shown that (49) embodies restriction (i). We might go about an attempt to derive (40) in either of two ways--first, by assuming the clitics in the first position in (40) to fulfil the dative selectional restriction on présenter, and by assuming those in second position to fulfil the accusative one; and second, by assuming just the reverse selectional roles for the two columns of clitics in (40). In either instance, présenter would have to have the underlying form in (51), as provided for by (47).

(51) $\begin{bmatrix} \text{présenter} \\ \text{+V} \\ \begin{bmatrix} \text{+acc} \\ \text{-III} \\ \pm\text{I} \\ \pm\text{refl} \\ \pm\text{fem} \\ \pm\text{sg} \end{bmatrix} \\ \begin{bmatrix} \text{-acc} \\ \text{-III} \\ \pm\text{I} \\ \pm\text{refl} \\ \pm\text{fem} \\ \pm\text{sg} \end{bmatrix} \end{bmatrix}$ (52) $\left. \begin{matrix} \underline{me} \\ \underline{te} \\ \underline{nous} \\ \underline{vous} \\ \underline{se} \end{matrix} \right\} \text{présenter} \begin{bmatrix} \text{+V} \\ \text{+ProNP} \\ \text{-III} \\ \begin{bmatrix} \text{-acc} \\ \text{-III} \\ \pm\text{I} \\ \pm\text{refl} \\ \pm\text{fem} \\ \pm\text{sg} \end{bmatrix} \end{bmatrix}$

If the second position clitics were accusative, then in the course of the putative derivation of (40), (51) would have to be spelled out as (52) by (49). If we were now to attempt to produce the verbs in (40) by a further spelling-out by (49), we'd fail, since (52) would be [+ProNP], but [-III], contrary to the condition on (49). If we take the second position clitics as dative, then me/te/nous/vous/se présenter would have the feature composition in (53):

(53) { me / te / nous / vous / se } [+V +ProNP -III] [+acc -III ±I ±refl ±fem ±sg] présenter
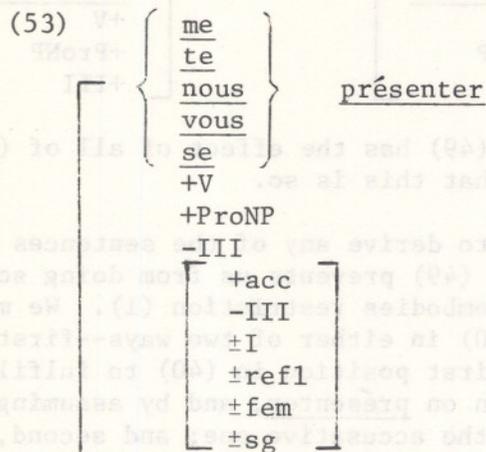
If we were to attempt the spelling-out of any accusative nonthird person clitic onto (53) by (49), we would again fail, since any such accusative clitic would be $[\alpha\text{acc}, -\alpha\text{III}]$, but (53) is [+ProNP], contrary to the condition on (49). Thus, (49) expresses restriction (i), since the groups in (40) aren't generable.

Suppose now that we attempt to derive one of the sentences in (42a, b) using (49); if we are prevented from doing so, then we will have shown that (49) expresses (ii). Consider the (42b) sentences. In these, nonthird person accusative clitics must apparently be spelled out onto verbs of the following form:

(54) { lui / leur } [+V +ProNP +III] [+acc -III ±I ±refl ±fem ±sg] présenter
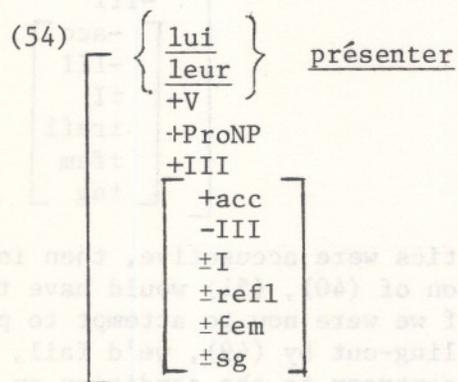
But, contrary to the condition on (49), the nonthird person accusative clitics are $[\alpha\text{acc}, -\alpha\text{III}]$, while (54) is [+ProNP]. Thus, the verbs in (42b) cannot be derived using the lexical rule (47) and the spelling-out rule (49). Now consider the (42a) sentences. In these, third person dative clitics must apparently be spelled out onto verbs of the form:

(55)

$$\left[\begin{array}{l}\left\{\begin{array}{l}\underline{me}\\ \underline{te}\\ \underline{nous}\\ \underline{vous}\\ \underline{se}\end{array}\right\}\ \underline{présenter}\\ \text{+V}\\ \text{+ProNP}\\ \text{-III}\\ \left[\begin{array}{l}\text{-acc}\\ \text{+III}\\ \text{-I}\\ \text{-refl}\\ \pm\text{fem}\\ \pm\text{sg}\end{array}\right]\end{array}\right.$$
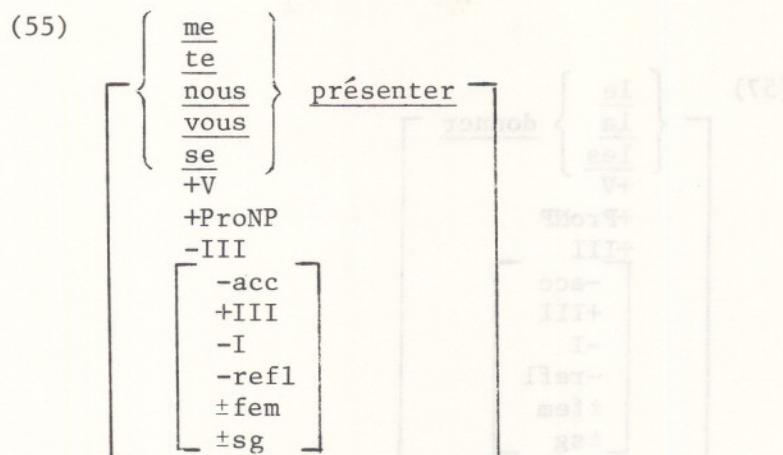
But again, contrary to the condition on the spelling-out rule, the third person dative clitics are [αacc, -αIII], while (55) is [+ProNP]. Therefore, (49) embodies restriction (ii).

To demonstrate that (49) captures (iii), we must show that groups such as those in (43) aren't derivable. In the derivation of the sequences in (43), third person accusative clitics would apparently be spelled out onto verbs of the following form:

(56)

$$\left[\begin{array}{l}\left\{\begin{array}{l}\underline{me}\\ \underline{te}\\ \underline{nous}\\ \underline{vous}\\ \underline{se}\end{array}\right\}\ \underline{donner}\\ \text{+V}\\ \text{+ProNP}\\ \text{-III}\\ \left[\begin{array}{l}\text{+acc}\\ \text{+III}\\ \text{-I}\\ \text{-refl}\\ \pm\text{fem}\\ \pm\text{sg}\end{array}\right]\end{array}\right.$$
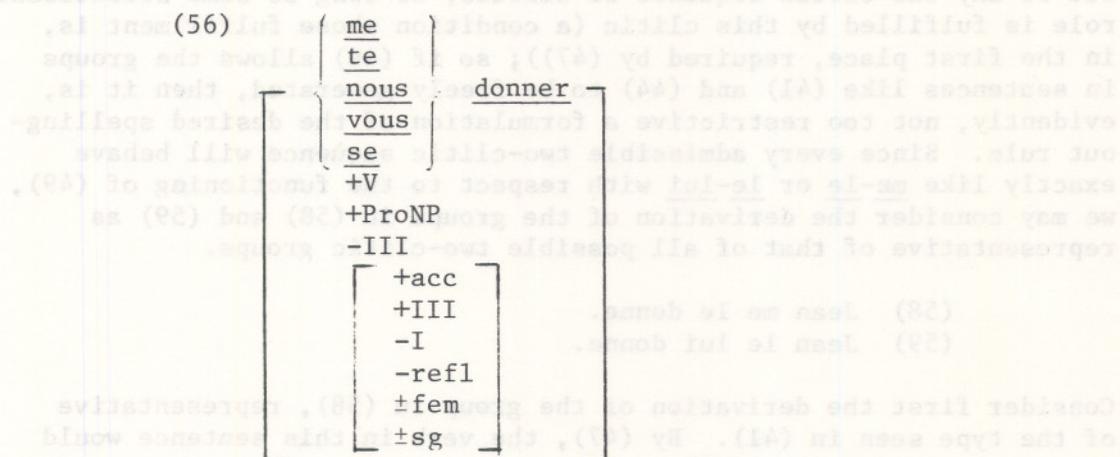
Observe, however, that (56), since it is [+ProNP, -III], would violate the condition on (49). Thus, (49) captures restriction (iii).

To demonstrate that (49) embodies the final restriction (iv) on clitic sequences, it suffices to show the underivability of the groups in (45). In the formation of such sequences, third person dative clitics would have to be spelled out onto complex verbs like (57):

(57)

$$
\begin{bmatrix}
\begin{Bmatrix} \underline{le} \\ \underline{la} \\ \underline{les} \end{Bmatrix} \underline{donner} \\
+V \\
+ProNP \\
+III \\
\begin{bmatrix}
-acc \\
+III \\
-I \\
-refl \\
\pm fem \\
\pm sg
\end{bmatrix}
\end{bmatrix}
$$
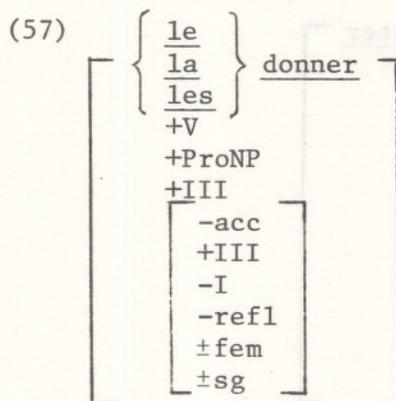
But this spelling-out is blocked by the condition on (49): the third person dative clitics are [αacc, -αIII], while (57) is [+ProNP]. Thus, (49) provides for restriction (iv).

Clearly, the spelling-out rule (49) is restrictive enough to capture every cooccurrence and ordering restriction known to govern French pronominal clitic sequences. On the other hand, (49) doesn't rule out any permissible clitic sequences: inspection will convince the reader that the condition on (49) doesn't prohibit the spelling-out of any one-clitic sequence of clitics, as long as some selectional role is fulfilled by this clitic (a condition whose fulfillment is, in the first place, required by (47)); so if (49) allows the groups in sentences like (41) and (44) to be freely generated, then it is, evidently, not too restrictive a formulation of the desired spelling-out rule. Since every admissible two-clitic sequence will behave exactly like me-le or le-lui with respect to the functioning of (49), we may consider the derivation of the groups in (58) and (59) as representative of that of all possible two-clitic groups.

(58) Jean me le donne.
(59) Jean le lui donne.

Consider first the derivation of the group in (58), representative of the type seen in (41). By (47), the verb in this sentence would appear underlyingly as (60):

(60)

$$
\begin{bmatrix}
\underline{donner} \\
+V \\
\begin{bmatrix}
-acc \\
-III \\
+I \\
-refl \\
\pm fem \\
+sg
\end{bmatrix} \\
\begin{bmatrix}
+acc \\
+III \\
-I \\
-refl \\
-fem \\
+sg
\end{bmatrix}
\end{bmatrix}
$$
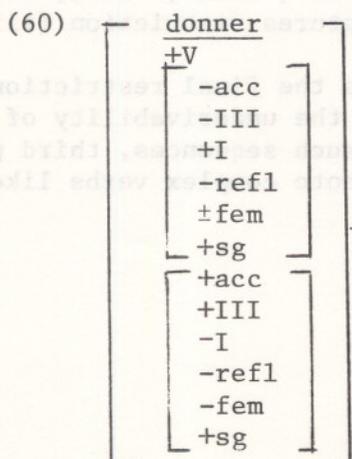
(49) allows the free spelling-out of <u>le</u> onto (60) to form the complex
verb in (61).

(61)
```
┌ le donner ┐
│ +V        │
│ +ProNP    │
│ +III      │
│   ┌ -acc ┐│
│   │ -III ││
│   │ +I   ││
│   │ -refl││
│   │ ±fem ││
│   └ +sg ┘│
└          ┘
```

Since <u>me</u> is [-acc, -III], the condition on (49) doesn't forbid its
spelling-out onto (61) to form the complex verb in (62).

(62)
```
┌ me le donner ┐
│ +V           │
│ +ProNP       │
│ -III         │
└              ┘
```

Now consider the derivation of the group in sentence (59). By
(47), the verb in this sentence would appear underlyingly as (63).

(63)
```
┌ donner ┐
│ +V     │
│   ┌ +acc ┐│
│   │ +III ││
│   │ -I   ││
│   │ -refl││
│   │ -fem ││
│   └ +sg ┘│
│   ┌ -acc ┐│
│   │ +III ││
│   │ -I   ││
│   │ -refl││
│   │ ±fem ││
│   └ +sg ┘│
└          ┘
```

(49) allows the free spelling-out of <u>lui</u> onto <u>donner</u> to form the verb
in (64).

(64)
```
┌ lui donner ┐
│ +V         │
│ +ProNP     │
│ +III       │
│   ┌ +acc ┐│
│   │ +III ││
│   │ -I   ││
│   │ -refl││
│   │ -fem ││
│   └ +sg ┘│
└          ┘
```

Once again, since <u>le</u> is [+acc, +III], its spelling-out onto (64) as in (65) isn't blocked by the condition on (49).

$$(65) \quad \begin{bmatrix} \text{le lui donner} \\ +V \\ +\text{ProNP} \\ +III \end{bmatrix}$$

Again, since every permissible two-clitic sequence behaves either like that in (58) or that in (59) with respect to the condition on rule (49), it may therefore be concluded that the spelling-out rule isn't too restrictive to produce all possible pronominal clitic sequences.

II.1.3. <u>A generalization of the spelling-out rule to V"</u>.

There is, of course, one very obvious shortcoming with rule (49), namely that French pronominal clitics aren't always clitic to the verb on which they are selectionally dependent. Consider sentences (66)-(68):

(66) Jean l'a aidé.
(67) Jean lui est présenté.
(68) Jean lui a été présenté par Marie.

In the first sentence, the clitic <u>le</u> fulfils a selectional restriction on <u>aider</u>, not on the verb <u>avoir</u>; in the second sentence, a passive, <u>lui</u> is proclitic to <u>est</u>, although it fulfils a selectional requirement of <u>présenter</u>; and in the third sentence, <u>lui</u> is separated by two verbs from its governing verb. Clearly, (49) is inadequate to describe the distribution of clitics in sentences such as (66)-(68).

Therefore, a generalization of the spelling-out rule (49) to entire V" constituents is necessary. That is, assuming that the French predicate has the constituent structure in (69), the spelling-out rule must be allowed to place clitics on the first V under V".

(69)

```
                        PRED
              _____/      _____
            AUX                       V"
          /    \              _____/  _____
       TNS     (M)         (V)                   V"
                            |           _____/  _____
                          avoir      (V)                    V'
                               perf    |             _____/  _____
                                      être          V         (...NP...ADV)
                                          pass
```
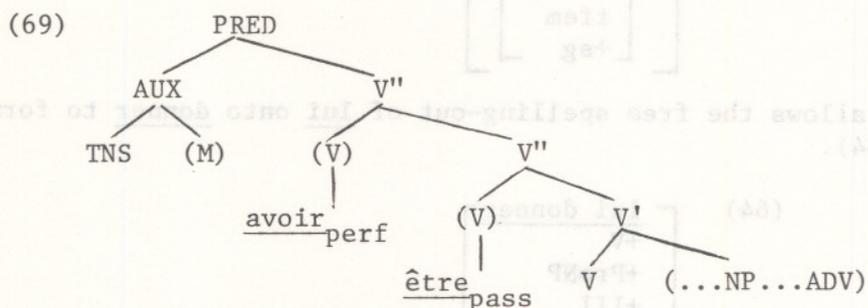
(70) is the reformulation in question. (Here and henceforth, 'W', 'X', 'Y', and 'Z' are to be syntactic variables; 'B' and "B'" are to be variables ranging only over labelled brackets.)

(70) For any V'' analyzable as both $[X[_V,[_V \underline{z}]Y]]$ and $[B[_V \begin{bmatrix} \underline{w} \\ -pple \end{bmatrix}]\underline{B}' Z]$, if the complex symbol assoc-

iated with $\underline{z}$ contains a complex symbol $\begin{bmatrix} \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \epsilon fem \\ \zeta sg \end{bmatrix}$

of second order, then this must be eliminated from $\underline{z}$, and $[_V \underline{w}]$ must be replaced with $[_V \underline{x}\ \underline{w}]$, which is $[+V, +ProNP, \beta III]$ and which inherits all remaining features from $\underline{w}$, where $\underline{x}$ is

$$\begin{bmatrix} +ProNP \\ \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \epsilon fem \\ \zeta sg \end{bmatrix} .$$

Condition: If $\underline{w}$ is $[+ProNP]$, then $\underline{x}$ is $[\alpha III]$ and $\underline{w}$ is $[+III]$.

(1 further reformulation)

Given this reformulation of the proclitic pronoun spelling-out rule, the structures (71a, b) may be respectively realized as in (72a, b). (Here and henceforth, as a notational convenience, 'clitic features' will be used to represent the corresponding six-feature complexes of second order—for example, [+me] is to represent the complex symbol $[\pm acc, -III, +I, -refl, \pm fem, +sg]$; similarly for the other clitic pronouns. A similar convention will be used for the adverbial clitics):[9]

(71) a.

```
              S
          ┌───┴────┐
         NP       PRED
          │     ┌───┴────┐
          N    AUX       V''
          │     │      ┌──┴──┐
        Jean   TNS     V     V'
                │      │      │
              Pres  ┌avoir┐   V
                    │ +V  │   │
                    └-pple┘ ┌aider┐
                            │ +V  │
                            │+pple│
                            │[+le]│
                            └─────┘
```

(71) b.

```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │            ┌──────┴──────┐
          N           AUX           V"
          │            │        ┌────┴────┐
        Jean          TNS       V         V'
                       │         │     ┌───┴───┐
                      Pres    ┌─être─┐  V      PP
                              │ +V   │  │     ╱ ╲
                              │ -pple│  │    par Marie
                              └──────┘  │
                                   ┌─présenter─┐
                                   │ +V        │
                                   │ +pple     │
                                   │ [+lui]    │
                                   └───────────┘
```

(72) a.

```
                    S
          ┌─────────┴─────────┐
        NP [+III]            PRED
          │            ┌──────┴──────┐
          N          (AUX)          V"
          │            │        ┌────┴────┐
        Jean          TNS       V         V'
                       │         │         │
                      Pres  ┌─le avoir─┐   V
                            │ +V       │   │
                            │ -pple    │ ┌─aider─┐
                            │ +ProNP   │ │ +V    │
                            │ +III     │ │ +pple │
                            └──────────┘ └───────┘
```

b.

```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │            ┌──────┴──────┐
          N           AUX           V"
          │            │        ┌────┴────┐
        Jean          TNS       V         V'
                       │         │     ┌───┴───┐
                      Pres  ┌─lui être─┐ v      PP
                            │ +V       │ │     ╱ ╲
                            │ -pple    │ │    par Marie
                            │ +ProNP   │ │
                            │ +III     │ ┌─présenter─┐
                            └──────────┘ │ +V        │
                                         │ +pple     │
                                         └───────────┘
```
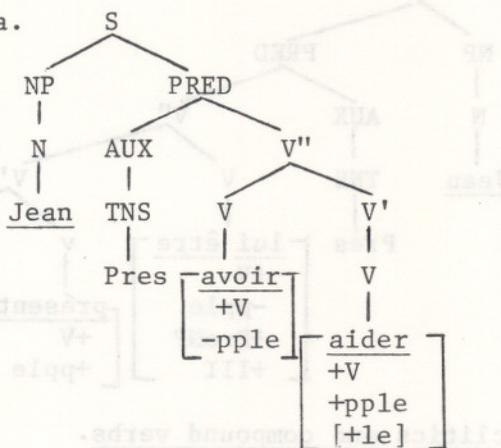
II.1.4. Pronominal clitics and compound verbs.

A further set of sentences must be dealt with in a complete treatment of the distribution of French pronominal clitics. Consider the following sentences:

(73) a. Elle fera manger ce gâteau à Jean.
      b. Elle le fera manger à Jean.
      c. Elle lui fera manger ce gâteau.
      d. Elle le lui fera manger.
      e. *Elle fera le manger à Jean.
      f. *Elle fera lui manger ce gâteau.
      g. *Elle fera le lui manger.
      h. *Elle le fera lui manger.
      i. *Elle lui fera le manger.

Compound verbs such as faire manger in (73a-d) have been variously
analyzed. Kayne (1975:211-17) asserts that such compound verb
constructions as faire-V, laisser-V̇, voir-V, and so on, result from
a transformational union, since he assumes the two verbs originate
in different clauses in deep structure (this, incidentally, forces
Kayne to assume the extrinsic ordering of 'faire-insertion' before
his clitic-placement transformation); but such constructions might
well be argued to arise underlyingly (see footnote 9). I shall for
the moment assume that the latter approach is correct and that the
proper surface constituent analysis of the predicate of (73a) is as
in (74).

(74)

```
                      PRED
                     /    \
                  AUX      V"
                   |        |
                  TNS       V'
                   |       /  \
                  Fut    V     V'         NP
                         |    /  \       /\
                       faire V'   NP    à Jean
                            / \   |
                           V   NP
                           |  /\
                       manger ce gâteau
```

By letting faire have at least the feature composition in (75)
(where [case] is realized as the highest relation in the hierarchy
(76) for which the head verb of faire's complement isn't
selectionally restricted[10]), many otherwise peculiar facts about
the distribution of clitics in compound verb constructions can be
neatly provided for.

(75)   ⎡ faire ⎤   (76)   +acc
       ⎢ +V   ⎥   -acc (i.e. dative)
       ⎣ +__case ⎦   instr (= par NP)

For example, if an intransitive verb such as partir is the head
verb of faire's verbal complement, then faire will, in this instance,
be realized as in (77), since [+acc] is the highest relation in (76)
for which partir isn't selectionally restricted.

(77) $\begin{bmatrix} \underline{faire} \\ +V \\ +\underline{\quad}+acc \end{bmatrix}$

Hence the accusative object (<u>Jean</u>) of <u>faire</u> in (78).

(78) a. Elle fera partir Jean.

b.

Similarly, if the lexical rule (47) introduces the version of <u>faire</u> given in (79), then the spelling-out rule (70) may apply to a structure containing (79), such as (80) (in which [case] is again realized as [+acc]) to produce (81), which underlies (82).

(79) $\begin{bmatrix} \underline{faire} \\ +V \\ \begin{bmatrix} case \\ +III \\ -I \\ -refl \\ -fem \\ +sg \end{bmatrix} \end{bmatrix}$

(80)

(81)

```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │            ┌───────┴───────┐
          N           AUX             V''
          │            │               │
        Elle          TNS             V'
                       │        ┌───────┴───────┐
                      Fut      V'              V'
                                │        ┌──────┴──────┐
                                V        V            V'
                          ┌──────────┐                │
                          │ le faire │                V
                          │ +V       │          ┌──────────┐
                          │ -pple    │          │ partir   │
                          │ +ProNP   │          │ +V       │
                          │ +III     │          └──────────┘
                          └──────────┘
```

(82) Elle le fera partir.

The clitic distribution seen in (73b-d) follows automatically from these assumptions; and the distribution in (73e-i) is automatically ruled out. That is, if _manger_ is the head verb of _faire_'s verbal complement, then _faire_ will, in this case, be selectionally restricted by the feature [+__-acc], since [-acc] is the highest relation in (76) for which _manger_ isn't selectionally restricted. (This accounts for the dative object (à _Jean_) in (74).) (79) is accordingly realized as (83) in a structure such as (84); the spelling-out rule (70) converts (84) into (85) (which underlies (73c)).

(83)
```
┌─────────┐
│ faire   │
│ +V      │
│  -acc   │
│  +III   │
│  -I     │
│  -refl  │
│  -fem   │
│  +sg    │
└─────────┘
```

(84)
```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │            ┌───────┴───────┐
          N           AUX             V''
          │            │               │
        Elle          TNS             V'
                       │        ┌───────┴───────┐
                      Fut      V               V'
                          ┌──────────┐   ┌──────┴──────┐
                          │ faire    │   V            NP
                          │ +V       │   │             │
                          │ -pple    │ ┌──────────┐  ce gâteau
                          │ [÷lui]   │ │ manger   │
                          └──────────┘ │ +V       │
                                       │ +__ +acc │
                                       └──────────┘
```

(85)
```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │            ┌───────┴───────┐
          N           AUX             V''
          │            │               │
        Elle          TNS             V'
                       │        ┌───────┴───────┐
                      Fut      V               V'
                          ┌──────────┐   ┌──────┴──────┐
                          │ lui faire│   V            NP
                          │ +V       │   │             │
                          │ -pple    │ ┌──────────┐  ce gâteau
                          │ +ProNP   │ │ manger   │
                          │ +III     │ │ +V       │
                          └──────────┘ │ +__ +acc │
                                       └──────────┘
```
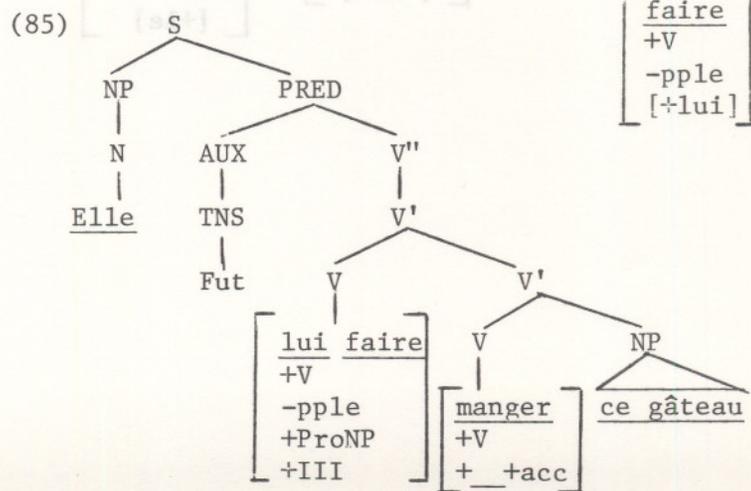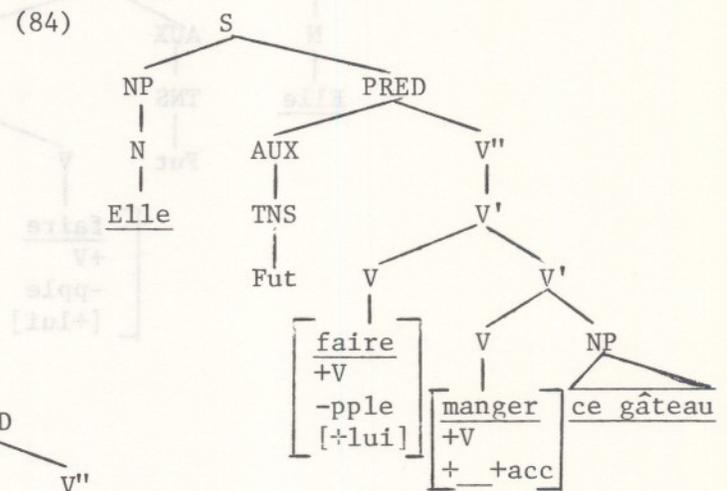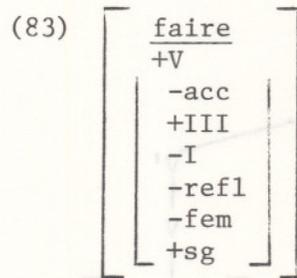
Now, suppose the lexical rule (47) introduces into the lexicon of
French the version of <u>manger</u> given in (86); (86) might then appear
in such <u>faire</u>-V constructions as (87) and (88), to which (70) would
assign just the right spellings-out seen in (89) and (90) (under-
lying (73b) and (73d), respectively):

(86)
$$\begin{bmatrix} \underline{manger} \\ +V \\ [+1e] \end{bmatrix}$$

(87)
```
                S
          _____|_____
         NP           PRED
         |         ____|____
         N        AUX       V'
         |         |      ___|_____
       Elle       TNS    V      V'            NP
                   |      |    __|__          /\
                  Fut   faire  V   manger    à Jean
                         +V    |   +V
                         -pple     [+1e]
                         + __-acc
```

(88)
```
                S
          _____|_____
         NP           PRED
         |         ____|____
         N        AUX       V''
         |         |         |
       Elle       TNS        V'
                   |      ___|___
                  Fut    V       V'
                         |       |
                       faire     V
                        +V       |
                        -pple   manger
                        [+1ui]   +V
                                 [+1e]
```

(89)

```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │           ┌───────┴────────┐
          N          AUX              V"
          │           │                │
        Elle         TNS              V'
                      │        ┌───────┴───────┐
                     Fut       │               │
                               V              V'          NP
                               │        ┌──────┴───┐      │
                          ┌─────────┐   V       à Jean
                          │ le faire │  │
                          │ +V       │ ┌────────┐
                          │ -pple    │ │ manger │
                          │ +ProNP   │ │ +V     │
                          │ +III     │ └────────┘
                          │ +__-acc  │
                          └─────────┘
```

(90)

```
                    S
          ┌─────────┴─────────┐
         NP                  PRED
          │           ┌───────┴────────┐
          N          AUX              V"
          │           │                │
        Elle         TNS              V'
                      │        ┌───────┴───────┐
                     Fut       │               │
                               V              V'
                               │               │
                       ┌──────────────┐        V
                       │ le lui faire │        │
                       │ +V           │  ┌────────┐
                       │ -pple        │  │ manger │
                       │ +ProNP       │  │ +V     │
                       │ +III         │  └────────┘
                       └──────────────┘
```
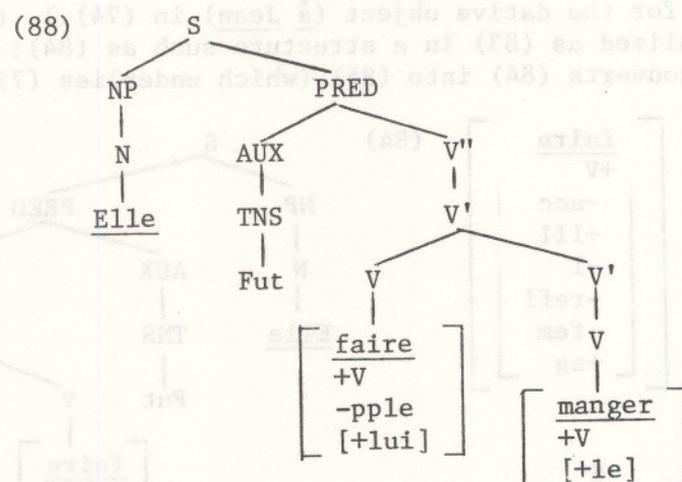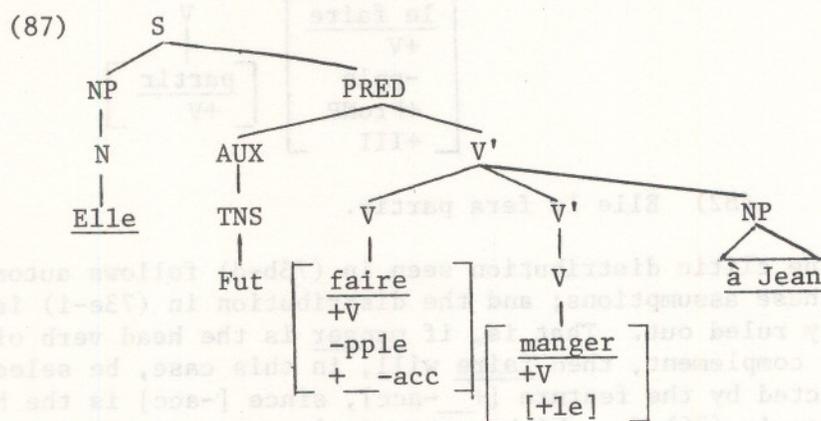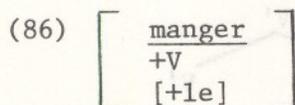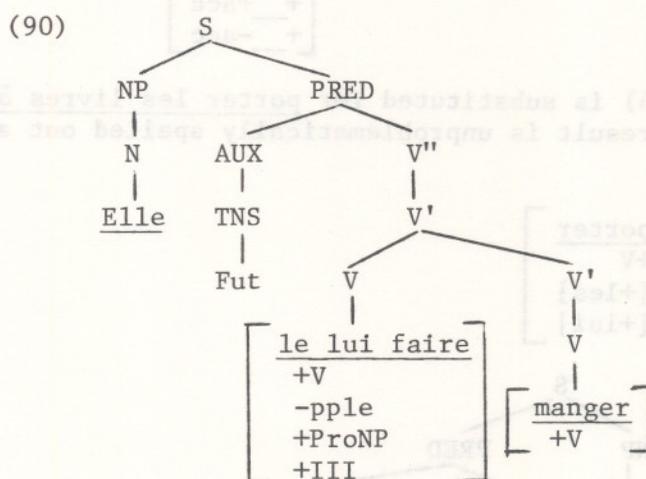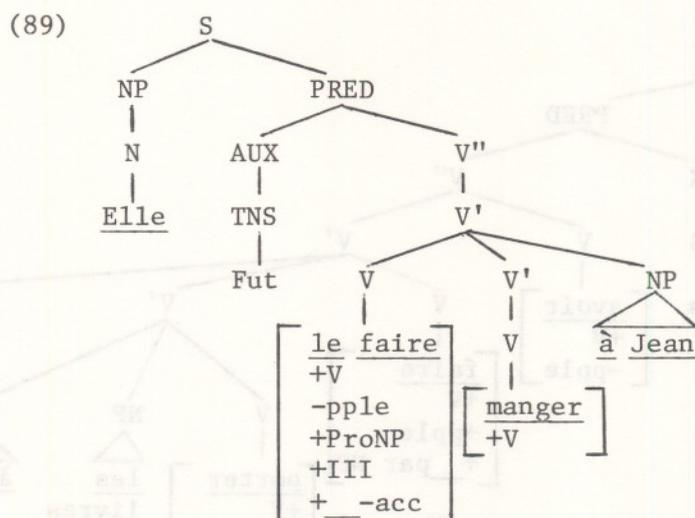
Notice that owing to the constituent analysis that is assumed
here for compound verb constructions, the spelling-out of any of
the groups in (73e-i) by (70) is impossible, since (70) spells
clitics only onto the leftmost V in V".[11]

Finally, if, as in (91), the head verb of the verbal complement
of _faire_ is, for example, _porter_ ([+__+acc, +__-acc]), then _faire_
will be realized as (92). This accounts for the _par_-NP sister to
faire in the structure (93) underlying (91).

(91) Jean a fait porter les livres à sa femme par son
      fils.

(92)
$$\begin{bmatrix} \underline{faire} \\ +V \\ +\underline{\quad}\ par\ NP \end{bmatrix}$$

(93)

```
                    S
          ┌─────────┴──────────┐
         NP                   PRED
          │          ┌─────────┴──────────┐
          N         AUX                   V"
          │          │          ┌─────────┴──────────┐
        Jean        TNS         V                    V'
                     │          │         ┌───────────┼──────────────┐
                    Pres    ┌───────┐     V          V'              NP
                            │ avoir │              ┌──┴──────┐     ┌──┴──────┐
                            │ +V    │   ┌──────┐   V   NP   NP   par son fils
                            │ -pple │   │ faire│  ┌───┴──┐
                            └───────┘   │ +V   │  │ porter│ les  à sa femme
                                        │ +pple│  │ +V   │ livres
                                        │ + __ par NP│ + __ +acc │
                                        └──────┘  │ + __ -acc │
                                                  └──────┘
```
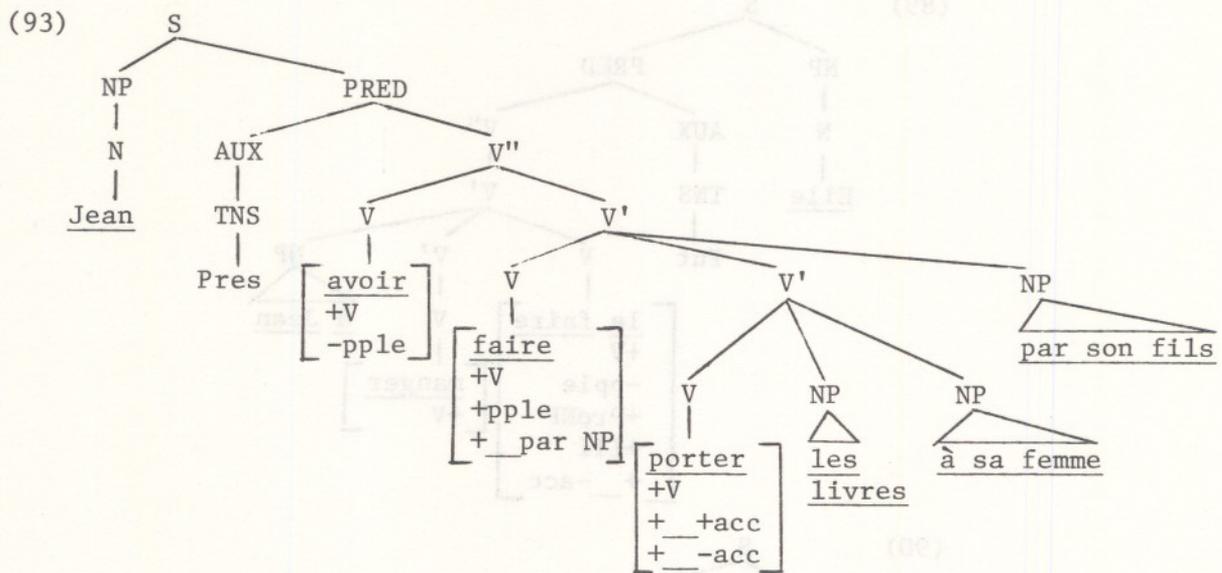
Observe that if (94) is substituted for <u>porter les livres à sa femme</u> in (93), then the result is unproblematically spelled out as (95) by (70).[12]
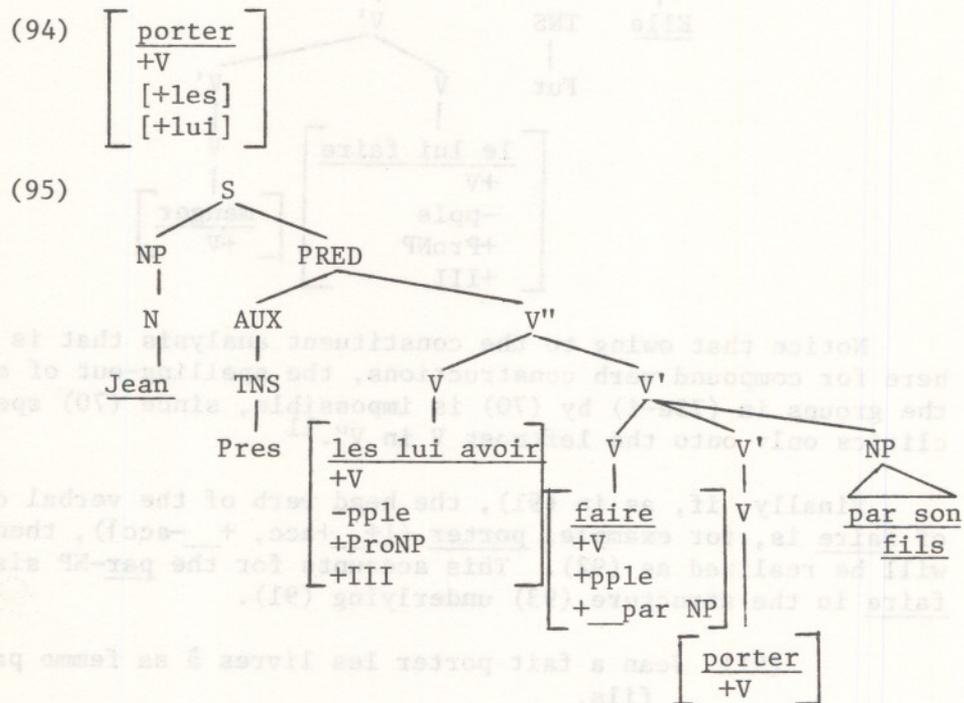
(94)
$$
\begin{bmatrix} \underline{porter} \\ +V \\ [+les] \\ [+lui] \end{bmatrix}
$$

(95)

```
                    S
          ┌─────────┴──────────┐
         NP                   PRED
          │          ┌─────────┴──────────┐
          N         AUX                   V"
          │          │          ┌─────────┴──────────┐
        Jean        TNS         V                    V'
                     │    ┌──────────────┐  ┌─────────┼─────────┐
                    Pres  │ les lui avoir│  V        V'         NP
                          │ +V           │           ┌──┴──┐  ┌──┴──┐
                          │ -pple        │ ┌──────┐   V'    par son
                          │ +ProNP       │ │ faire│  ┌──┴──┐  fils
                          │ +III         │ │ +V   │  V
                          └──────────────┘ │ +pple│ ┌──────┐
                                           │ + __ par NP│ porter│
                                           └──────┘ │ +V   │
                                                    └──────┘
```

II.2. <u>Pronominal clitics fulfilling selectional restrictions on non-verbal constituents.</u>

Certain instances of pronominal clitics evidently fulfil selectional restrictions, not on verbs, but on other constituents dominated by V'. They may be treated exactly as were the pronominal

clitics fulfilling selectional restrictions on verbs in the preceding section.

There are two types of dative clitics fulfilling a nonverbal selectional restriction. First, certain dative clitics function as the object of a stranded preposition dominated by V'. Consider sentences (96) and (97). Note that in the (a) sentences, neither the verb <u>courir</u> nor <u>tomber</u> selectionally requires a dative object.

> (96) a. Jean lui court après.
>   cf. b. Jean court après Marie.

> (97) a. Les pierres leur tombent dessus.
>   cf. b. Les pierres tombent sur eux.

The second type of dative clitic fulfilling a selectional restriction on a nonverbal constituent dominated by V' is that satisfying a restriction on a predicate adjective, as in (98) and (99):

> (98) a. Jean leur est fidèle.
>   cf. b. Jean est fidèle à ses amis.

> (99) a. Ceci lui devient pénible.
>   cf. b. Ceci devient pénible à Jean.

By a more general restatement of both the lexical rule (47) and the spelling-out rule (70), both of these kinds of instances of dative pronominal clisis can be straightforwardly accounted for.

Consider first the problem of dative clitics serving the role of prepositional object. Not every preposition may be stranded by an object that shows up proclitic to a verb; for example, (100)-(102) all contain unstrandable prepositions.

> (100) *On lui a ri de.
> (101) *La fille lui courait à.
> (102) *Il faut lui croire en.

Interestingly, many of the strandable prepositions show suppletion when stranded. For example, <u>dessus</u> (see (97a)) is a suppletive alternant of <u>sur</u> occurring in stranded positions; <u>dedans</u> is a suppletion for stranded <u>dans</u>; and so on. These facts might be neatly captured as follows: first, assume that strandable prepositions contain the restriction [+__-acc] in their associated complex symbols, but that nonstrandable prepositions are simply [+__NP]; second, assume the following more general statement of the lexical rule which replaces selectional restrictions with complex symbols of second order to be spelled out as clitic sequences:

(103) Given any lexical expression[13] γ with a selectional
restriction [+__αacc], there are other lexical
expressions like γ except that in place of the
feature [+__αacc], they have a complex symbol

$$\begin{bmatrix} \begin{bmatrix} \alpha acc \\ \pm III \\ \pm I \\ \pm refl \\ \pm fem \\ \pm sg \end{bmatrix} \end{bmatrix}$$ of second order in their
associated feature complex.

(1 further reformulation)

(103) would allow the strandable preposition <u>après</u> to have, in
addition to its basic lexical version (104), another version (105):

(104) $$\begin{bmatrix} \underline{après} \\ +Prep \\ +\underline{}-acc \end{bmatrix}$$ (105) $$\begin{bmatrix} \underline{après} \\ +Prep \\ [+lui] \end{bmatrix}$$

Observe that <u>sur</u> should show up as <u>dessus</u> in its version introduced by
(103); thus, (106) could be assumed as an additional lexical rule:

(106) Any preposition that is [[-acc]] assumes its
alternate form if it has one.

This would guarantee the appearance of (108), for example, beside
(107) in the lexicon:

(107) $$\begin{bmatrix} \underline{sur} \\ +Prep \\ +\underline{}-acc \end{bmatrix}$$ (108) $$\begin{bmatrix} \underline{dessus} \\ +Prep \\ [+leur] \end{bmatrix}$$

Note that, by virtue of the absence of [+__αacc] from their feature
complexes, unstrandable prepositions would 'undergo' neither (103)
nor (106).

Now, by similarly generalizing the statement of the proclitic
pronoun spelling-out rule (70), as in (109), instances of (105) and
(108) in structures such as (110) and (111) can be spelled out as
in (112) and (113), respectively.

(109) For any V" analyzable as both $[X[_V,W [\underline{z}]Y]]$
and $[B[_V \begin{bmatrix} \underline{w} \\ -pple \end{bmatrix}]B' Z]$, if the complex symbol
associated with $\underline{z}$ contains a complex symbol

$$\begin{bmatrix} \begin{bmatrix} \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \epsilon fem \\ \zeta sg \end{bmatrix} \end{bmatrix}$$ of second order, then this
must be eliminated from $\underline{z}$ and
$[_V \underline{w}]$ must be replaced with
$[_V \underline{x} \underline{w}]$, which is

[+V, +ProNP, βIII] and which inherits all
remaining features from <u>w</u>, where <u>x</u> is

$$\begin{bmatrix} +\text{ProNP} \\ \alpha\text{acc} \\ \beta\text{III} \\ \gamma\text{I} \\ \delta\text{refl} \\ \varepsilon\text{fem} \\ \zeta\text{sg} \end{bmatrix}$$.   <u>Condition</u>: If <u>w</u> is
[+ProNP], then <u>x</u> is [αIII]
and <u>w</u> is [+III].

(final formulation)

(110)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │        ┌───┴────┐
        N       AUX       V''
        │        │         │
      Jean      TNS        V'
               │      ┌────┴────┐
             Pres     V        PP
                      │         │
                   ┌courir┐     P
                   │+V    │      │
                   └-pple ┘  ┌après ┐
                             │+Prep │
                             │[+lui]│
                             └──────┘
```

(111)

```
              S
        ┌─────┴─────┐
       NP          PRED
       △        ┌───┴────┐
      les      AUX       V''
    pierres     │         │
               TNS        V'
                │    ┌─────┴────┐
              Pres   V         PP
                     │          │
                 ┌tomber┐       P
                 │+V    │        │
                 └-pple ┘   ┌dessus ┐
                            │+Prep  │
                            │[+leur]│
                            └───────┘
```

(112)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │        ┌───┴────┐
        N       AUX       V''
        │        │         │
      Jean      TNS        V'
               │      ┌────┴────┐
             Pres     V        PP
                      │         │
              ┌lui courir┐      P
              │+V        │       │
              │-pple     │   ┌après ┐
              │+ProNP    │   │+Prep │
              │+III      │   └──────┘
              └──────────┘
```

(113)

```
              S
        ┌─────┴─────┐
       NP          PRED
       △        ┌───┴────┐
      les      AUX       V''
    pierres     │         │
               TNS        V'
                │    ┌─────┴────┐
              Pres   V         PP
                     │          │
             ┌leur tomber┐      P
             │+V         │       │
             │-pple      │   ┌dessus ┐
             │+ProNP     │   │+Prep  │
             │+III       │   └───────┘
             └───────────┘
```

Consider now the problem of dative clitics serving as adjective-
complements. Adjectives such as <u>fidèle</u> and <u>pénible</u> allowing dative
complements might be thought to appear as follows in the lexicon:

(114) $\begin{bmatrix} \underline{\text{fidèle}} \\ +\text{Adj} \\ +\underline{\quad}\text{-acc} \end{bmatrix}$ $\begin{bmatrix} \underline{\text{pénible}} \\ +\text{Adj} \\ +\underline{\quad}\text{-acc} \end{bmatrix}$

The lexical rule (103), in its present statement, would introduce other versions of the same adjectives into the lexicon--for example, those in (115):

(115) $\begin{bmatrix} \underline{\text{fidèle}} \\ +\text{Adj} \\ [+\text{leur}] \end{bmatrix}$ $\begin{bmatrix} \underline{\text{pénible}} \\ +\text{Adj} \\ [+\text{lui}] \end{bmatrix}$

If the adjectives in (115) were to occur in such structures as (116) and (117), then the revised spelling-out rule (109) would, according to its present statement, spell out their inherent dative clitics as in (118) and (119).

(116)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │       ┌────┴────┐
        N      AUX        V"
        │       │          │
      Jean     TNS         V'
               │       ┌────┴────┐
              Pres     V        ADJ'
                       │          │
                   [être  ]      ADJ
                   [+V    ]       │
                   [-pple ]   [fidèle ]
                              [+Adj   ]
                              [[+leur]]
```

(117)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │       ┌────┴────┐
        N      AUX        V"
        │       │          │
      Ceci     TNS         V'
               │       ┌────┴────┐
              Pres     V        ADJ'
                       │          │
                   [devenir]     ADJ
                   [+V     ]      │
                   [-pple  ]  [pénible]
                              [+Adj   ]
                              [[+lui] ]
```

(118)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │       ┌────┴────┐
        N      AUX        V"
        │       │          │
      Jean     TNS         V'
               │       ┌────┴────┐
              Pres     V        ADJ'
                       │          │
                 [leur être]     ADJ
                 [+V       ]      │
                 [-pple    ]  [fidèle]
                 [+ProNP   ]  [+Adj  ]
                 [+III     ]
```

(119)

```
              S
        ┌─────┴─────┐
       NP          PRED
        │       ┌────┴────┐
        N      AUX        V"
        │       │          │
      Ceci     TNS         V'
               │       ┌────┴────┐
              Pres     V        ADJ'
                       │          │
                [lui devenir]    ADJ
                [+V         ]     │
                [-pple      ] [pénible]
                [+ProNP     ] [+Adj   ]
                [+III       ]
```
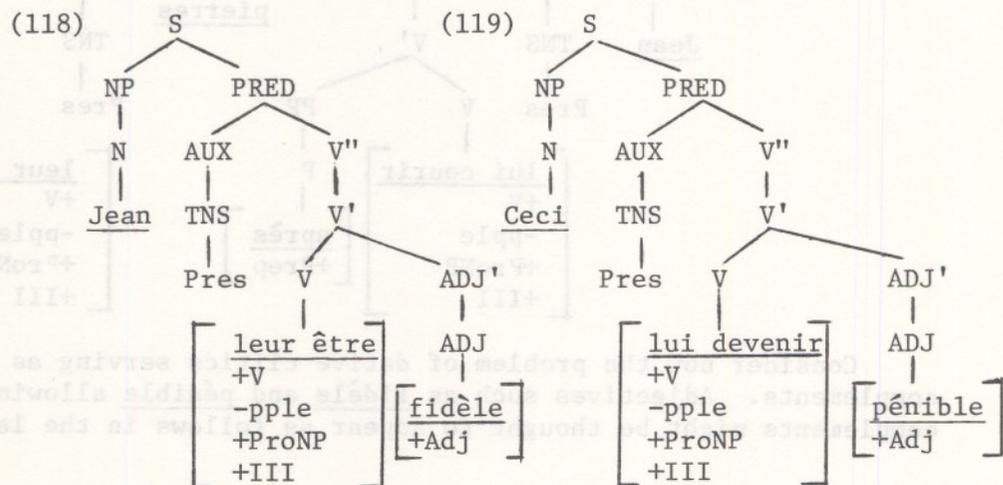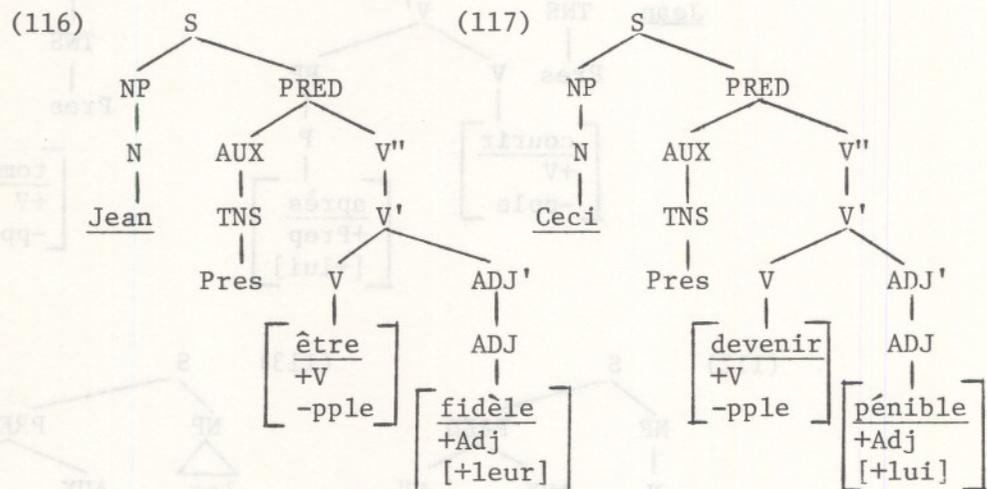
Thus, by a sufficiently general statement of the lexical rule replacing selectional restrictions with complex symbols of second order to be spelled out as pronominal clitics, and of the spelling-out rule itself, instances of pronominal clitics satisfying a selectional restriction on a nonverbal constituent under V' may be straightforwardly accounted for in the approach introduced above.

II.3. 'Adverbial' clitics fulfilling subcategorization restrictions on V.
    I shall accept here the uncontroversial assumption that the so-called adverbial clitics of French, en and y, are pro-PPs (see Kayne (1975:105-14) for discussion).

    Interestingly, many instances of these 'adverbial' clitics serve anything but an adverbial function; consider the following sentences, in which en and y clearly satisfy some subcategorization restriction on the main verb:

(120) a. Il y répond.
       cf. b. Il répond aux questions.

(121) a. Il en dégage Jean.
       cf. b. Il dégage Jean de cette obligation.

These instances of en and y are in principle no different from instances of pronominal clitics fulfilling selectional restrictions on verbs. Thus, if the minimal feature compositions in (122) are associated with the 'adverbial' clitics en and y, then, as a parallel to rule (103), a second lexical rule (123) can be stated as follows so as to produce verbs such as (124b) and (125b) given those in (124a) and (125a).

$$(122) \quad \begin{bmatrix} \underline{en} \\ +ProPP \\ +gen \end{bmatrix} \qquad \begin{bmatrix} \underline{y} \\ +ProPP \\ -gen \end{bmatrix}$$

(123) Given any verb γ with a subcategorization restriction [+__PP], there are other verbs like γ except in that in place of the feature [+__PP], they have a complex symbol [[+ProPP, ±gen]] of second order in their associated complex symbol.
(1 further reformulation)

$$(124) \quad a. \quad \begin{bmatrix} \underline{répondre} \\ +V \\ +\_PP \end{bmatrix} \qquad b. \quad \begin{bmatrix} \underline{répondre} \\ +V \\ \begin{bmatrix} +ProPP \\ -gen \end{bmatrix} \end{bmatrix}$$

(125) a.
$$\begin{bmatrix} \text{dégager} \\ +V \\ + \underline{\quad} +acc \\ + \underline{\quad} PP \end{bmatrix}$$
b.
$$\begin{bmatrix} \text{dégager} \\ +V \\ + \underline{\quad} +acc \\ \begin{bmatrix} +ProPP \\ +gen \end{bmatrix} \end{bmatrix}$$

To provide for the spelling out of verbs like (124b) and (125b), a rule of adverbial proclitic spelling wholly analogous to the pronominal proclitic spelling-out rule (109) may be given the following statement:

(126) Given any V" analyzable as both $[X[_V, [_V \underline{z}]Y]]$

and $[B[_V \begin{bmatrix} \underline{w} \\ -pple \end{bmatrix}]B' Z]$, if the complex symbol

associated with $\underline{z}$ contains a complex symbol

$\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$ of second order and $\underline{w}$ isn't [+ProNP]

or [+ProPP] then $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$ must be eliminated

from $\underline{z}$ and $[_V \underline{w}]$ must be replaced with $[_V \underline{x} \underline{w}]$,

which is [+ProPP] and which inherits all remaining

features from $\underline{w}$, where $\underline{x}$ is $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$.

(1 further reformulation)

This rule interacts with the spelling-out rule for pronominal proclitics in exactly the correct way. An example should suffice to demonstrate this. The verb dégager, when it means 'to acquit', takes two complements--an accusative noun phrase and a prepositional phrase; thus, dégager 'acquit' might be lexically represented as in (125a) above. By the lexical rules (103) and (123), a second verb (127) might also occur in the lexicon:

(127)
$$\begin{bmatrix} \text{dégager} \\ +V \\ [+le] \\ [+en] \end{bmatrix}$$

If (127) occurred in the structure (128), then the operation of the proclitic spelling-out rules (109) and (126) on (128) would yield (129) as unique output:

(128)
```
              S
       ┌──────┴──────┐
      NP            PRED
      │         ┌────┴────┐
      N        AUX        V"
      │         │      ┌───┴───┐
     Jean      TNS     V       V'
               │       │       │
              Pres  ┌─────┐    V
                    │avoir│    │
                    │ +V  │ ┌──────┐
                    │-pple│ │dégager│
                    └─────┘ │  +V  │
                            │+pple │
                            │[+le] │
                            │[+en] │
                            └──────┘
```

(129)
```
              S
       ┌──────┴──────┐
      NP            PRED
      │         ┌────┴────┐
      N        AUX        V"
      │         │      ┌───┴───┐
     Jean      TNS     V       V'
               │       │       │
              Pres  ┌────────┐ V
                    │le en   │ │
                    │ avoir  │ ┌──────┐
                    │  +V    │ │dégager│
                    │ -pple  │ │  +V  │
                    │ +ProPP │ │+pple │
                    │ +ProNP │ └──────┘
                    │ +III   │
                    └────────┘
```
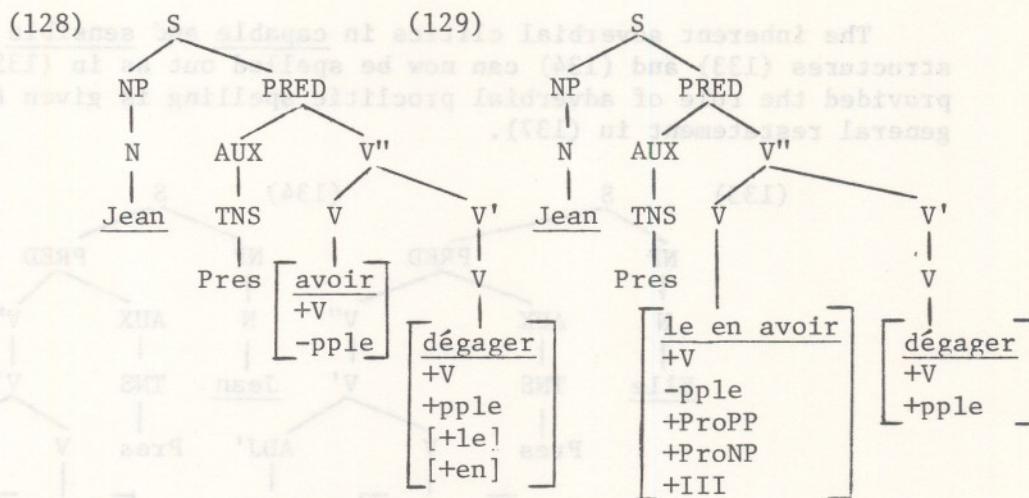
(Observe that (126) expresses the proper ordering restriction holding between pronominal and adverbial proclitics.)

II.4. 'Adverbial' clitics fulfilling subcategorization restrictions on nonverbal constituents.

As was the case with the pronominal clitics, adverbial clitics may fulfil restrictions on nonverbal constituents dominated by V'; by a straightforward restatement of the lexical rule (123) and the adverbial proclitic spelling-out rule (126), instances of such adverbial clitics may be accounted for in the approach already described.

Just as I suggested that adjectives taking dative complements (like fidèle and pénible) might be selectionally restricted as [+__-acc], I propose that adjectives taking prepositional phrase-complements (such as capable and sensible) be subcategorized as [+__PP]:

(130)
$$\begin{bmatrix} \text{capable} \\ \text{+Adj} \\ \text{+\_\_PP} \end{bmatrix} \qquad \begin{bmatrix} \text{sensible} \\ \text{+Adj} \\ \text{+\_\_PP} \end{bmatrix}$$
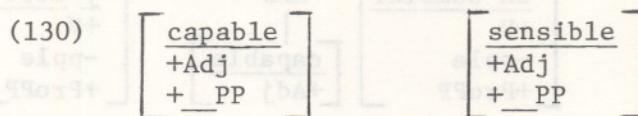
By generalizing the lexical rule replacing [+__PP] with [[+ProPP]] as in (131), we can provide for the presence of adjectives like those in (132) in the lexicon of French.

(131) For any expression γ, if γ is [+__PP], then there are other expressions like γ except that in place of [+__PP], they have a complex symbol [[+ProPP, ±gen]] of second order in their associated complex symbol.

(final formulation)

(132)
$$\begin{bmatrix} \text{capable} \\ \text{+Adj} \\ \text{[+en]} \end{bmatrix} \qquad \begin{bmatrix} \text{sensible} \\ \text{+Adj} \\ \text{[+y]} \end{bmatrix}$$
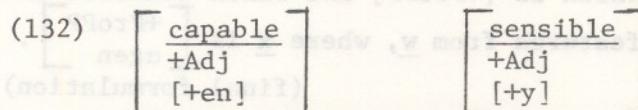
The inherent adverbial clitics in <u>capable</u> and <u>sensible</u> in structures (133) and (134) can now be spelled out as in (135) and (136), provided the rule of adverbial proclitic spelling is given the more general restatement in (137).

(133)

```
                    S
           ┌────────┴────────┐
          NP              PRED
           │          ┌─────┴─────┐
           N         AUX         V''
           │          │           │
         Elle        TNS          V'
                      │      ┌─────┴─────┐
                     Pres    V         ADJ'
                          ┌──────┐       │
                          │sembler│     ADJ
                          │+V    │    ┌───────┐
                          │-pple │    │capable│
                          └──────┘    │+Adj   │
                                      │[+en]  │
                                      └───────┘
```

(134)

```
                    S
           ┌────────┴────────┐
          NP              PRED
           │          ┌─────┴─────┐
           N         AUX         V''
           │          │           │
         Jean        TNS          V'
                      │      ┌─────┴─────┐
                     Pres    V         ADJ'
                          ┌──────┐       │
                          │être  │      ADJ
                          │+V    │    ┌───────┐
                          │-pple │    │sensible│
                          └──────┘    │+Adj    │
                                      │[+y]    │
                                      └────────┘
```

(135)

```
                    S
           ┌────────┴────────┐
          NP              PRED
           │          ┌─────┴─────┐
           N         AUX         V''
           │          │           │
         Jean        TNS          V'
                      │      ┌─────┴─────┐
                     Pres    V         ADJ'
                       ┌────────┐       │
                       │en sembler│    ADJ
                       │+V       │  ┌───────┐
                       │-pple    │  │capable│
                       │+ProPP   │  │+Adj   │
                       └─────────┘  └───────┘
```

(136)

```
                    S
           ┌────────┴────────┐
          NP              PRED
           │          ┌─────┴─────┐
           N         AUX         V''
           │          │           │
         Jean        TNS          V'
                      │      ┌─────┴─────┐
                     Pres    V         ADJ'
                       ┌────────┐       │
                       │y être  │      ADJ
                       │+V      │   ┌────────┐
                       │-pple   │   │sensible│
                       │+ProPP  │   │+Adj    │
                       └────────┘   └────────┘
```
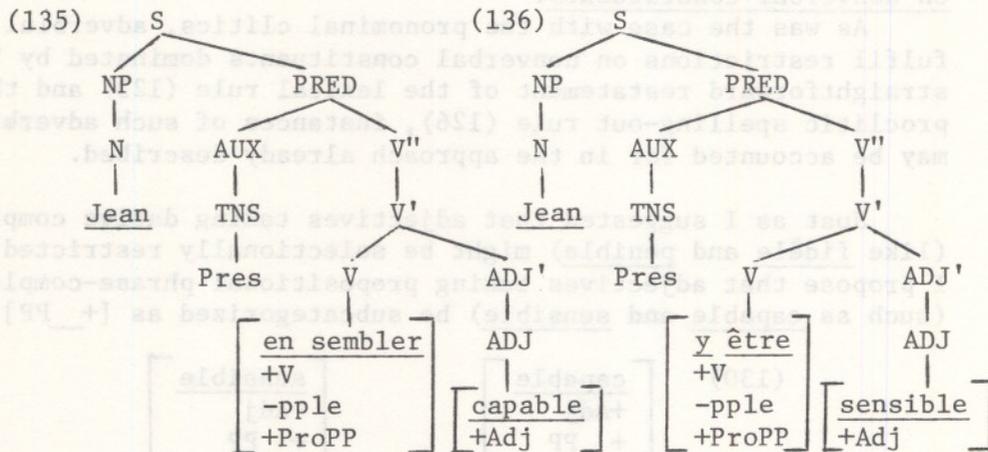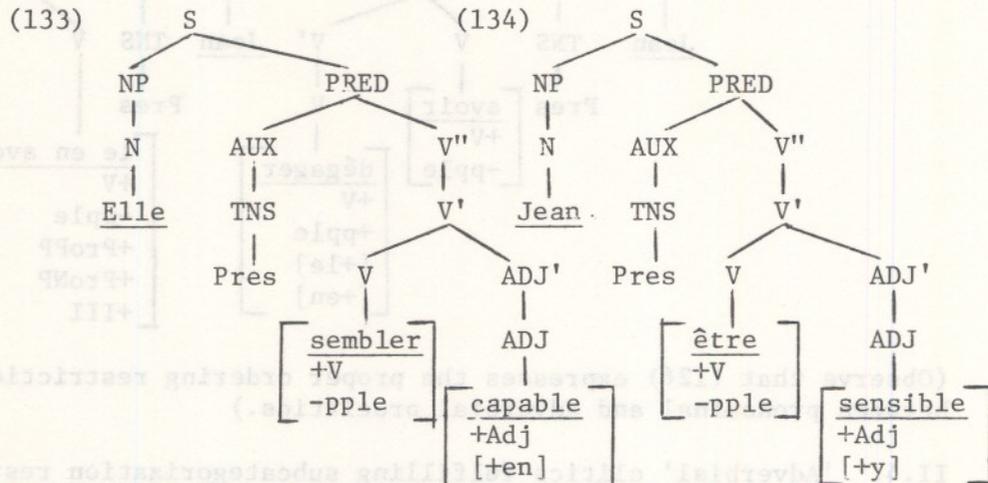
(137) Given any V'' analyzable as both $[X[_V, W[\underline{z}]Y]]$ and $[B[_V \begin{bmatrix} \underline{w} \\ -pple \end{bmatrix}] B' Z]$, if the complex symbol associated with $\underline{z}$ contains a complex symbol $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$ of second order and $\underline{w}$ isn't [+ProNP] or [+ProPP], then $\begin{bmatrix} \begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix} \end{bmatrix}$ must be eliminated from $\underline{z}$ and $[_V \underline{w}]$ must be replaced by $[_V \underline{x} \underline{w}]$, which is [+ProPP] and which inherits all remaining features from $\underline{w}$, where $\underline{x}$ is $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$.

(final formulation)

A similar account could be given of partitive uses of _en_ exemplified in (138), (139), and (arguably) (140):

(138) Il en voit trois.
(139) Elle en a trouvé des rouges.
(140) Jean en a.

The facts concerning partitive _en_ (cf. Kayne (1975:118-23)) are, however, complicated enough that I will not attempt to give a detailed explanation of how they may be accounted for under the framework I am presenting here; I am nevertheless certain that they should prove no more recalcitrant in this framework than in any other.

II.5. Enclisis (affirmative imperatives).

Of course, my discussion has so far been exclusively concerned with proclisis. In affirmative imperative sentences, however, French clitic sequences are postverbal; there is, furthermore, a different ordering restriction on these sequences (although the cooccurrence restrictions--(i) and (ii) above--remain the same)--namely that dative pronominal clitics always follow accusative ones (note that the same relative ordering between pronominal clitics and adverbial clitics holds as in preverbal clitic sequences). Thus, spelling-out rules providing for enclisis in affirmative imperative constructions are required.

The pronominal enclitic spelling-out rule is (141):

(141) For any affirmative imperative V" analyzable as
both $[X[_V,W[\ \underline{z}\ ]Y]]$ and $[B[_V\begin{bmatrix} \underline{w} \\ -\text{pple} \end{bmatrix}]B'\ Z]$,

if the complex symbol associated with $\underline{z}$ contains

a complex symbol $\begin{bmatrix} \begin{bmatrix} \alpha\text{acc} \\ \beta\text{III} \\ \gamma\text{I} \\ \delta\text{refl} \\ \epsilon\text{fem} \\ \zeta\text{sg} \end{bmatrix} \end{bmatrix}$ of second order,

then this must be eliminated from $\underline{z}$ and $[_V\ \underline{w}\ ]$

must be replaced by $[_V\ \underline{w}\ \underline{x}\ ]$, which is [+ProNP,

βIII] and which inherits all remaining features

from $\underline{w}$, where $\underline{x}$ is $\begin{bmatrix} +\text{ProNP} \\ \alpha\text{acc} \\ \beta\text{III} \\ \gamma\text{I} \\ \delta\text{refl} \\ \epsilon\text{fem} \\ \zeta\text{sg} \end{bmatrix}$. Conditions:
$\underline{w}$ isn't [+ProPP];
if $\underline{w}$ is [+ProNP],
then $\underline{x}$ is [-acc]
and $\underline{w}$ is [+III].

Given the structure (142), (141) operates to produce (143):[14]

(142)

$$\begin{array}{c} S \\ | \\ V'' \\ | \\ V' \\ | \\ V \end{array}$$

$$\begin{bmatrix} \underline{donnez} \\ +V \\ -pple \\ [+me] \\ [+le] \end{bmatrix}$$

(143)

$$\begin{array}{c} S \\ | \\ V'' \\ | \\ V' \\ | \\ V \end{array}$$

$$\begin{bmatrix} \underline{donnez\ le\ moi} \\ +V \\ -pple \\ +ProNP \\ -III \end{bmatrix}$$
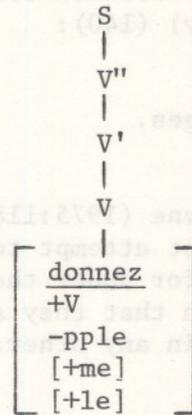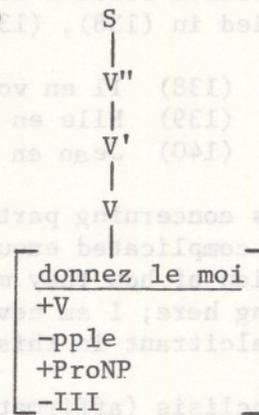
It may be simply verified that (141) spells out all and only possible pronominal enclitic sequences.

The adverbial enclitic spelling-out rule is (144):

> (144) For any affirmative imperative V" analyzable as both $[X[_V,W[\ \underline{z}\ ]Y]]$ and $[B[_V \begin{bmatrix} \underline{w} \\ -pple \end{bmatrix}]B'\ Z]$, if the complex symbol associated with $\underline{z}$ contains a complex symbol $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$ of second order, then this must be eliminated from $\underline{z}$ and $[_V\ \underline{w}\ ]$ must be replaced by $[_V\ \underline{w}\ \underline{x}\ ]$, which is [+ProPP] and which inherits all remaining features from $\underline{w}$, where $\underline{x}$ is $\begin{bmatrix} +ProPP \\ \alpha gen \end{bmatrix}$. Condition: $\underline{w}$ isn't [+ProPP].

Given the structure (145), (141) and (144) would interact to produce (146) as their unique output:

(145)

$$\begin{array}{c} S \\ | \\ V'' \\ | \\ V' \\ | \\ V \end{array}$$

$$\begin{bmatrix} \underline{dégagez} \\ +V \\ -pple \\ [+le] \\ [+en] \end{bmatrix}$$

(146)

$$\begin{array}{c} S \\ | \\ V'' \\ | \\ V' \\ | \\ V \end{array}$$

$$\begin{bmatrix} \underline{dégagez\ le\ en} \\ +V \\ -pple \\ +ProNP \\ +III \\ +ProPP \end{bmatrix}$$
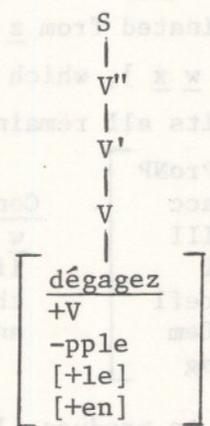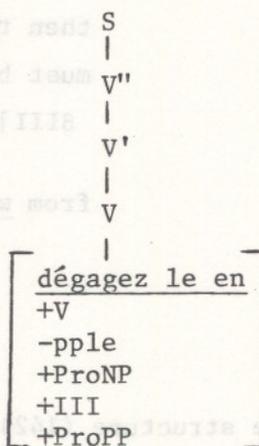
These, then, are the spelling-out rules required for the description of enclisis in the approach under discussion.

III.   Clitics serving as adverbial or adnominal modifiers.
III.1.   Adverbial pronominal clitics.

In the preceding section (II) of this paper, it was claimed that
clitics fulfilling selectional (or, in the case of adverbial clitics,
subcategorization) restrictions on a constituent dominated by V' arise
underlyingly as complex symbols of second order on that constituent as
the result of the operation of a pair of lexical rules ((103) and (131),
in their most recent formulation). These second order complexes are
later spelled out as clitic sequences by four rules ((109), (137), (141),
and (144)) following the application of all syntactic transformations.
I shall now, in the present section, demonstrate how clitics not
fulfilling a selectional/subcategorization restriction on a constituent
dominated by V' may be integrated into this system: in particular,
I shall suggest that these clitics also result from the post-trans-
formational spelling-out of second order feature complexes (which
spelling-out may be straightforwardly accomplished by the rules I have
already introduced) and that these feature complexes also appear on
different underlying constituents dominated by V' as the result of
two other lexical rules yet to be introduced.

Certain occurrences of pronominal clitics clearly satisfy no
selectional/subcategorization restriction on any constituent. All
such clitics are dative in form and combinatory behavior.

First, dative clitics may occur which designate the inalienable
possessor of the referent of a definite noun phrase functioning as
subject, direct object, or prepositional object. Consider sentences
(147)-(149); notice that the verbs crêver, battre, and sauter in
these sentences take datives only when these datives are adverbial in
function (as in the inalienable construction).

> (147) a. Jean lui a crêvé la gidouille.
>   cf. b. Jean a crêvé le pneu.
>
> (148) a. Le coeur lui bat.
>   cf. b. Le métronome bat.
>
> (149) a. Elle lui saute à la gorge.
>   cf. b. Elle saute à la porte.

Second, ethical datives function in a purely adverbial sense,
as in (150) and (151):[15]

> (150) Jean lui a cassé quelques vitrines.
> (151) Elle leur crache sur des voitures en bas.

These two types of adverbial dative clitics might simply be
treated as different cases of the same phenomenon, as Kayne (1975:
170) observes; the treatment I propose here is fully analogous to
the foregoing treatment of nonadverbial pronominal clitics.

Assume that the lexicon contains the following rule:

(152)   For any lexical verb γ that isn't [[−acc]],
there are other verbs like γ except in that the
complex symbols associated with the latter contain

an instantiation of $\begin{bmatrix} -acc \\ \pm III \\ \pm I \\ \pm refl \\ \pm fem \\ \pm sg \end{bmatrix}$.

(152), given a verb like (153), introduces corresponding verbs like
(154):

(153) $\begin{bmatrix} \text{crêver} \\ +V \\ + \underline{\quad} +acc \end{bmatrix}$ (154) $\begin{bmatrix} \text{crêver} \\ +V \\ + \underline{\quad} +acc \\ [+lui] \end{bmatrix}$

An instance of a verb like (154) introduced by (152) occurring in a
structure like (155) will, of course, be subject to spelling out by
(109) (or, in affirmative imperatives, by (141))--the result of which
would be (156).

(155)

```
                        S
              ┌─────────┴─────────┐
             NP                 PRED
              │            ┌──────┴──────┐
              N           AUX           V''
              │            │        ┌────┴────┐
            Jean          TNS       V         V'
                           │    ┌───┴───┐  ┌──┴──┐
                         Pres  avoir    V         NP
                               ┌─────┐  │         │
                               │+V   │ crêver  la gidouille
                               │-pple│ +V
                               └─────┘ +pple
                                       [+lui]
                                       + __ +acc
```

$\begin{bmatrix} \text{avoir} \\ +V \\ -pple \end{bmatrix}$ $\begin{bmatrix} \text{crêver} \\ +V \\ +pple \\ [+lui] \\ + \underline{\quad} +acc \end{bmatrix}$

(156)

```
                    S
          ┌─────────┴──────────┐
          NP                  PRED
          │          ┌─────────┼──────────────────┐
          N         AUX                  V"
          │          │          ┌─────────────────┴────────┐
        Jean        TNS        V'                          V'
                     │   ┌──────┴─────┐          ┌──────────┴──────┐
                    Pres │  lui avoir │          V                 NP
                         │  +V        │          │         ┌───────┴──────┐
                         │  -pple     │      ┌───────┐   la gidouille
                         │  +ProNP    │      │ crêver│
                         │  +III      │      │ +V    │
                         └────────────┘      │ +pple │
                                             │ + __+acc │
                                             └───────┘
```
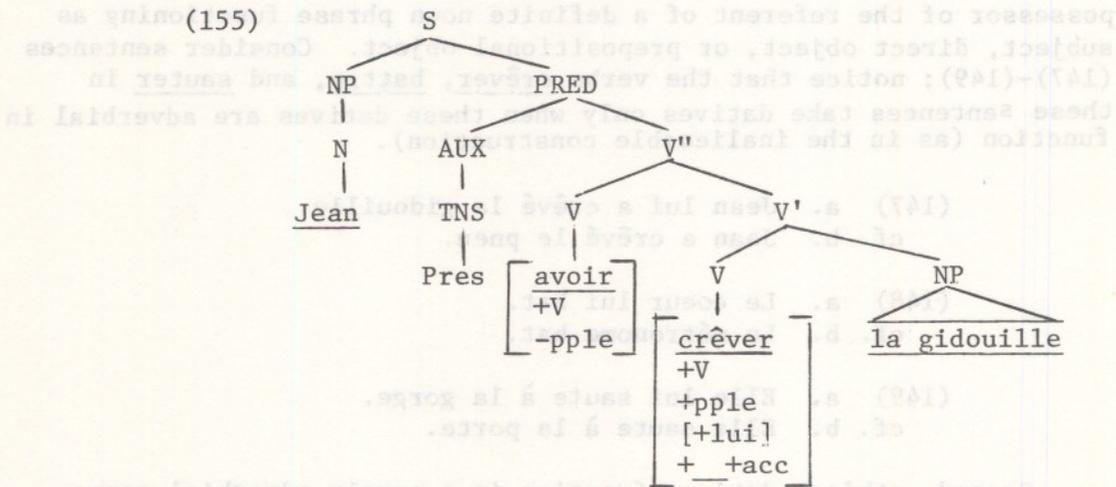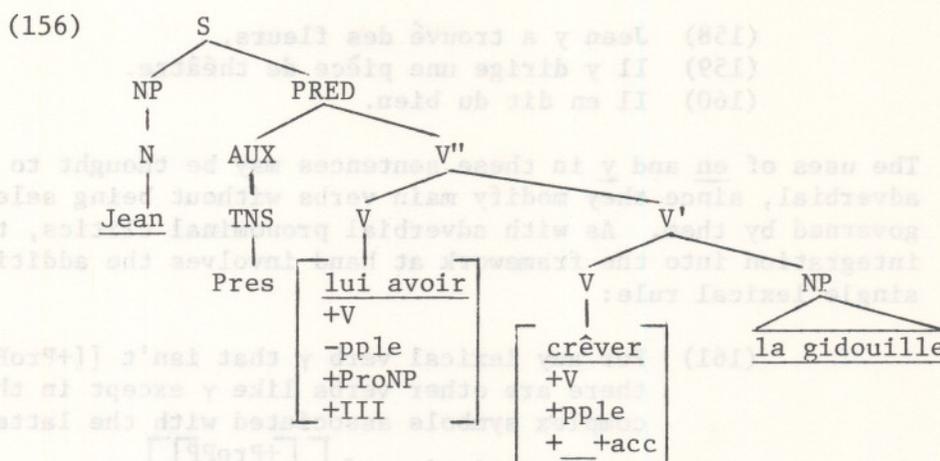
Thus, the integration of adverbial pronominal clitics into the above framework requires the addition of only a single lexical rule—which, however, entails a minor adjustment in the statement of the other lexical rule (103) adding feature complexes of second order to be spelled out as pronominal clitics. Notice that (152) works only for verbs that aren't [[-acc]] already; this restriction prevents multiple dative clitics from being spelled out by (109) and (141) by preventing [[+lui]], etc. from being added to the feature composition of a verb that is already [[-acc]]. Now, an analogous restriction must be placed upon (103) if we are to allow (152) to introduce feature complexes to be spelled out as dative clitics independently of selectional considerations. Thus, the final formulation of (103) is to be:

(157) Given any lexical expression γ with a selectional restriction $[+\_\_\alpha acc]$, provided that γ isn't $\begin{bmatrix} +\_\_-acc \\ [-acc] \end{bmatrix}$, there are other lexical expressions like γ except that in place of the feature $[+\_\_\alpha acc]$, they have a feature complex $\begin{bmatrix} \alpha acc \\ \pm III \\ \pm I \\ \pm refl \\ \pm fem \\ \pm sg \end{bmatrix}$ of second order in their associated complex symbol.

(final formulation)

III.2. <u>Adverbial 'adverbial' clitics</u>.

Adverbially-used adverbial clitics may be similarly provided for, but not quite so simply. Consider sentences (158)-(160):

(158) Jean y a trouvé des fleurs.
(159) Il y dirige une pièce de théâtre.
(160) Il en dit du bien.

The uses of en and y in these sentences may be thought to be truly
adverbial, since they modify main verbs without being selectionally
governed by them. As with adverbial pronominal clitics, their
integration into the framework at hand involves the addition of a
single lexical rule:

(161) For any lexical verb γ that isn't [[+ProPP]],
       there are other verbs like γ except in that the
       complex symbols associated with the latter contain
       an instantiation of $\left[\begin{array}{c} +\text{ProPP} \\ \pm\text{gen} \end{array}\right]$.

(161) allows such verbs as those in (162) to have the modified versions
in (163):

(162)
$$\left[\begin{array}{l} \text{trouver} \\ +V \\ +\_\_+acc \end{array}\right] \qquad \left[\begin{array}{l} \text{dire} \\ +V \\ +\_\_+acc \\ +\_\_-acc \end{array}\right]$$

(163)
$$\left[\begin{array}{l} \text{trouver} \\ +V \\ +\_\_+acc \\ [+y] \end{array}\right] \qquad \left[\begin{array}{l} \text{dire} \\ +V \\ +\_\_+acc \\ +\_\_-acc \\ [+en] \end{array}\right]$$

The verbs in (163) would, of course, undergo the adverbial clitic
spelling-out rules discussed above ((137) and (144)); thus, the
instances of the verbs trouver and dire in structures (164) and (165)
would be inflected as in (166) and (167) by (137):

(164)

(165)

```
                    S
            ┌───────┴───────┐
           NP              PRED
            │          ┌─────┴─────┐
            N         AUX          V"
            │          │           │
            Il        TNS          V'
            │          │       ┌───┴───┐
                      Pres     V       NP
                               │       │
                          ┌────────┐  du bien
                          │ dire   │
                          │ +V     │
                          │ -pple  │
                          │ +__+acc│
                          │ [+en]  │
                          └────────┘
```

(166)

```
                    S
            ┌───────┴───────┐
           NP              PRED
            │          ┌─────┴─────┐
            N         AUX          V"
            │          │           │
           Jean       TNS          V'
            │          │       ┌───┴───┐
                      Pres     V       NP
                               │       │
                          ┌────────┐  des fleurs
                          │ y avoir│
                          │ +V     │    ┌────────┐
                          │ -pple  │    │ trouver│
                          │ +ProPP │    │ +V     │
                          └────────┘    │ +pple  │
                                        │ +__+acc│
                                        └────────┘
```

(167)

```
                    S
            ┌───────┴───────┐
           NP              PRED
            │          ┌─────┴─────┐
            N         AUX          V"
            │          │           │
            Il        TNS          V'
            │          │       ┌───┴───┐
                      Pres     V       NP
                               │       │
                          ┌────────┐  du bien
                          │ en dire│
                          │ +V     │
                          │ -pple  │
                          │ +__+acc│
                          │ +ProPP │
                          └────────┘
```
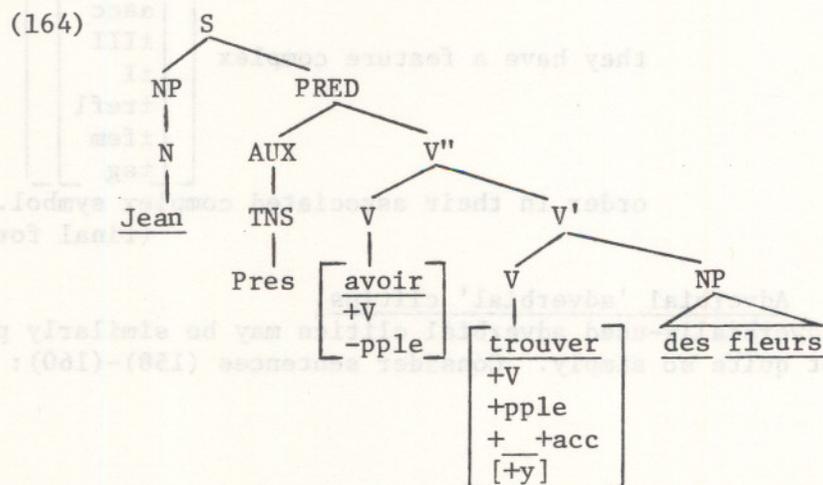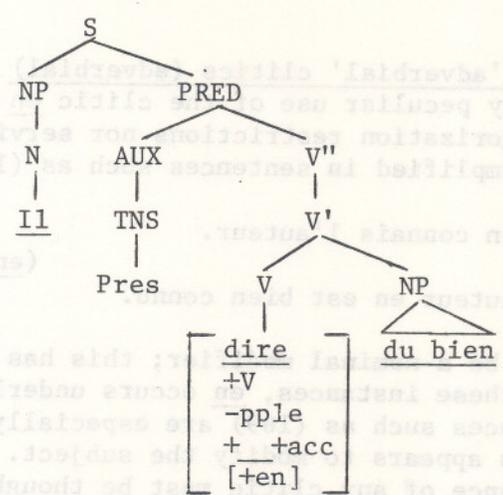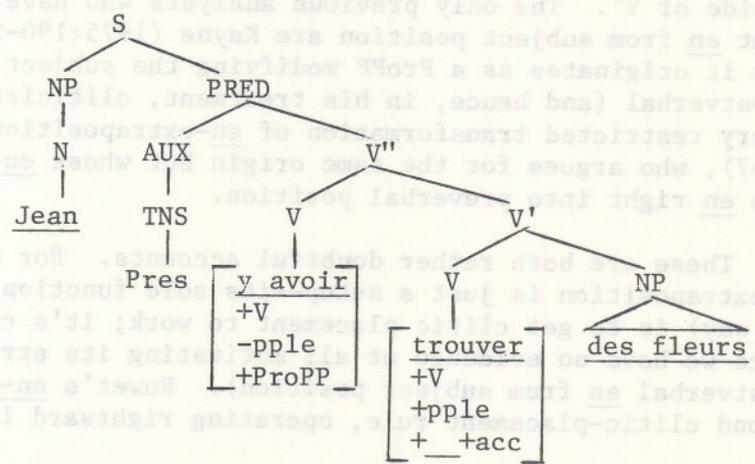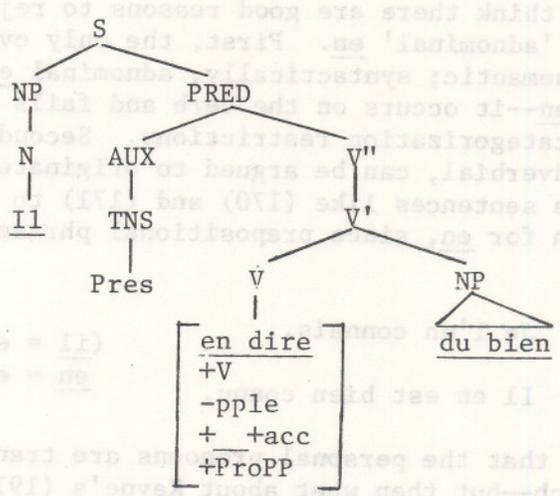
Thus, a single lexical rule (161) allows adverbial 'adverbial' clitics to be integrated into the framework at hand.

III.3. 'Adnominal' 'adverbial' clitics (adverbial).

A seemingly very peculiar use of the clitic en neither fulfilling selectional/subcategorization restrictions nor serving an adverbial function is that exemplified in sentences such as (168) and (169):

(168) J'en connais l'auteur.

(en = e.g. 'du livre')

(169) L'auteur en est bien connu.

Here, en appears to be a nominal modifier; this has led other analysts to assume that, in these instances, en occurs underlyingly as a ProPP within a NP. Sentences such as (169) are especially recalcitrant—en in such sentences appears to modify the subject. This is odd, since no other instance of any clitic must be thought to originate outside of V'. The only previous analysts who have really worried about en from subject position are Kayne (1975:190-93), who argues that it originates as a ProPP modifying the subject and is placed into a postverbal (and hence, in his treatment, cliticizable) position by a very restricted transformation of en-extraposition; and Ruwet (1972: 53-57), who argues for the same origin but whose en-avant transformation puts en right into preverbal position.

These are both rather doubtful accounts. For one thing, Kayne's en-extraposition is just a setup—its sole function (obligatory, by the way) is to get clitic placement to work; it's completely abstract, since we have no evidence at all motivating its structural change (postverbal en from subject position). Ruwet's en-avant is simply a second clitic-placement rule, operating rightward instead of leftward.

In fact, I think there are good reasons to reject the notion of a NP-origin for 'adnominal' en. First, the only evidence favoring this notion is semantic; syntactically, adnominal en is no different from adverbial en—it occurs on the verb and fails to fulfil any selectional/subcategorization restrictions. Second, no other clitic, pronominal or adverbial, can be argued to originate as a NP-modifier. Further, how are sentences like (170) and (171) to be reconciled with a NP-origin for en, since prepositional phrases never modify pronouns?

(170) Je l'en connais.

(il = e.g. "l'auteur";
en = e.g. 'du livre')

(171) Il en est bien connu.

One could argue that the personal pronouns are transformationally derived in French—but then what about Kayne's (1971) arguments to the contrary?

I think the whole approach to adnominal en as a syntactic phenomenon has been misguided. What's interesting is the semantic

problem posed by en: it appears to flagrantly violate the compositionality principle (hence the claim of a NP-origin, despite the absence of any purely syntactic evidence); I believe it can be shown that it doesn't, however,[16] and that, from the syntactic point of view, it is perfectly sufficient to treat 'adnominal' en like adverbial en. That is, all instances of en fulfilling no selectional/ subcategorization restriction can be thought to arise in the lexicon through the operation of (161), and to be eventually spelled out by (137) or (144).

IV. Justification of the inflectional approach to French clisis.
    I have ended up proposing a system of the following character: four lexical rules ((131), (152), (157), and (161)) introduce feature complexes of second order to be spelled out as clitics into the complex symbols associated with lexical expressions; two of these rules ((131) and (157)) substitute these second order feature complexes for selectional/subcategorization restrictions on the lexical expressions in question; the other two ((152)and (161)) introduce second order complexes that, as it were, adverbially modify the constituent to which they are added. Four obligatory spelling-out rules ((109), (137), (141), and (144)) produce superficial clitic sequences: these are the proclitic and enclitic spelling-out rules for pronominal and adverbial clitics.

    I would briefly like to point out some further facts about French clitic behavior supporting a system of this type.

    Consider first the lexical rules. These rules make it possible to give a precise underlying characterization of possible functional roles of clitics. For example, if we restrict prepositions like après and sur as [+__ -acc] in the lexicon, but restrict de, à, and en as merely [+__ NP], then the lexical rule (157) predicts that a superficial pronominal clitic may fulfil the role of object of après or sur, but not of de, à, or en (which is in fact the case). If we were to assume a syntactic approach to clisis whereby placement rules move pronouns from full NP-positions to the verb, then we would, on the other hand, have to state this fact as a condition on clitic-placement. A second prediction made by the lexical rules is that every instance of the adverbial clitic y will fulfil either an adverbial function or a subcategorization restriction on some constituent dominated by V'--that is, that y couldn't fulfil the role of au pare-brise fêlé in (172):

(172) Jean a retrouvé la voiture au pare-brise fêlé.

This prediction is in fact borne out:

(173) *Jean y a retrouvé la voiture. (where y =
        'au pare-brise fêlé')

In a syntactic approach to clitics deriving y from prepositional phrases of the form [$_{PP}$ à ProNP], however, the ungrammaticality of (173) must be considered exceptional.

The lexical rules don't commit us to the claim that there must be a single preposition for which the adverbial clitic y may be a ProPP--and we wouldn't want to accept such a claim:

(174) On a trouvé ton livre
$$\left\{ \begin{array}{l} \text{sur} \\ \text{sous} \\ \text{à côté de} \\ \text{derrière} \end{array} \right\}$$
la table, et on y

a trouvé le mien.

To account for the same facts, a clitic-placement approach would, however, have to mention all possible instances of P in a prepositional phrase from which y is to derive (unless y is taken as a ProPP under-lyingly, as in Fiengo & Gitterman (1978)).

The lexical rules, in fact, allow other facts to be treated in a much better way than in a syntactic approach to clisis. Consider sentences (175)-(178):

(175) a. Elle pense à lui.
      b. Elle sourit à lui.

(176) a. *Elle lui pense.
      b. Elle lui sourit.

(177) a. Jean est semblable à Marie.
      b. Jean est pareil à Marie.

(178) a. Jean lui est semblable.
      b. *Jean lui est pareil.

Kayne (1975:145-52) admits the problematic character of these facts, and suggests two possible solutions: the placement of a rule feature '-clitic placement' on verbs like penser and adjectives like pareil; or the assumption of a second preposition à* not meeting the structural description of pronominal clitic placement (this would be the à in (175a) and (177b). My approach affords a different treatment of these facts: penser would be subcategorized as in (179), which would be a sufficient condition to guarantee the nongeneration of (176a) (given that à would be merely [+__ NP], and not [+__ -acc]--see above); sourire, on the contrary, would be restricted as in (180), which would allow (176b) to be straightforwardly derived.

(179) $\begin{bmatrix} \underline{penser} \\ +V \\ +\_\_PP \end{bmatrix}$ (180) $\begin{bmatrix} \underline{sourire} \\ +V \\ +\_\_-acc \end{bmatrix}$

(Notice that I am taking à in (175b) to have been secondarily
introduced as a marker of nonclitic dative objects of verbs--but
this need not be nonidentical to the underlying à in (175a).)
Similarly, <u>semblable</u> may appear in the lexicon as (181), while
<u>pareil</u> would appear as (182); this would suffice to account for
the facts of (177) and (178).

(181) $\begin{bmatrix} \underline{semblable} \\ +Adj \\ +\_\_-acc \end{bmatrix}$ (182) $\begin{bmatrix} \underline{pareil} \\ +Adj \\ +\_\_PP \end{bmatrix}$

Note finally that either of Kayne's solutions to the problem of
(175)-(178) would appear to predict the ungrammaticality of (183)
and (184), since these seem to involve the placement of a clitic
whose source is [$_{pp}$à ProNP] onto <u>penser</u> and <u>pareil</u>. My lexical
rules make the opposite (and correct) prediction that (183) and
(184) will be grammatical, owing to the subcategorization of both
<u>penser</u> and <u>pareil</u> as [+__PP] in the lexicon.

(183) Elle y pense.
(184) Jean y est pareil.

Thus, the same distinction in features ([+__-acc] vs. either [+__NP]
or [+__PP]) used to distinguish strandable from nonstrandable
prepositions is used here to distinguish those verbs and adjectives
having cliticizable complements from those not; a generalization
is thereby captured regarding a wide array of facts--which, under
a transformational analysis, must be regarded as idiosyncratic and
unrelated.

   Thus, the lexical rules I have presented here are justifiable.
To the extent that they finish the job set up by the lexical rules,
the four spelling-out rules have already been justified. But a few
additional things must be said about them.

   First, there must be separate rules for pronominal and
adverbial clitic spelling: one reason is that the spelling out
('placement') of pronominal clitics is governed by different
conditions from that of adverbial clitics. For instance, adverbial
clitics can neither modify nor fulfil a restriction on a constituent
dominated by PP--that is, the variable 'W' in the spelling-out
rules (137) and (144) may not contain a single PP-bracket; otherwise
ungrammatical uses of clitics such as (185) and (186) would result:

(185) *Il en court après l'auteur.

                                    (where <u>en</u> is, e.g.,
(186) *Il en tombe sur l'auteur.   'du livre')

Pronominal clitics evince no such restriction:

> (187) Il lui court après.
> (188) Il lui tombe dessus.

Or, to take another example, dative pronominal clitics can't fulfil a selectional requirement on the second member of a compound verb construction (see Kayne (1975:281-87))--that is, the variable 'W' in the spelling-out rules (109) and (141) may not contain an infinitive if α is '-'; otherwise, ungrammatical dative clitics such as those in (189) and (190) would result:[17]

> (189) a. *Je lui ferai écrire mon ami.
>   cf. b. Je ferai écrire mon ami à lui.

> (190) a. *Tu ne devrais pas leur laisser sourire ton
>   enfant.
>   cf. b. Tu ne devrais pas laisser sourire ton enfant
>   à eux.

Adverbial clitics, on the other hand, obey no such restriction (see Kayne (1975:300-9)):

> (191) Cela y fera aller Jean.
> (192) Elle en fera sortir Jean.

These and other restrictions on clitic-spelling point to the same conclusion, namely that pronominal clitic-spelling must be accomplished by a rule separate from that carrying out adverbial clitic-spelling. This conclusion rings true: for although adverbial and pronominal clitics are positionally restricted with respect to one another, there are no cooccurrence restrictions between them beyond those derivable from the restrictions each has with respect to the verb.

Second, the use of spelling-out rules to account for French clitic sequences is, methodologically, the right thing to do. The French special clitics are of undeniably affixal character (see foot-note 1), much more so than most clitics; as a consequence, groups formed with these clitics have the status of words, and their organization should therefore be described by means of rules appro-priate to this status--namely rules of morphology. Words have long been recognized to be islands with respect to rules of syntax--especially rules of anaphora and movement; to pretend otherwise is to commit a category error. This and the fact that a syntactic treat-ment of the present data requires one to resort to extrinsic orderings and flip transformations suggest the fundamental methodological unsoundness of a syntactic approach to French clisis. Such an approach presupposes the nondiscreteness of morphology and syntax, and ignores the interesting and empirically testable hypothesis that

the two domains <u>are</u> discrete in some substantive sense (see Groos
(1978) and Lapointe (1978) for some discussion); the syntactic approach
contributes nothing to our understanding of how restrictively the
organization of natural language grammars may be delimited.

Admittedly, the treatment of French clisis as a brand of inflection
is not self-evident; this is perhaps to be attributed to the unfamili-
arity of verb agreement systems in which object-agreement is marked.
Once again, however, the example provided by Maithili inflection offers
some interesting parallels to the French. Consider abbreviated
versions of three sentences that were examined above:

> (193) dekhalthunh. 'He (hon.) saw you (nonhon.)'
> (194) kahaliau. 'I spoke to you (nonhon.)'
> (195) larbah. 'You (hon.) will wrestle with me'

These sentences each consist of a single verb-form: in each
case, both object and subject are represented only in a complex personal
termination. In no case may the inflections be regarded as expressing
agreement;[18] rather, the inflections themselves fulfil different
relational roles with respect to the verb. Thus, given the lexical
entries in (196), the sentences in (193)-(195) could be derived
essentially by means of lexical rules and a spelling-out rule.

$$(196) \quad \begin{bmatrix} \underline{dekh\text{-}} \\ +V \\ +\underline{}\ +acc \end{bmatrix} \quad \begin{bmatrix} \underline{kah\text{-}} \\ +V \\ +\underline{}\ -acc \end{bmatrix} \quad \begin{bmatrix} \underline{lar\text{-}} \\ +V \\ +\underline{}\ instr \end{bmatrix}$$

To sketch briefly: one lexical rule would substitute instantiations
of the feature complex in (197) for selectional restrictions; an
additional lexical rule would add instantiations of (198) to verbal
features complexes (such a rule, although not altering the selectional
properties of verbs, might still be conceived of as 'category-changing'
--for example, it would convert intransitive verbs into (tenseless)
one-word sentences); assuming the transformational copying of features
of tense onto verbs, there would be sentences such as those in
(199) at a post-transformational stage of derivation.

$$(197) \quad \begin{bmatrix} \pm III \\ \pm II \\ \pm hon \\ -nom \end{bmatrix} \qquad (198) \quad \begin{bmatrix} \pm III \\ \pm II \\ \pm hon \\ +nom \end{bmatrix}$$

(199)

$$
\begin{bmatrix}
\text{dekh--} \\
\text{+V} \\
\text{--Pres} \\
\begin{bmatrix} \text{--III} \\ \text{+II} \\ \text{--hon} \\ \text{--nom} \end{bmatrix} \\
\begin{bmatrix} \text{+III} \\ \text{--II} \\ \text{+hon} \\ \text{+nom} \end{bmatrix}
\end{bmatrix}
\quad
\begin{bmatrix}
\text{kah--} \\
\text{+V} \\
\text{--Pres} \\
\begin{bmatrix} \text{--III} \\ \text{+II} \\ \text{--hon} \\ \text{--nom} \end{bmatrix} \\
\begin{bmatrix} \text{--III} \\ \text{--II} \\ \pm\text{hon} \\ \text{+nom} \end{bmatrix}
\end{bmatrix}
\quad
\begin{bmatrix}
\text{lar--} \\
\text{+V} \\
\text{+Fut} \\
\begin{bmatrix} \text{--III} \\ \text{--II} \\ \pm\text{hon} \\ \text{--nom} \end{bmatrix} \\
\begin{bmatrix} \text{--III} \\ \text{+II} \\ \text{+hon} \\ \text{+nom} \end{bmatrix}
\end{bmatrix}
$$

A late spelling—out rule would effect their conversion into the forms (193)—(195).

This sketch should be sufficient to demonstrate the formal similarities between an indubitably inflectional phenomenon like Maithili verb inflection and the less obviously inflectional phenomenon of French clisis. In both instances, inflections fulfil relational roles with respect to the verb; in neither case is a purely syntactic (movement) or partially syntactic (agreement) solution to the origin of these inflections well—motivated. A single problem is posed, in French as in Maithili——namely that of providing mere inflections with some type of independent functional status in the lexicon/morphology of the language. It is this that the lexical rules and the spelling—out rules accomplish.

Conclusion.

I have, in this paper, attempted to give a well—motivated morphological account of French clisis, without recourse to surface structure constraints, extrinsic orderings, or rearranging transformations for clitics. Despite (or maybe because of) the rather broad range of data discussed here, the account presented is somewhat superficial: no account is provided here for the details of certain uses of clitics (e.g. partitive en, the dialectal incidence of double datives such as Il me te cassera la gueule, and so on), and I presuppose many analyses of French syntax (e.g. very superficial accounts of passives and compound verbs) whose correctness, however likely, remains to be established beyond question. It has become especially evident to me to what degree tout se tient where clitics are concerned——I conclude that no one can rightly claim to have found an explanatorily adequate description of French clitics without an explanatorily adequate description of most of the rest of French grammar. Nevertheless, I believe that the inflectional account of French clisis sketched in this paper aspires to a level of descriptive adequacy never before attained by a precisely—formulated approach to this complicated aspect of French grammar.

Footnotes

*I would like to express my sincerest thanks to Ramawatar Yadav and Arnold Zwicky for their comments and discussion, without which this paper could not have attained its present form. I am also indebted to Richard Kayne, whose French Syntax poses many of the problems which I hope to have resolved; several of my example sentences are drawn from this detailed, insightful work.

1. The six criteria discussed by Zwicky are: ordering (affixes tend to be rigidly ordered within words; alternative orderings are either ungrammatical or have a different cognitive meaning); internal sandhi (affix-base morpheme combinations undergo phonological rules applying only within words—i.e. they don't behave like separate words, phonologically); binding (affixes are bound morphemes); construction with affixes (only an affix or a base morpheme may appear in construction with another affix); rule immunity (affixes can't be deleted under identity); and accent (affixes never have independent accent).

French clitics are of unarguably affixal character with regard to ordering (Je le lui donne/*Je lui le donne), binding (Qui voyez-vous? Lui./*Le.), and accent. There is also evidence that French clitics exemplify the other three properties of affixes. Several claims have been made to the effect that clitic-verb sequences ('groups', in Zwicky's terminology) undergo rules of internal sandhi. Dell (1973: 252) observes that inverted clitics of the form Cə behave phonologically like final Cə-sequences in polysyllabic words and not like independent monosyllabic words; note the impossibility of (ii) beside (i), despite the acceptability of both (iii) and (iv):

(i)	[upwiẑməlave]	où puis-je me laver?
(ii)	*[upwiẑəmlave]	
(iii)	[laködsərənar]	
(iv)	[laködəsrənar]	la queue de ce renard (p. 245).

Citing Selkirk (1972:361-63), Dell notes (p. 252) that the optional rule of word-internal vowel harmony (cf. pp. 214-17) must be allowed to apply to groups. Finally, de Cornulier (1977:163-75) defines his constraint of the non-entravabilité of e-féminin over 'phonological words', i.e. words and groups. Thus, French clitics appear to show affix-like behavior with respect to internal sandhi.

There is little non-question-begging evidence for claiming that French clitics occur in construction with affixes. I merely point out that certain adverbs, such as bien, are distributionally affixal in that when they modify a verb, they must be immediately postverbal (i.e. in such instances, the V-ADV syntagm fulfils the wordhood criterion of noninterruptibility); to the extent that such sequences are thought to exhibit affixation, sentences like Tiens-toi bien might be thought to contain a clitic in construction with an affix.

Finally, Kayne (1975:96-99) has observed that neither clitics nor verbs in groups are independently available for deletion under identity, as the following examples suggest:

  (v) Paul l'a frappé et l'a mis à la porte.
  (vi) *Paul l'a frappé et a mis à la porte.
  (vii) *Paul l'a frappé et le mis à la porte.
  (viii) Paul l'a frappé et mis à la porte.

Thus, to varying degrees, French clitics evince all of the six properties of affixes mentioned by Zwicky.

 2. In a recent paper (Lapointe (1978)), Steven Lapointe has raised many important objections to transformational treatments of French clitics, and has proposed an alternative, morphological approach. Although the present analysis differs from Lapointe's in several very substantial respects, I am very sympathetic to his assumptions regarding the nature of the problem posed by the French pronominal clitics.

 3. 'Dislocations' such as <u>Jean, je le vois</u> aren't counter-examples to this claim: 'dislocated' constituents don't fulfil a relational role in surface structure, nor, arguably, at any level of derivation (cf. the 'dislocation' <u>Jean, je vois le crapule</u>); it would, I think, be wrong to claim that the third person pronoun in <u>Jean, je le vois</u> expresses grammatical (and not merely referential) agreement with <u>Jean</u>--note the true ungrammaticality of <u>Jean, je le voyons</u> beside the merely pragmatic anomaly of <u>Jean, je les vois</u>.

 4. They might be thought of as 'category-changing' affixes, in the sense of Dowty (1978).

 5. Examples are adapted from Jha (1958).

 6. Excluding for the moment such ethical datives as <u>me</u> in <u>Il va me te casser la gueule</u>. Only some speakers find such sentences grammatical, so I shall, below, assume the dialect of less tolerant speakers.

 7. Note that since clitic-spelling is (like all other spelling-out rules) obligatory, we may just let the lexical rule (47) freely introduce instantiations of the feature complex $\begin{bmatrix} \alpha acc \\ \beta III \\ \gamma I \\ \delta refl \\ \varepsilon fem \\ \zeta sg \end{bmatrix}$ into the complex symbols associated with lexical verbs, even if some such instantiations don't correspond to a real clitic (as when both β and γ are '+'); this lack of correspondence will simply block the application of the obligatory spelling-out rule, and will thereby be filtered out as ungrammatical.

 8. It is immaterial to the present analysis whether [-III] in (62) cancels, replaces, or is simply added to the [+III] inherited from (61). I shall henceforth just assume replacement.

 9. The reader will have noticed that I am assuming the underlying generation of passive sentences, rather than their transformational derivation (unless this would be a transformation

operating before lexical insertion--see Johnson (1976) for discussion of the claim that relation-changing operations such as passivization (and 'faire-insertion'--see below) are prelexical).

10. Assuming the second order feature [[αacc]] to be a proxy for [+ αacc].

11. Kayne (1975:269-81) correctly observes that seemingly exceptional sentences such as on la laissera le manger do not really have compound verbs.

12. Note that Kayne introduces a second transformation to handle 'faire-par' sentences.

13. Voici will be such an expression: voici le livre; le voici. It's questionable whether we'd want to call voici a verb in synchronic French; yet, every other approach to French clitics with which I am familiar would require voici to be a verb if me voici, le voici, etc. are to be derived. I, on the other hand, need only say that voici is [+ +acc], which it clearly is.

14. I assume that the form assumed by nonthird person singular clitics is a function of their position within the group; thus, the distinction between the allomorphs me/moi, te/toi could be provided for with a late allomorphy rule.

15. Recall that, for some speakers, ethical datives may cooccur with other types of datives:

> (i) ?Jean te lui a crêvé la gidouille.
> (ii) ?Elle te me l'a présenté.

16. The problem of providing a compositional semantics for 'adnominal' en without deriving it from an underlyingly adnominal position is in many respects parallel to the problem of providing such a semantics for correlative clauses, or, for that matter, for restrictive relative clauses, when a NP-S analysis is assumed. See Bach and Cooper (1978) for a demonstration that the compositionality principle is threatened by neither of the latter two constructions; their claims may, I believe, be made to hold for the interpretation of 'adnominal' en as well.

17. Note, however, that this might be formulated as a constraint on the formation of compound verbs.

18. Unless we are to allow massive NP-deletion--in which case we must also allow dummy common-nouns onto which to hang subsequently deleted possessive determiners for the derivation of sentences like dekhalthunh 'He saw yours'.

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The Evolution of Clitics

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0. Introduction.

In the recent literature on synchronic structure and diachronic
change the class of clitic elements has assumed considerable impor-
tance, undoubtedly in part because of their intermediate (or mixed)
status with respect to the division between morphology and syntax,
but also because of the complex interrelationships manifested in them
with regard to phonology, morphology, syntax, semantics, pragmatics,
style, and discourse structure. In the growing literature on the
historical development of clitics (exemplified by the contributions
by Chafe, Haas, and Steele to the Li 1977 collection and by several
unpublished papers by Wanner), there are a number of standard
assumptions and suppressed premises about the synchronic and dia-
chronic properties of these elements, assumptions that in many cases
seem to us to be dubious or significantly short of the full story.
We propose to enumerate these assumptions, in the hope that stating
them forthrightly and challenging them will lead to fruitful debate,
the framing of new hypotheses, and the search for fresh relevant data.

We begin by recalling the distinction in Zwicky 1977 between
simple clitics and special clitics. The paradigm case of a simple
clitic is the ordinary unaccented form of a word that attaches phono-
logically to an adjacent word; such forms include proclitics, like
the English indefinite article in a pear and an apple, and enclitics,
like the English complementizer to in I should go, but I don't want
to. The paradigm case of a special clitic is not so regularly
associated phonologically with a full form (in a related type of
clitic, the bound word, there is no associated full form at all; the
Latin enclitic -que 'and' is a typical bound word), and rather than
attaching itself to a word that happens to be next to it, a special
clitic is located within sentences by genuinely syntactic principles
(in brief, special clitics attach either to the head of a phrase
or to one of its margins). The Romance 'weak' or 'conjunct' pro-
nouns are clearly special clitics, and again these include both
proclitics, as in Spanish lo vi 'I saw it', and enclitics, as in
Spanish ver lo 'to see it'.

1. Pronouns and Particles.

One widely held assumption about clitics is that the proto-
typical clitic is pronominal, like the Romance clitics. Indeed,
although we have not seen this position stated or defended in
print, we believe that many scholars would subscribe to the view
that if a language has any clitics at all, it has pronominal clitics.

On this view there would be two types of languages with respect
to the items that appear as clitics in them: pronoun-only languages,
like Spanish, and languages with other types of clitics besides
pronouns, as in the many Slavic languages with clitic forms of the
copula and in Tagalog, which has a very rich collection of non-
pronominal clitic particles (marking questions, imperatives, honor-
ifics, emphasis, various adverbials, etc.).

But systems with only particle special clitics are not unknown;
indeed, they seem to be fairly widespread in Southeast Asia. Hmong
(also known as Miao or Meo), for instance, has two classes of
particles, each occurring in one of the canonical locations for
clitics (in 'second position', which for Hmong is between subject
and verb; or in final position) and each subject to rigid ordering
constraints. The interrogative and negative particles are in the
'second position' class, while tense and modal particles are distributed
between the two classes. Pronouns, however, have the same privileges
of occurrence as full noun phrases, and do not act like clitics at
all (Indochinese Refugee Education Guide 15).

Our intention here is not to claim that particle clitics imply
pronominal clitics, or the reverse. Rather, we want to emphasize that
pronominal clitics do not have a special status, and in particular
that their historical development does not necessarily precede the
development of particle clitics.

2. The Morphological Cycle and Semantic Weakness.
   It is a widely held hypothesis for the prehistories of many
languages that a system of inflectional affixes and perhaps deriva-
tional affixes as well reflects one stage in a cycle that proceeds
from free morpheme to clitic to affix. The assumption is that free
morphemes initially come to occur in unaccented positions in a clause,
being associated with adjacent accented words as clitic particles.
Phonological reduction results in a gradual disintegration of lexical
autonomy for these morphemes. Such an hypothesis has, for example,
been put forward for the prehistory of Proto-Indo-European (Lehmann
1975).

If we give any credence to such theories concerning a diachronic
cycle in morphological systems, we must include in any investigation
of the evolution of clitics, not only morphemes referring to person,
number and gender, but also morphemes referring to such notions as
agency, location, instrumentality, modality, tense, aspects, and so
on. It would be difficult to argue that morphemes of this type are
semantically weak, or that languages show any tendency to mark redun-
dantly the notions to which such morphemes refer, although such
reasons have been given for the demotion from free to clitic to
affixal morpheme for pronominals, and other commonly discussed parti-
cipants in the morphological cycle, as when Janson (1976:242)
supposes that Latin -que and enim 'for' become clitic because they
are 'semantically so weak that they are not allowed to carry a main
accent'.

3. <u>Decliticization</u>.
   Although many of the developments that have been discussed
in the literature—as in Givón 1971 and in Kahr's 1976 treatment
of the development of inflectional suffixes from postpositions—
illustrate the morphological cycle, there is nevertheless no
empirical basis for the assumption of many linguists that clitics
do not emerge, or re-emerge, as independent words. On the contrary,
many Indo-Europeanists concerned with the morphological and
syntactic prehistory of IE pronouns and pronominal constructions
make just such an assumption. It is widely held that the particles
*<u>kue</u>/<u>kuo</u> and *<u>ie</u>/<u>io</u> occurred as clitic particles in PIE. There is
ample comparative evidence in languages like Latin (-<u>que</u>), Sanskrit
(-<u>ca</u>), and Greek (-<u>te</u>) that the clitic particle *<u>kue</u>/<u>kuo</u> occurred
after the first word of a clause and that it was either a simple
prosecutive or that it marked some aspect of interclausal relation-
ship. The particles -<u>ia</u> and -<u>a</u> (*-<u>ie</u>/<u>o</u>) of the Anatolian languages
correspond in position and in function to the reflexes of *<u>kue</u>/<u>o</u>.

   These two PIE particles are almost universally identified with
the roots of relative/indefinite/interrogative words in the descendant
Indo-European languages, such as Latin <u>quis</u>, <u>quod</u> (*<u>kuo</u>), Greek <u>hos</u>
(*<u>io</u>), Sanskrit <u>yas</u> (*<u>io</u>), and Hittite <u>ku-is</u>, <u>ku-it</u> (*<u>kuo</u>). More-
over, in a series of articles and monographs appearing in the past
15 years (most notably Watkins 1963, 1964, Gonda 1971, Jeffers and
Pepicello 1979), many of the deatils by which the accented pronouns
probably come to be historically derived from the cognate particles
have been explicitly presented. In brief, the reconstruction of
these developments proceeds as follows.

   First, we have the evidence already cited that a series of
enclitic particles could follow the first accented word in a clause
in PIE. The particles *<u>kuo</u> and *<u>io</u> may be followed by clitic pron-
nouns, which in turn may be followed by other categories of clitics.
We might then reconstruct patterns like

$$*X \begin{Bmatrix} -\hat{i}o \\ -k^u\hat{o} \end{Bmatrix} -(o)s \ (\text{nom.}).$$

   With the shift away from the use of cliticization toward a
greater dependence on isolated words, a development which we see in
virtually all the extant dialects outside Anatolian, several such
sequences might well be interpreted as monolexical inflected words
(Hitt. <u>ia-ăs</u>, Skt. <u>yas</u>). Such a reinterpretation probably established
a pattern for the spontaneous generation of full pronominal paradigms—
the origin of relative pronouns/adjectives.

   We conclude that the tacit assumption that clisis is invariably
one stage in an inexorable development toward the status of an affix,
or toward ultimate oblivion, is simply false. In particular, the

evolutionary trends which affect a language must be taken into
consideration, as in our example above, where the IE drift towards
analytic rather than synthetic constructions plays a critical role.
A further example can be seen in the development of the finite
verb in Indo-European: in the early IE dialects the finite verb
could occur in unaccented clitic position in a clause; but every
modern IE language which is verb-medial inherits an <u>accented</u> finite
verb system which is, at least in part, derivative of the ancient
system whose members so commonly occurred in clisis.

4.   <u>Deaccentuation</u>.
   A more specific assumption about the development from indepen-
dent word to inflectional affix is that it proceeds through a
stage in which the independent word loses its accent (for whatever
reasons), to a stage at which this unaccented morpheme becomes a
simple clitic, to a stage at which the simple clitic becomes a
special clitic, to the incorporation of the special clitic as an
affix.

   Cases where simple clitics have become special clitics are not
hard to find. These include the rather common phenomenon called
<u>freezing</u> in Zwicky 1973: sec. 5.5, in which simple clitic combina-
tions become fixed phonologically and specialized semantically, as
in the English hortatory <u>let's</u> and the Welsh emphatic negative <u>mo'r</u>.
They also include more subtle developments, as in the recent history
of the English negative particle <u>n't</u>, which is no longer merely a
variant of unstressed <u>not</u>, since it occurs in a variety of environ-
ments in which unstressed <u>not</u> is barred (for instance, in tags like
<u>Can't they?</u> vs. *<u>Cannot they?</u> and in imperatives like <u>Don't you
touch me!</u> vs. *<u>Do not you touch me!</u>). The classic example of the
Romance special clitics has now been treated in detail by Wanner
(ms. 1978), who argues for a series of developments contingent upon
lack of stress, which leads to simple cliticization.

   No convincing examples of special cliticization following
historically on deaccentuation <u>without</u> an intervening stage of simple
cliticization are known to us. There is, on the other hand, rather
a large number of apparent examples of the opposite sort, in which
morphemes customarily described as bearing accent (like Latin <u>enim</u>
cited above) are positioned like special clitics. We would suppose
that in such cases it can be argued (on independent grounds) that
the morphemes in question bear only a weak accent. But the issue
is still open.

5.   <u>Derivational Affixes</u>.
   We have been talking about the passage from independent word
to clitic to affix as if an inflectional affix were always its
goal. But derivational affixes can arise in this way, too. This
is undoubtedly the mechanism that has given rise to the modern English

derivational suffixes -ful, -less, -ly (and their modern German
counterparts -voll, -los, -lich), cognate with the independent
adjectives full, less, like (German voll, los, gleich).

Whether the end product is an inflectional or derivational
affix seems to depend heavily on the meanings expressed, in
particular on whether a change of word class is involved or not.
But this topic requires further study.

6. Portmanteau Forms.
Even when clitics are moving towards becoming inflectional
affixes, this development does not necessarily involve clitics
'melting into' stems one by one. Instead, we may see sequences of
clitics contracting into portmanteau forms, which are then eligible
to be reinterpreted as affixes.

The beginning of such a development can be observed in many
Romance dialects. One route has been taken by Romagnol (Gregor
1972:83-7), where nearly all the clitic pronouns have been reduced
to single segments--a vowel, as in the clitic subject a (1 sg, 1 pl,
2 pl) and the dative or adverbial clitic i (3 sg or pl); or a
consonant, as in the object (acc. or dat.) clitics m (1 sg), t
(2 sg), s (1 pl), and v (2 pl). Note also that there is consider-
able syncretism in this system. The result is that ai stands for
a 1 sg/1 pl/2 pl subject in combination with any third-person dative
object or with a place adverbial, while at stands for a 1 sg/1 pl/
2 pl subject in combination with any sort of 2 sg object, and so
on. The analysis of these forms into meaningful subparts has
clearly become difficult, and the system is ripe for reinterpreta-
tion as a set of inflectional endings.

Another route has been taken by Gascon (Kelly 1973:199-201)
where many combinations of clitics are contracted: nun for nus ne
'nous en', bun for bus ne 'vous en', lazi for la luzi 'la leur'
or las luzi 'les leur'. These contractions are irregular, a fact
that again makes the combinations difficult to analyze and opens
the way for reinterpretation.

A similar diachronic process resulting in a clear example of
morphological reinterpretation is seen in the history of certain
infixed pronouns in Old Irish. In Irish, a sequence of two clitics,
only the second of which is etymologically pronominal, comes to be
reinterpreted as a monomorphemic monolexical infixed pronoun. The
so-called Class C singular pronouns of OIr are: dom/dam (1); dot
(2); de/da (3 fem.). These forms are derived from a sequence of
clitics which in each case includes as a first element the correla-
tive clause particle *-de (cf. Greek -δε). The sources of the
Irish forms, then, are *-de-me (1), *-de-te (2), *de-C (3). As a
result of regular sound change, the vowels of the pronominal clitics

are lost, as is the final C in the third person form. That the first
and second person forms were originally vowel-final, while the third
person form was not, is demonstrated by the fact that an initial
consonant of the following word--always a verb--undergoes a mutation
termed lenition. Lenition results in the spirantization of stops,
among other things, in intervocalic position:

> -crocha 'crucifies', but
> nudam-chrocha '(which) crucifies me' < *no-de-me-kroke

Apparently, as a consequence of the demise of clause particles
as functioning morphemes of the language, in conjunction with the
phonological reduction of the pronominal elements attached to such
particles, a sequence of clitics has been contracted and has come to
be reinterpreted as a single morpheme. Such contraction accounts for
the first and second person pronouns. In the case of the third
person, the etymological source of the person marker has itself been
lost, leaving the first clitic of the sequence--a clause particle--to
be reinterpreted as a personal pronoun.

7. Metathesis.
On occasion clitics may move inside stems. Two large classes
of metathesis may be distinguished: the relatively familiar infixing
type, in which a clitic moves over a consonant cluster or a syllable
(the motivation for the shift being primarily phonological, involving
an alteration in the direction of a more favored syllable structure);
and the somewhat more exotic endoclitic type, in which a clitic moves
over a morphological constituent, either a single morpheme or a larger
subpart of a word (the motivation for the shift being a morphological
reanalysis).

Infixing metathesis can be illustrated by the well-known Austro-
nesian cases in which historically original prefixes of the shape VC
have been moved over the initial C of stems, to yield forms like
Tagalog sumulat 'wrote' and ?umibig 'loved', from the stems sulat and
?ibig, respectively.

Endoclitic metatheses in Madurese, Estonian, Turkish, and Hua
are described briefly in Zwicky 1977: sec. 3; these examples include
some in which proclitics have moved over a following morpheme and
some in which enclitics have moved over a preceding morpheme. Move-
ment over larger morphological constituents can be illustrated by
Portuguese forms like descreve-lo-íamos 'we would describe him',
obtained from the enclitic o 'him' attached to descreveríamos 'we
would describe'; -íamos 'we would' is a trimorphemic subpart of
descreveríamos.

Reanalysis as the motivation for endoclitic metathesis has been
argued at some length by Haiman 1977 for the Hua case, and similar

arguments can undboutedly be adduced for the other examples we have referred to, as well as to cases from Ewe, Pashto, and Sundanese, though the details need working out.

One lesson we should wish to draw from this brief survey of the facts is that the extent of clitic metathesis--especially of the endoclitic variety--as an historical process seems to have been seriously underestimated until recently.

8. Other Sources for Word-internal Clitics.

Metathesis is not the only way word-internal clitics can develop. They may also arise because of morphological changes by which certain morphemes come to be interpreted as infixed elements. We return to the example of OIr Class C pronouns.

To elucidate this development, we must present a few facts about Celtic languages and about general IE. The Celtic languages in general are distinguished from other IE languages in being verb-first (VSO). Most of the ancient IE dialects are verb-last (SOV) languages, although all of these SOV languages provide the marked order VSO as an alternative. Consequently, the hypothesis that certain verb-first patterns of OIr are indeed archaic, and that they have undergone a status change from marked to unmarked, is widely held (Watkins 1963).

All ancient IE languages reflect an inherited system of preverbal particles (P). They occur in one of two positions in a clause: directly before the verb or clause-initially. The following patterns result: $\#...PV\#$, $\#P....V\#$. The comparative evidence also demands the reconstruction for PIE of a series of enclitics (E), which are suffixes to the first accented element in a clause; recall that the OIr Class C pronouns like –dom are derived from a sequence of such particles. IE can then be assumed to show the patterns $\#VE...$ and $\#PE...$, in verb-first clauses and in clauses with initial preverbal particles, respectively. $\acute{V}E$ and $\acute{P}E$ comprise accent groups, and would function as phonological words. We may assume that these OIr patterns reflect PIE constructions.

In certain OIr clauses which do not include P and which begin with a simple verb, suffixed pronominal clitics occur; compare berid 'he carries' with beirthi < *bérit-i 'he carries it'. OIr sequences of verb plus suffixed pronoun apparently derive straightforwardly from the assumed PIE pattern $\#VE...\#$.

In clauses that begin with P, clitic pronouns will occur in second position, again a reflection of an IE pattern, namely $\#PE...\#$. The situation in OIr becomes more complex. All ancient IE dialects show a drift towards univerbation, that is, towards the treatment of PV as a unit, with a meaning assigned to the complex rather than to its parts. This tendency toward univerbation, coupled with the Celtic typological shift to VSO structure, results in the movement forward

in a clause of finite verbs in OIr. Where P was once separated from its associated verb (#P...V#), we have instead clause-initial PV units (#PV...#). However, in clauses with initial PE, the forward movement within the clause of the finite verb results in the replacement of *PE...V# by #PEV... Recall that the sequence PE is a phonological word, and that the process of univerbation reflects a trend toward establishing the lexical unity of the sequence PV (as in do-beir < *to-bherti 'he takes'). Consequently, the construction PEV comes to be reinterpreted as a lexical unit, incorporating infixed pronominal objects, as in dom-beir < *to-me-berti 'he takes me'.

Note that the clause position of E remains stable throughout history, and that it is as a result of changes in clause position for other forms and of morphosyntactic reinterpretations that infixation develops as a productive process in OIr.

9. Morphology as Frozen Syntax.

Synchronic studies of clitics have concentrated largely on two issues—where the string of clitics is located within the sentence and how the clitics cooccur and are ordered with respect to one another. The range of facts to be described can be exemplified by the following observations on French clitic object pronouns: these are proclitic to the verb, except in affirmative imperative sentences, when they are enclitic; a nonthird person or reflexive may occur with a third person (in that order) if the former is dative and the latter is accusative, while if two third persons are combined the accusative precedes the dative (the reverse for enclitics)—and no other combination of object pronoun clitics is possible.

The most natural assumption about the historical source for these phenomena is that they represent survivals of earlier syntactic orders, and indeed such an assumption is explicitly made by several scholars: this is the position of Givón 1971, for instance, on the development of a number of clitic systems, including the Romance pronominals. Yet when this attractive hypothesis is pursued in detail, many difficulties and anomalies arise. Thus, Green 1976 points out with respect to the Romance developments that in Classical Latin, Vulgar Latin, and Old Spanish, neither pronoun objects nor full NP objects were fixed in position with respect to the verb, so that the modern procliticization of object pronouns to the verb can scarcely be explained as the simple survival of earlier syntactic orders.

10. Second Position.

In reaction to simple persistence theories of clitic syntax, other writers have described the historical developments as if they arose from forces impelling clitics towards certain positions in the sentence and arranging them in certain favored ordes. Steele 1977, for instance, examines a Uto-Aztecan version of Wackernagel's

Law by which clitics move into second position, though for mysterious reasons. As things stand, such an account explains nothing (as Steele herself realizes) and can only function as a spur to further anlaysis.

An additional complexity is that even though second position is greatly favored as a location for clitics, the definition of 'second position' differs from language to language. Walbiri, Serbo-Croatian, Tagalog, and Pashto differ in detail on this point (Zwicky 1977:18-20), and the historical linguist is entitled to wonder if there are any reasons for these differences.

11. Clisis and Typology.

One largely unexplored area in which answers to the questions we have raised might be sought concerns the relationships between (syntactic) typological classification and clitic syntax. To what degree is the occurrence of clitics correlated with language type? Do certain typological shifts result in the development of clitics, or in specifiable alterations in existing clitic systems?

A correlation between syntactic typology and the nature (or even presence) of clitic systems cannot be a simple one. Consider, for example, that ancient IE languages of all three syntactic types make use of clitic particles of one kind or another, and that they all share certain specific kinds of clitics, such as proclitic preverbal particles.

A further source for explanation in clitic diachrony is the relationship between accentual systems (at the word and at the sentence level) and clitic syntax. To what degree is the occurrence of clitics correlated with accent type? To what extent can the placement or ordering of clitics be predicted from accent type? Do certain accent shifts result in the development of clitics, or in specifiable alterations in existing systems?

Finally, areal relationships might also be considered. To what extent can contact situations promote the development of clitics or alterations in existing clitic systems?

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MAIN-VERB ELLIPSIS IN SPOKEN ENGLISH

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

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By

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* * *

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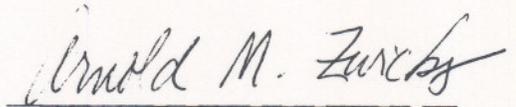
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CHAPTER ONE: INTRODUCTION

One of the most pervasive characteristics of human speech, one
which seems to cut across all varieties, is the elimination of
redundant linguistic items. Speakers avoid needless repetition by
replacing non-first occurrences[1] of identical sequences with a pro-
form, as in (1) below, or with nothing at all (zero anaphora), as
in (2).[2,3]

(1) Sp. A: Guess what? Jupiter has a ring!

Sp. B: I don't believe $\left\{\begin{array}{l}\text{a. it.}\\ \text{b. that Jupiter has a ring.}\end{array}\right\}$

(2) You may want to have a party, but I don't
$\left\{\begin{array}{l}\text{a. }\emptyset.\\ \text{b. want to have a party.}\end{array}\right\}$[4]

The (a) sentences in (1) and (2) exhibit very common reduction
types, and would be judged as perfectly natural by the vast majority
of English speakers. In fact, failure to reduce, shown in the (b)
sentences, is distinctly marked in comparison. There is either a
pedantic, or else mocking effect associated with the (b), but not the
(a) sentences.[5]

I will assume that null anaphors such as that in (2a) are derived
by means of syntactic deletion, in this case Verb Phrase Deletion
(henceforth VP Deletion or VPD). The phenomena investigated in this
dissertation could be translated into either an interpretive or trans-
formational frame. I choose the latter, partly for convenience, and
partly due to my own theoretical biases.

There are some types of ellipsis which are similar to that in
(2), but which vary in acceptability across dialects (and probably
across idiolects). Depending on the type of ellipsis, the reduced
version may be more marked than the unreduced one. Various pragmatic
effects consequently arise from reducing rather than from failure to
do so. This is the opposite of the situation noted for (1, 2).

This dissertation explores ellipses of the sort briefly described
in the preceding paragraph. While the deletion target in (2) above
is a verb phrase (henceforth (VP)),[6] most of the deletion targets I
will be considering are subparts of VPs. That is, some part of the
target-clause VP (always including the main verb) is anaphoric and
should hence be eligible for deletion, but some other part of it
has no (identical) linguistic antecedent, and therefore must be
syntactically overt. In such cases, repetition of the identical
material is always acceptable, and in some dialects, preferred.

I will limit the investigation to three types of verbal reduction in English. Chapter Two describes a gapping-like construction which I will call pseudogapping. This is illustrated in (3b) below.

(3) Sp. A: People who are like that amaze me.

Sp. B: They $\begin{Bmatrix} \text{a.} & \text{amaze} \\ \text{b.} & \text{do } \emptyset \end{Bmatrix}$ me, too.

The defining characteristics of this construction include a 'hole' created by a deleted main verb, one which is flanked on the left by either a modal auxiliary, aspectual, or supportive do, and on the right by a contrastive object. Deleting a repeated main verb when its object is contrastive is perfectly natural for some speakers. Others, however, find such a reduction peculiar, and claim they never perform it themselves. Even speakers who do, however, can do so only under very specific conditions. Chapter Two explores some of these conditions.

The second type of construction shares with pseudogapping the features of a deleted main verb, but differs criterially in exhibiting a contrastive VP adverbial, rather than direct object. It is perhaps more accurate to refer to this as a 'configuration' rather than a 'construction', since it invariably produces judgments of ungrammaticality or extreme awkwardness, and is consequently virtually non-occurring. Examples are found in (4b), (5b).[7]

(4) Sp. A: Why would you choose extra-strength Tylenol?

Sp. B: Because it works. And it $\begin{Bmatrix} \text{a.} & \text{works} \\ \text{b.} & \text{*does } \emptyset \end{Bmatrix}$ quickly.

(5) In an active situation, men and women don't perspire equally. Men $\begin{Bmatrix} \text{a.} & \text{perspire} \\ \text{b.} & \text{??do } \emptyset \end{Bmatrix}$ more.

(4b), (5b) illustrate the major issue addressed in Chapter Three: the difficulty of deleting V (or V + NP) when a contrastive adverbial is present.

In the two cases illustrated so far, an identical main verb precedes a non-identical constituent in the same clause. The particular verb can be any one of those meeting the appropriate subcategorization requirements. In the third type of verbal reduction, the identical verb is always infinitival copular or passive be, and the complement[8] of be (NP, PP, or AP for copular be, AP for passive be), is always anaphoric. This type then differs from the other two in that (1) the target V is invariant, and (2) there is no contrastive constituent to its right.

(6) shows that any complement of be may be deleted under identity, as a result of VP Deletion.[9]

(6) George $\left\{\begin{array}{l}\text{will}\\\text{is going to}\end{array}\right\}$ be $\left\{\begin{array}{ll}\text{a.} & \text{a tennis champ}\\\text{b.} & \text{in Aix-en-Provence}\\\text{c.} & \text{ready for the Ohio Bar}\\\text{d.} & \text{summarily dismissed}\end{array}\right\}$,

but Lance $\left\{\begin{array}{l}\text{won't}\\\text{isn't going to}\end{array}\right\}$ be $\left\{\begin{array}{ll}\text{a.} & \emptyset\\\text{b.} & \emptyset\\\text{c.} & \emptyset\\\text{d.} & \emptyset\end{array}\right\}$.

Infinitival be in (6) should be capable of being deleted along with its complement.[10] Whether it actually can be, however, depends on several factors, the most important being the kind of auxiliary element located to its immediate left.

(6') George will be $\left\{\begin{array}{ll}\text{a.} & \text{a tennis champ}\\\text{b.} & \text{in Aix-en-Provence}\\\text{c.} & \text{ready for the Ohio Bar}\\\text{d.} & \text{summarily dismissed}\end{array}\right\}$, but

Lance won't $\emptyset$ $\left\{\begin{array}{ll}\text{a.} & \emptyset\\\text{b.} & \emptyset\\\text{c.} & \emptyset\\\text{d.} & \emptyset\end{array}\right\}$.

(6'') George is going to be $\left\{\begin{array}{ll}\text{a.} & \text{a tennis champ}\\\text{b.} & \text{in Aix-en-Provence}\\\text{c.} & \text{ready for the Ohio Bar}\\\text{d.} & \text{summarily dismissed}\end{array}\right\}$,

but Lance isn't going to *$\emptyset$ $\left\{\begin{array}{ll}\text{a.} & \emptyset\\\text{b.} & \emptyset\\\text{c.} & \emptyset\\\text{d.} & \emptyset\end{array}\right\}$.

The difference in acceptability between (6') and (6'') must somehow be tied to differences between will and be going to, since the sentences are otherwise identical. Chapter Four explores factors which facilitate--and those which discourage--the deletion of anaphoric infinitival be.

So far, we have seen only one grammatical alternative to deletion where the latter is unacceptable, either in some dialects ((3)), or quite generally ((4), (5), (6'')): repetition of V. If we consider the other reduction possibility, viz. pro-forming with do so or do it, it turns out that just one of the three constructions permits it: that described in Chapter Three. This is shown in (7) and (8).

(7) The Craig translator not only gives you the answer,

it does $\left\{\begin{array}{l}\text{*}\emptyset\\\text{it}\\\text{so}\end{array}\right\}$ immediately.

(8) Carter intends to win the next election, and he thinks

he might $\left\{ \begin{array}{l} \text{???}\emptyset \\ \text{do it} \\ \text{do so} \end{array} \right\}$ by a large margin.

The exclusion of do so and do it from pseudogappings and infinitival be constructions is a consequence of each of the latter's failure to meet the nonstativity condition on do so and do it. As we shall see in Chapter Two, the rule creating pseudogappings selects nonagentive causatives. These have stative properties. Hence the strangeness of (9):

(9) Sp. A: People who are like that amaze me.

Sp. B: *They $\left\{ \begin{array}{l} \text{do it} \\ \text{do so} \end{array} \right\}$ (to) me, too.

And be, the verb that do so or do it would have to replace in the construction described in Chapter Four, is clearly stative. So the only construction for which do so or do it offer an alternative to repeating V is that in which the identical V is followed by certain types of adverbial. This fact will become important when I consider possible means of accounting for the difficulty of deleting V. For the explanation at some level will reflect the availability of alternative constructions.

Chapter Five contains a summary of my findings, and a discussion of several issues which I unfortunately cannot address in this dissertation, but which will figure in future work.

A word is in order about the domain of application of the processes I am investigating. Each one can--though need not--apply in a dialogue, across speakers. Consequently many of my examples will be discourse fragments, and therefore incompatible with a narrowly conceived notion of 'sentence grammar'. This does not strike me as problematic. In fact, if there is a difficulty, it lies with the assumption that the object of linguistic description is the sentence. There is a growing recognition that the isolated sentence represents a useful, but artificial construct for studying the relation between meaning and form.[11] (See Morgan 1973 for discussion of the difficulties in defining the notion 'sentence'.) Processes which necessarily apply in a dialogue (e.g. the rule reducing full replies to wh-questions to a single constituent corresponding to the constituent which has been questioned) can be described in terms of the same sorts of theoretical notions necessary for describing single sentences (cf. Hankamer 1971, Morgan 1973, Levin 1976). I feel no need to otherwise justify including under one roof data from both sentence and discourse grammar.

Footnotes

[1]If the trigger- and target-clause domains bear a certain syntactic relation to one another, the pro-form or zero anaphor may occur first, as in (i) and (ii).

> (i) Though I didn't want to believe _it_, Sal finally
>   convinced me _that Jupiter had a ring_.
> (ii) Anyone who wants to Ø can _use one of these bikes_
>   _for the summer_.

[2] Although the examples are from English, pro-ings and deletions
appear to be universal.

[3] For a discussion of differences between deletion and pro-forming,
see Allerton 1975.

[4] It is possible for the situational setting, rather than linguistic
setting, to provide the context from which hearers recover the content
of the pro-form or null anaphor (see Hankamer and Sag 1976 for
discussion).

> (i) [Child watching another eating a candy bar]:
>   Can I have _one_? (one = _a candy bar_)
> (ii) [Woman watching husband unsuccessfully twisting a jar
>   lid]:
>   Let me try ____. (____ = _to open the jar_)

I will not be concerned with this type of anaphora.

[5] This is not to say that there are no pragmatic effects associated
with the patterns in the (a) sentences, only that they are harder to
detect.

[6] Unless otherwise noted, I will assume the existence of a node
VP, despite the lack of conclusive evidence for its existence.

[7] The (a) versions of (4) and (5) occurred in television advertise-
ments.

[8] Here I will use the term _complement_ to refer to all of the
material following a V and in construction with it, rather than in the
narrower sense of an embedded clause.

[9] It is possible to express the target of VP Deletion in terms of
a variable that will cover NP, AP, and PP, as well as VP.

[10] Examples like (i) below are often cited to show that VP Deletion
does not require affixal identity.

> (i) John will speak to the ombudsman next week, and I
>   already have Ø. (Ø = _spoken to the ombudsman_)

The antecedent for deletion of infinitival _be_, however, must also be
infinitival.

> (ii) Sue's been in Korea, and pretty soon, Joe will $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.
>   (Ø = _be in Korea_)

(iii) Mildred is being stubborn, and I'm sure Dick

will $\begin{Bmatrix} *\emptyset \\ be \end{Bmatrix}$, too.   ($\emptyset$ = <u>be stubborn</u>)

(iv) Terry $\begin{Bmatrix} is \\ was \end{Bmatrix}$ absolutely white, but Bill shouldn't

$\begin{Bmatrix} *\emptyset \\ be \end{Bmatrix}$.   ($\emptyset$ = <u>be absolutely white</u>)

Hence all of the examples in Chapter Four will involve <u>be</u> in infinitival form in the antecedent as well as the target clause.

[11] I wish to thank Mike Geis for valuable discussion on this point.

CHAPTER TWO: PSEUDOGAPPING

2.0. Introduction

In this chapter I present some of the analytical problems posed
by the underlined sequences in examples similar to (1)-(4) below.

(1) They have a United flight from New York to Chicago
     every hour. I don't know if <u>they do TWA</u>.

(2)° Laguardia has a United flight from New York to Chicago
     every hour. I don't know if <u>Kennedy does TWA</u>.

(3) ...if he had my dad teaching him and working him like
     <u>he did me</u>, he would be good.

(4) I'm not citing their analysis so much as <u>I am their data</u>.

(1) and (4) are quoted from natural conversation. (3) is from a written
report of oral languge, and (2) is an invented example. Most of the
examples that will be cited in this chapter were uttered spontaneously
by nonlinguists, and were written down either by me or by friends of
mine who are linguists.[1]

To distinguish 'natural' from 'artificial' data, I will use the
following convention. Naturally occurring examples will have no overt
mark before them, and invented examples will have the mark '°' after
their number.[2]

Consider now (1)-(4). In each example, a finite auxiliary (<u>do</u>,
<u>does</u>, <u>did</u>, <u>am</u>) comes just before a V represented by a null anaphor
(<u>have</u>, <u>have</u>, <u>teach</u> and <u>work</u>, <u>citing</u>). Next comes an object which is
(necessarily) contrastively paired with an object in the first conjunct
(<u>a United flight</u> and <u>[a] TWA [flight]</u> in (1) and (2): <u>him</u> and <u>me</u> in
(3); and <u>their analysis</u> and <u>their data</u> in (4)). Finally, the first
two examples have understood occurrences of <u>from New York to Chicago
every hour</u> after the object in the second conjunct. I will call the
underlined substrings in (1)-(4) <u>pseudogappings</u>.[3] The pseudogappings
in (3) and (4) occur in comparative (or comparative-like) clauses, while
those in (1) and (2) do not. Pseudogappings like those in (3) and (4)
will be called <u>comparative</u> pseudogappings, and those in a containing
construction other than a comparative will be called <u>noncomparative</u>
pseudogappings (or just 'pseudogappings'). The uncapitalized terms
'pseudogapping' and 'comparative pseudogapping' refer strictly to
surface constructions, and are intended to be neutral with respect to
the source(s) of these constructions. When capitalized, they will
refer to the grammatical rule(s) responsible for the resultant
constructions. Exactly the same convention will hold for 'Gapping'
as opposed to 'gapping', and 'VP Deletion' as opposed to 'VP deletion'.

One of the differences between the pseudogappings in (1) and (2) is that the paired subjects in (1) (they and they) are coreferential, and those in (2) (Laguardia and Kennedy) are not. (1) thus exemplifies like-subject, and (2), unlike- (or nonlike-) subject pseudogappings. As we will see, like-subject pseudogappings are far more common than unlike-subject pseudogappings.

Pseudogappings may be compared with other constructions which (minimally) lack overt expression of the main verb. Thus pseudo-gappings bear certain preelliptical (before the verbal deletion site) similarities to VP deletions, and postelliptical (after the deletion site) similarities to gappings. Pseudogappings and VP deletions, but not gappings, have a finite auxiliary:

(5)° pseudogapping:

I picked up a newspaper, and Lynn $\begin{Bmatrix} \text{might} \\ \text{will} \\ \text{did} \end{Bmatrix}$ a magazine.

VP deletion:

I picked up a newspaper and Lynn $\begin{Bmatrix} \text{might} \\ \text{will} \\ \text{did} \end{Bmatrix}$, too.

And pseudogappings and gappings, but not VP deletions, have a contras-tive postverbal constituent which may be dominated by the VP dominating the elliptical V:

(6)° pseudogapping:

I picked up a newspaper and Lynn did a magazine.

gapping:

I picked up a newspaper and Lynn, a magazine.

In this chapter I will present the major features of pseudogappings, drawing data almost entirely from speech heard in free conversation, and from reports of oral language (e.g. Studs Terkel's Working). I will touch on dialect differences and the functional motivation for the rule, as well as the place of Pseudogapping among the other identity-of-sense anaphora rules which give rise to reduced VPs.

2.1. Pseudogappings from Natural Conversation

The most common environment for Pseudogapping is adverbial compara-tive clauses. Following are occurrences I have gathered of comparative pseudogappings, grouped according to whether the left-hand auxiliary is a modal, aspectual, or supportive do.

I. LIKE COMPARATIVES

(1) We'll share it--like we do Ø the pink [blouse]!
(2) I'll wear it in the spring, like I do Ø the beige [dress].

(3) Don't believe it, either. They'll screw you up, like
     they did Ø me.
(4) ...Then the police started to pick up soloists--like
     they did Ø you.
(5) They don't breed 'em for different colors, like they
     do Ø other plants Ø.

II. OTHER COMPARATIVES

MODAL

(6) They treated me with less consideration than they
     would Ø an animal.
(7) I'm sure I would like him to eat fruit more than I
     would Ø cookies.
(8) I can find more mp's than I can Ø mt's!
(9) Probably have a better time with them than you would Ø
     your own family!

PROGRESSIVE

(10) I'm going to call him back on Monday, as I am Ø
     several other people.
(11) I'm not citing their analysis so much as I am Ø
     their data.

SUPPORTIVE DO

(12) I ignore it, just as I do Ø snakes and other creepy-
     crawlies.
(13) I think you need to show yourself [you can do it] more
     than you do Ø anyone else.
(14) ...because I studied it more than I did Ø the Public
     Admin.
(15) If you admire the language of other speech communities
     more than you do Ø your own...
(16) You don't get it with a negative in final position the
     way you do Ø this one Ø.
(17) People [in Greece] drink more ouzo than they do Ø brandy.
(18) I don't care for the paragraph so much as I do Ø the
     individual lines.
(19) It has long been noted that children acquire a vocabulary
     for actions much more slowly than they do Ø a vocabu-
     lary for objects.
(20) She doesn't understand me as well as I do Ø her.
(21) It takes the audience less time to adjust to the image
     than it does Ø co-star John Denver Ø.
(22) Does it work out to about the same money on a fellowship
     as it does Ø a T.A.?
(23) Slavery captured them as much as it did Ø the slaves.
(24) You hate to paddle your kid's rear end. It hurts you
     ten times more than it does Ø him.

In this limited sample, we see that the most frequent left-auxiliary environment for comparative pseudogappings is supportive do. Exactly the same is true of the noncomparative pseudogappings I have collected.[4]

III. NONCOMPARATIVE PSEUDOGAPPINGS

MODAL

(25) Does that annoy you? It would ∅ me.
(26) Probably drives him crazy to have her call him all the time. It would ∅ me ∅.
(27) I won't ride up streets the wrong way, but I will ∅ alleys ∅.
(28) N: Your call will get me through the week!
      B: It will ∅ me ∅, too.
(29) If you don't believe me, you will ∅ the weatherman!
(30) N: That milk wouldn't help me at all.
      C: It will ∅ me.
(31) You can't take the lining out of that coat. You can ∅ this one.
(32) Things like yogurt they can [digest]. But they can't ∅ milk.
(33) You can't cut off that branch but you could ∅ these two.

PERFECT

(34) I processed everybody's [check] but I must not've ∅ yours.
(35) S: I just hope it [being an actress] will make you happy.
      K: Hasn't it ∅ you ∅?

SUPPORTIVE DO

(36) N: Does it [writing a check at the grocery store] usually take this long?
      W: No, it never did ∅ me ∅ before.
(37) N: That carpet reminds me of the kind of thing you see in waiting rooms.
      F: It doesn't ∅ me ∅.
(38) This should turn you on--it does ∅ me!
(39) You make people self-conscious when you write down what they say. You do ∅ me!
(40) It [an enema] leaves some water in you. At least, it does ∅ me.
(41) N: That gives me more respect for her.
      L: It certainly does ∅ me ∅, too.
(42) N: I would think it [having a major credit card] would save writing a lot of checks.

B: a. It doesn't Ø me Ø.
    b. (after request for repetition): It doesn't
        save me any.

(43) That disturbs Barbie, but it doesn't Ø me.

(44) N: And the pity of it is, it [high cost] doesn't
        stop me from buying the junk.
    J: Oh, it does Ø me Ø.

(45) N: Cream rinse makes my hair get dirty faster.
    A: It does Ø mine Ø, too.

(46) C: Nothing terrible's ever happened to me from eating
        warm bread.
    M: It never did Ø us Ø, either.

(47) N: Our first grade teacher sent you a card?
    B: Yes. She did Ø you Ø, too.

2.2. The Postelliptical Constituent.

Pseudogapping will be defined such that the postelliptical consti-
tuent is either a direct object, or the object of a PP whose preposition
is elliptical. I will call such PPs <u>deprepositionalized</u> (after Ross 1974,
handout at a Linguistic Institute Special Lecture). All but six of the
above 47 examples ((9), (18), (22), (31), (40), (46)) are of the first type.
Some speakers do not accept deprepositionalized object pseudogappings.
For these speakers, the prepositions must be repeated.

(10')° I don't care for the paragraph so much as I do Ø
       for the individual lines.

(22')° Does it work out to about the same money on a
       fellowship as it does Ø on a T.A.?

(31')° You can't take the lining out of that coat. You can
       Ø out of this one.

(40')° It [an enema] leaves some water in you. At least,
       it does Ø in me.

(46')° C: Nothing terrible's ever happened to me from eating
        warm bread.
     M: It never did Ø to us Ø, either.

Notice that because the definitional criteria above do not allow the
pseudogapping remnant to be a PP, examples (10'), (22'), (31'), (40'),
and (46') do not meet the definition of pseudogapping. The separate
classification of (10'), (22'), (31'), (40'), (46') and (10), (22), (31),
(40), and (46) is supported by a distinction in grammaticality for
some speakers. On an acceptability scale, many people find depre-
positionalized PP pseudogappings least acceptable, regular pseudo-
gappings somewhat more acceptable (though still unnatural), and
constructions with postelliptical PPs entirely natural. This may be
one reason why such a small proportion of the pseudogappings in (1)-
(47) are of the deprepositionalized type. That is, speakers who can
use deprepositionalized pseudogappings can also use regular ones. But
there are certainly speakers who 'get' regular pseudogappings, but not
deprepositionalized ones.

Some of the postelliptical objects in (1)-(47) double as under-lying complement subjects: John Denver in (21), me in (39),(42), and (44), and mine in (45). This is, of course, a consequence of the class of the pseudogapped verb. Other postelliptical objects could be argued to be coreferential with complement subjects at a very remote level, e.g. those in (5), (16), and (28).

There is a striking difference between comparative and non-comparative pseudogappings with respect to the typical range of remnant objects permitted. Comparative pseudogappings exhibit a wide range of these. Of the 24 examples cited, four have personal pronoun remnants (me, you, her, him); the rest are lexical NPs, each occurring just once. The situation with noncomparative pseudo-gappings is quite different. Under half of the 23 cited (nine) have lexical NP objects. The remaining 14 consist of personal pronouns (you, us, me, mine); of these, 10 are me. I am certain that a larger collection of pseudogappings would show the preference for the first person singular pronoun object to be statistically significant. This is, by the way, one of the factors contributing to the casual, non-literary flavor of pseudogappings, in contrast to the stylistic neutrality of comparative pseudogappings.

2.3. The Deleted Material.

Like Gapping, Pseudogapping minimally deletes a main verb. How-ever, Gapping also must delete Tense, while Pseudogapping retains it. This is why, when there is no (other) auxiliary element to carry tense in a pseudogapping, do appears. Pseudogapping sometimes deletes just V (§2.1: (1)-(4), (6), (8), (11), (12), (14), (15), (17), (19), (20), (23), (24), (25), (29), (30), (32), (33), (34), (38), (43)). In other instances, additional material is deleted, either between V and the postelliptical constituent ((7), (9), (10), (13), (18), (22), (31), (40), (46)), on the right periphery ((5), (16), (21), (26), (27), (28), (35), (36), (37), (39), (41), (42), (44), (45), (46), (47)), or both ((46)).

Notice that the material deleted between V and the postelliptical constituent includes an infinitive phrase in (7) and (13) (like him to eat, need to show). This is rare, and appears to be possible only in comparative pseudogappings.[5] Compare (7) and (13) with comparable noncomparative pseudogappings ((7') and (13')). The latter are distinctly less acceptable.

(7')° I would like him to eat fruit. ??I sure wouldn't Ø cookies. (Ø = like him to eat)

(13')° I think you need to show yourself [you can do it]. ??But you don't Ø anyone else. (Ø = need to show)

In fact, there is a clear tendency to match a hole left by Pseudo-gapping with the lowest of the candidate Vs. This is certainly true of the comparative pseudogapping (4) in §2.1. Also, consider (1) below.

(1) °   Sp. A: Iris seems to like Nurit.
         Sp. B: She doesn't Ø me.

That Speaker B means <u>Iris doesn't like me</u> rather than <u>Iris doesn't</u>
<u>seem to like me</u> is brought out by the strangeness of the continuation
<u>But actually, she dóes like me.</u>[6] Moreover, in cases where syntactic
or semantic considerations force recovery of the matrix verb,
acceptability declines, as in (7') and (13') above.

If Pseudogapping alone is responsible for deleting such non-
constituent strings as <u>take the lining out of</u> in (31), and <u>leave some</u>
<u>water in</u> in (40), then it must be viewed as a variable deletion rule.
Alternatively, VP Deletion could be viewed as deleting V and NP in
such cases, stranding a PP to the right. Some dialects would then
permit the (identical) preposition to be deleted. Under this formu-
lation, the material deleted between the (rightmost) auxiliary and
postelliptical constituent would be covered by just V, rather than
by a variable. This latter approach has several advantages, such as
predicting the dialect differences mentioned in §2.2. Speakers who
accept all of the data in (1)-(47) could be said to admit VP Deletion,
the preposition-deleting rule, and Pseudogapping. Speakers who accept
all of the data in (1)-(47) except the examples involving depreposi-
tionalized PP remnants ((9), (18), (22), (27), (31), (40), (46)) could
be said to admit VP Deletion and Pseudogapping, but not the preposi-
tion-deleting rule. Finally, those who reject all of the noncompara-
tive instances of pseudogapping ((25)-(47)) could be said to accept
VP Deletion only, and whatever rule(s) which give rise to pseudo-
gapping-like structures in comparatives. The problem with having
Pseudogapping delete V rather than an X-variable is that some good
examples would fail to be generated. Such a formulation would fail,
for example, to account for the fact that more than one V is deleted
in (7) and (13). Even if these are given separate treatment because
they are comparatives, there are other examples that could not be
generated. What, for example, would account for the deletion of
preverbal adverbs, as in (2)?

(2) °   Sp. A: He could easily convince me.
         Sp. B: He could Ø me, too.

Two possibilities come to mind: (1) an independently required pre-
verbal adverb deletion rule, or (2) the position that preverbal
adverbs cliticize onto the following verb, thereby being deleted when
their hosts are (see Sag 1976:165). I doubt that either of these
claims has much independent motivation. However, the difficulty posed
by identical preverbal adverbials does not seem to me to constitute a
very strong reason for formulating the rule with an X-variable rather
than V, since the majority of applications do indeed pick out uncon-
troversial instances of V. That is, the price of formulating Pseudo-
gapping so that it deletes V--possible undergeneration of exactly one
sort of example--is compensated for by the fact that such an analysis
captures the true function of the rule, which is to delete main verbs.
Formulating the rule with an X-variable rather than V obscures this
important fact.

More difficult is the problem of how to provide for right-peripheral ellipsis without seriously under- or overgenerating. Sentences in which Pseudogapping has not applied, e.g. Cream rinse makes my hair get dirty faster, too, or It would drive me crazy to have him call me all the time suggest the need for an X-variable after NP_{obj}. This is the treatment Sag 1976 recommends for Gapping, in light of such examples as (3) (from Hankamer 1973).

(3) Max seemed to be trying to persuade Ted to get
     lost, and Walt $\emptyset_1$, Ira $\emptyset_2$.

     $\emptyset_1$ = seemed to be trying to persuade
     $\emptyset_2$ = to get lost

There is another way of avoiding the second variable, but the analysis requires a number of ancillary assumptions I cannot argue for here. The most important of these is that obligatory complements of transitive Vs are generated next to V, with the direct object at the end. Chomsky 1957 postulates such underlying strings as

(4) John - found studying in the library - the boy
(5) all the people in the lab - consider a fool - John

and a transformation which moves the direct object NP to a position directly following the main verb.[7] Under this analysis, Pseudogapping's first variable can delete such strings as get dirty faster or writing a lot of checks (as in §2.1, examples (45) and (42)), provided the rule is ordered before the one moving the direct object NP to the left. Under this approach, then, Pseudogapping would be a contiguous deletion rule, even though the deletion site is discontinuous on the surface.

The arguments I have seen for such an analysis of obligatory V_{trans} complements are semantic in nature. Thus Stillings 1975, who adopts it in relation to Gapping, claims that 'the two deleted variables are so closely connected semantically that it is impossible to delete one of them without the other...that is...semantically in each case the two variables form a single verb...' (p. 271).

It is easier to find syntactic evidence for the underlying contiguity of V-Prt (look up - the number, turn off - the light) and certain idiom sequences (drive crazy - NP) than for V_{trans}-Complement sequences such as those in (4) and (5). Interestingly, pseudogappings may apply to V-Prt combinations, and to VP idioms. So we may conclude that some pseudogapping holes which are discontinuous on the surface represent an earlier single hole. But there are many cases which seem to require a second deletion site, due to insufficient evidence that the surface discontinuous gaps are underlyingly contiguous (e.g. (26), (27), (28), (36), (37), (39), (41), (42), (44), (45), (46) in §2.1). I conclude that Pseudogapping must be formulated with an X-variable beyond the remnant NP_{obj}. This variable will be inside the VP and hence cannot account for deleted sentential adverbials,

e.g. that in example (39) (§2.1): <u>when you write down what they</u> <u>[people] say</u>. The treatment of elliptical sentential adverbials does not help resolve the one-deletion-site-or-two dilemma, because obligatory verbal complements are assumed to be inside the VP. Hence the one-deletion-site analysis (à la Chomsky 1957) faces exactly the same difficulty as the two-deletion sites approach. For this reason I will not debate the question of whether (1) elliptical adverbials argue for a Pseudogapping variable outside the VP, or (2) there is an independently required truncation rule (Stillings 1975) which can account for the data.

2.4. The Pseudogapped Verb.

The elliptical verbs in the noncomparative pseudogappings I have gathered come from a strikingly limited number of classes. Most commonly represented are nonagentive experiencer causatives ('psycho-logical' predicates: <u>annoy</u>, <u>bore</u>, <u>bother</u>, <u>disturb</u>, <u>drive NP crazy</u>, <u>fascinate</u>, <u>relieve</u>) and other causatives (<u>cut NP off</u>, <u>get</u>, <u>make NP VP</u>, <u>keep/wake NP up</u>, <u>remind</u>, <u>stop/save NP (from) VP</u>). Indeed, some speakers seem to be able to pseudogap <u>only</u> with such verbs. One consequence of this is that the paired subjects will frequently be sentential, as in (26), (35), (36), and (42). Although Pseudogapping can apply with verbs from other classes (<u>believe</u>, for instance--cf. example (29) in §2.1), I have seen very few natural examples of this. It is not clear what characterizes the noncausatives that are permitted.

Comparative pseudogappings appear to be less sensitive to the semantic class of the target V, thereby admitting a wider range of verbs as input. However, many of the instances I have recorded involve members of the same verb classes as noncomparative pseudogappings.

There are at least two classes of stative verbs which cannot figure in noncomparative pseudogappings: psych perception verbs (<u>smell</u>, <u>taste</u>, <u>sound</u>, <u>look</u>) and subject-embedding raising verbs that require a stative complement (<u>seem</u>, <u>appear</u>, <u>turn out</u>). Though the judgments are subtle, many people find pseudogappings with these worse than pseudogappings with stative main verbs that take NP complements (<u>own</u>, <u>contain</u>, <u>constitute</u>). However, the former (as well as the latter) can occur in a comparative frame.

(1)° ?We don't own a house, but we do ∅ a trailer.

(2)° ?This bottle might not contain sulfuric acid, but it should ∅ copper sulfate.

(3)° *Rona $\left\{\begin{array}{c}\text{looked}\\\text{sounded}\end{array}\right\}$ annoyed, but she didn't ∅ frustrated.

(4)° *At first the watchdog $\left\{\begin{array}{c}\text{appeared}\\\text{seemed}\end{array}\right\}$ (to be) friendly, but later on it did ∅ ferocious.

(Comparative)

(5)° We own more houses than we do ∅ trailers.

(6)° This bottle will contain more sulfuric acid than it will ∅ copper sulfate.

(7)° Rona looked more annoyed than she did ∅ frustrated.

(8)° The watchdog seemed more friendly than it did ∅ ferocious.

(3) and (4) are the first examples so far of pseudogappings with adjectival complements. The starred judgments indicate that AdjP is not a possible pseudogapping remnant. This is perhaps illustrated more clearly with verbs which are perfectly acceptable in pseudo-gappings so long as the remaindered constituent is NP ((9)), and not AdjP ((10)):

(9)° Sp. A: Randy makes me uncomfortable.

Sp. B: He does ∅ me ∅, too.

(10)° Randy makes me unhappy. $\left\{\begin{array}{l}\text{*Actually, he does ∅ miserable.}\\\text{*But at least he doesn't ∅}\\\text{\quad miserable.}\end{array}\right\}$

It seems that membership of the contrastive remainder to the category NP is a necessary, but not sufficient condition. Recall that (1) and (2) are marginal. And pseudogappings with the verb be are unacceptable, even when the remainder is an NP:

(11)° *The one they choose might be Larry, but it won't ∅ me.

It seems, then, that not only must the pseudogapped verb be one which takes a direct object, it must also belong to the 'right' verb class. Further investigation is needed in order to determine just which verb classes can undergo Pseudogapping, and which cannot.

2.5. Polarity.

The two clauses of a pseudogapped structure frequently contrast in polarity. Either the first clause is negative and the second clause positive (§2.1: (27), (29), (30), (31), (33), (34)), or the first clause is positive and the second, negative ((32),(34), (36), (37), (42), (43)). In pseudogappings that are slightly less than acceptable, there is an amelioration effect if there is a polarity difference, going in the direction NEG → POS. Many of my informants independently observed this fact. Thus (1) is slightly less acceptable than (2).

(1)° ??We own a trailer, but we don't ∅ a house.

(2)° ?We don't own a house, but we do ∅ a trailer.

This difference, though slight, correlates with a difference in the opportunity for using a particular alternative to pseudogapping: a construction that may be viewed as a single-constituent gapping (called 'split coordination' by Hudson 1976).

(3)° We own a trailer, but not a house.

(3) is essentially a paraphrase of (1). Now compare (2) with (4).

(4)° We don't own a house, but a trailer.

(4) is not a paraphrase of (2). When Aux is deleted, as it has been in (3) and (4), NEG can remain. However, positive contrastive stress must reside with the auxiliary verb. Since (4) has no Aux verb, it is unacceptable under the same interpretation as (2). (4) can only serve as a correction (with paired stresses on <u>a trailer</u> and <u>a house</u>). (5) below is the only auxiliary-less structure I can think of which allows some highlighting of the positive polarity of the second clause.

(5)° ?We don't own a trailer, but a house, yes.

(5) is slightly marginal, while (3) is completely acceptable. (Note that (3) <u>could</u> serve as a correction, but doesn't have to.) The lack of a standard, reduced paraphrase for (same subject-auxiliary) NEG → POS pseudogappings may be responsible for the preference for the latter over (same subject-auxiliary) POS → NEG pseudogappings.

Polarity contrast in gappings, incidentally, is unknown. Either both clauses are positive, as in (6a), or both negative ((7a)).

(6) a. He is an accountant and she ∅, a nurse.

°b. *He is an accountant, but $\begin{Bmatrix} \text{she} \\ \text{her} \end{Bmatrix}$ ∅, not a nurse.

 not $\begin{Bmatrix} \text{her} \\ \text{she} \end{Bmatrix}$, a nurse.

(7)° a. Pat didn't like rutabaga, nor Art ∅, okra.
b. *Pat didn't like rutabaga, but Art ∅, okra.
(∅ = (<u>did</u>) <u>like</u>)

The constraint against polarity contrast in gappings is probably explained by the fact that no more than two pairs of elements are permitted to contrast. Since there is necessarily pre- and post-auxiliary contrast, any contrast within Aux would violate the two-constituent limit.

2.6. <u>Three Factors Influencing Pseudogappings' Acceptability</u>.
Speakers' judgments of various pseudogappings can be relatively favorable or unfavorable. There seems to be cluster of properties, each of whose particular value for a given pseudogapping contributes to the overall judgment for that pseudogapping. This section describes the influence of three such properties.

A pilot study carried out with 23 informants revealed that acceptability of pseudogappings is determined by:

(a) whether the subject and auxiliary of the pseudogapped clause occur in the order Subject-Aux, designated by [+Subj 1st], or the order Aux-Subject, labelled [-Subj 1st].

(b) whether the pseudogapped clause occurs in a comparative frame. Those that do will be described as [+Compar], while those occurring in any frame other than a comparative will be labelled [-Compar].

(c) whether the subject of the pseudogapped clause is identical to the subject of the antecedent clause. A pseudogapping subject is [+Like Subj] if the subjects are like, [-Like Subj] if they are nonlike.

There are thus three relevant parameters. It should be noted that I am using the feature notation strictly for descriptive convenience. That is, the plus and minus specifications refer strictly to surface characteristics, and are not to be taken as being otherwise significant.

If any one of the features is negatively specified in a given pseudogapping, then the judgment is less favorable than that associated with another discourse fragment comparable in relevant respects to the first except that the feature in question is positively specified. Thus, for example, pseudogappings which are

$$\begin{bmatrix} -\text{Subj 1st} \\ +\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$$ (e.g. °Bill studied chemistry a lot longer than did any of his friends linguistics) are less acceptable than similar ones which

are either $$\begin{bmatrix} +\text{Subj 1st} \\ +\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$$ (e.g. She doesn't understand me as well as

I do her) or $$\begin{bmatrix} +\text{Subj 1st} \\ -\text{Compar} \\ +\text{Like Subj} \end{bmatrix}$$ (e.g. Did you know they tow your car if

you have three unpaid tickets? They did mine, and I nearly had a conniption!).

The relevance to pseudogapping judgments of the three parameters listed above, as well as their relative weights, were determined on the basis of judgments elicited from 23 undergraduates enrolled in an elementary linguistics course at The Ohio State University. They assigned judgments of 1 (most natural), 2 (moderately unnatural), or 3 (highly unnatural) to each of 19 discourse fragments which I read aloud.

Features (a)-(c) are listed in decreasing order of influence. Thus the largest declines in acceptability (averaging .42) were correlated with a change from [+Subj 1st] in one example to [-Subj 1st] in another example; somewhat smaller differences (averaging .36) resulted from changing [+Compar] to [-Compar]; still smaller differences (averaging .26) were induced by changing like subjects to unlike subjects. Because of the small number of informants, and inevitable biases introduced by the particular data chosen, I did not perform any tests of statistical significance. Hence the variation can, at best, be taken to be indicative only of general tendencies. However, my purpose was simply to discover if the feature specifications which speakers showed an introspective preference for correlated with those I have repeatedly noted in naturally occurring data. It turns out that they do.[8]

Three two-valued features can combine eight (2^3) ways. One
of the combinations, $\begin{bmatrix} -\text{Subj 1st} \\ +\text{Compar} \\ +\text{Like Subj} \end{bmatrix}$, is necessarily nonoccurring.
Subject-auxiliary inversion is possible in comparatives (°<u>California
produces more citrus fruit than does Florida</u>), but only if the paired
subjects are noncoreferential. Hence any invented examples of the
type $\begin{bmatrix} -\text{Subj 1st} \\ +\text{Compar} \\ +\text{Like Subj} \end{bmatrix}$ ought to be less acceptable than we would be led
to predict, given that two of the three features are positively
specified. Consider (1).

(1)° *People [in Greece] drink more ouzo than do they
brandy.

Here, inverting the subject and auxiliary ruins an otherwise accep-
table sentence, since there is no trigger for Subject-auxiliary in-
version. There were, then, only seven feature combinations to test.

Pseudogappings which are positively specified for all three
features (uninverted comparative like-subject pseudogappings) are
extremely common, and seem to be found at all style levels. Apart
from a sentence which had no reduction at all, this type of pseudo-
gapping was ranked the highest by my subjects (1.31). Each of the
24 comparatives in §2.1 (I, II) is of this type, save one, which has
unlike subjects (#20: <u>She doesn't understand me as well as I do her</u>).

At the other extreme, I have never come across a $\begin{bmatrix} -\text{Subj 1st} \\ -\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$ pseudo-
gapping. Two invented examples of this type ranked very low:

(2)° *Mary should invite Jane, and so should Bill ∅ John.
(3)° *Sue invited me over for lunch before the game. Did
Tim ∅ you?

(3), in fact, received the least favorable overall judgment (2.3).
Given the hypothesis of an additive effect for each negatively speci-
fied feature, this is exactly what we would expect.

Example (20), repeated above, illustrates the category
$\begin{bmatrix} +\text{Subj 1st} \\ +\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$. Although I have not found many examples of this type,
their high degree of acceptability suggests that (1) they are not
actually that uncommon, or (2) they are unusual for a reason that has
nothing to do with grammaticality or acceptability.

There are many naturally occurring examples of the other [+ + -]
combination: $\begin{bmatrix} +\text{Subj 1st} \\ -\text{Compar} \\ +\text{Like Subj} \end{bmatrix}$ pseudogappings. Every example in §2.1
(III) is of this type, except (35):

(35) S: I just hope it [being an actress] will make
          you happy.
      K: Hasn't it ∅ you ∅?

This example leads us to another type: $\begin{bmatrix} -\text{Subj 1st} \\ -\text{Compar} \\ +\text{Like Subj} \end{bmatrix}$. I have heard

two other inverted noncomparative like-subject pseudogappings:

(4) Forgive me...but that man arouses all my latent
     chauvinism. Doesn't he ∅ yours?

(5) That thunderstorm really kept me up last night. Did
     it ∅ you?

Examples of this category seem relatively uncommon.

Two combinations remain: $\begin{bmatrix} +\text{Subj 1st} \\ -\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$ and $\begin{bmatrix} -\text{Subj 1st} \\ +\text{Compar} \\ -\text{Like Subj} \end{bmatrix}$.

The first is exemplified by (6), the second by (7).

(6)° Ned says he'll get all the answers wrong. ?Í will
     ∅ just one or two ∅.
(7)° ?Bill studied chemistry a lot longer than did any of
     his friends ∅ linguistics.

(6), an invented example, is just slightly less than acceptable.
However, not one of the pseudogappings I have collected from natural
conversation has borne unlike subjects. I discuss this phenomenon
in greater detail in §2.7.

Despite the negative specification of two out of the three
features in (7), the sentence is really quite acceptable. This is
partly because the trigger for Subject-auxiliary inversion in
comparatives (unlike subjects) is present. (7) may be stylistically
marked as formal, but it is nonetheless perfectly grammatical.

I have looked at the influence on acceptability of three
features which may be present or absent in pseudogappings. Although
preliminary experimental findings indicate a tendency for all data
with $\underline{n}$ features positively specified (where $\underline{n}$ = 1, 2 or 3) to be
rated more highly than any data with (n-1) features so specified, no
firm conclusions can be drawn, since (1) the judgment figures have
not been gathered from a large enough population, nor subjected to
statistical analysis; (2) the basis for the judgments are probably
not uniform, and (3) one of the features, subject-auxiliary inver-
sion, introduced the problem of appropriateness at different style
levels.

2.7. <u>The Like-subject Condition</u>.[9]

In §2.0 we saw that one regular feature of pseudogapping was the relationship of identity between the subjects in the antecedent and target clauses. Nonlike-subject pseudogappings, such as that in (1), are exceedingly uncommon in casual speech.

(1)° Sp. A: That thunderstorm bothered Millicent last night.
      Sp. B: ??Well, your stereo did Ø me.

Notice that the paired subjects in (1) are neither formally nor referentially identical. It is not uncommon for pseudogapping subjects to be referentially identical to, though formally distinct from, the antecedent clause subject, since pseudogappings often involve a change of speaker.

(2) G: <u>You</u>'re knockin' the belts down.
     M: <u>I</u> just did Ø the one.

The opposite case, formal identity without referential identity, seems less common. Sag 1976 notes having heard the following:

(3) Sp. A: Gee, I've never seen you on campus before.
     Sp. B: Yeah! Neither have I Ø you.

Notice that (3) has a target-clause subject which is (referentially) identical to the antecedent-clause object, and a target-clause object which is (referentially) identical to the antecedent-clause subject. The greater-than-normal parallelism may well have an ameliorating effect.

If just one of the two types of identity is sufficient for 'like-ness' of pseudogapping subjects, it is referential identity. Many of my informants disliked (3), but accepted referentially-like-but-formally-unlike pseudogappings, such as (2). I shall use the terms 'unlike' and 'nonlike' to denote pseudogapping subjects which are neither formally nor referentially identical to the antecedent-clause subject.

It is significant that the only naturally occurring nonlike-subject pseudogapping ever brought to my attention[10] occurred in a poem:

(4) You can't derange, or rearrange, your poems again.
     (But the sparrows can their song.)
        ('North Haven (In Memoriam: Robert Lowell)',
         New Yorker, p. 40, Dec. 11, 1978)

The apparent exclusion of unlike-subject pseudogappings from spoken registers is reminiscent of gapping in American English, which is similarly found almost exclusively in formal (hence frequently, written) registers. Unlike-subject pseudogappings resemble gappings in that both constructions involve a pair of contrasted arguments which come before the gap. Like-subject pseudogappings do not.

And VP deletions, which may similarly have a pair of contrasting subjects in front of the deletion site, lack such a pair beyond it. So there seems to be a correlation between register 'exclusivity' and the presence of paired contrasts both before and after the deletion site.

When I asked my informants to supply alternatives to invented examples of unlike-subject pseudogappings (all of which were found awkward), they either did not delete the second main verb, as in (5b), or, auxiliary permitting, opted for gapping, as in (5c).

(5)° Sp. A: Deirdre made Jim promise to vacuum twice a week.
     Sp. B: a. ??And Barb did Ø Dan Ø.
           b.   And Barb made Dan promise the same thing.
           c.   And Barb Ø, Dan.

However this 'like-subject' restriction should be regarded, the treatment must reflect the fact that in a VP Deletion environment, where a target-clause object meets the identity condition and is obligatorily deleted, the constraint does not apply.

(6)° Sp. A: Deirdre made Jim promise to vacuum twice a week.
     Sp. B: d. Barb did Ø, too.

I will now suggest a perceptual explanation for the graded acceptability, one which naturally predicts the higher perceptibility of like-subject pseudogappings.

The constituents in a pseudogapped sentence look very much like those in a VP deletion sentence. There is usually a subject, optional preverbal adverb, one or more auxiliary elements, and an elliptical main verb. A defining difference, of course, is that pseudogappings exhibit a postelliptical object, while VP deletions do not. Any constituent following a VP deletion site must be 'loosely bound' to the verb (in Ross's sense). This principle generally excludes constituents other than sentential adverbials. It might seem then, that, other things being equal, the hearer would have no clue as to whether a target clause sequence NP (Adv) Aux Ø constituted the environment of a VP deletion, or the first part of a pseudogapping, until the end of the clause. I suspect, however, that semantic cues bias the hearer toward one analysis or the other. When the subjects contrast, it is perfectly reasonable from a semantic standpoint to interpret the hole as a right-peripheral one (that is, derived by VP Deletion); reasonable that is, unless a postverbal object shows the deletion to be internal (i.e. due to Pseudo-gapping).

(7)° I know Debbie brought back an extra spoon or so, but

      I don't know if Rachel did $\begin{Bmatrix} \text{a.} & \emptyset \\ \text{b.} & \text{??}\emptyset \text{ forks} \end{Bmatrix}$.

If a pseudogapped clause has a different subject from the antecedent clause, then, it looks like a product of VP Deletion, with an extra NP

added on at the end.[11] In support of this analysis, several of my informants independently offered the same comment when presented with such sentences as (7b). They ranked them lower in acceptability than both the corresponding (a) sentences, and the corresponding like-subject pseudogappings, and commented that it had been rather a jolt to hear the postelliptical constituent. (In fact, when I read a non-like-subject comparative pseudogapping to one of my informants, he commented, 'I was waiting for the bad part' (implying that it never came, thus giving support to the amelioration effect of a comparative frame).) Also, my informants found gapped sentences better than the corresponding pseudogapped ones. This is consistent with the perceptual account. Both pseudogappings and VP deletions have auxiliaries, but gappings do not. Hence an identifying clue for gappings comes earlier in the sentence than identifying clues for pseudogappings. Finally, the interpretation of the deleted material as an entire VP rather than part of one is consistent with Hankamer's 1973 Peripheral Gap Principle, according to which the deletion site in an unacceptably ambiguous structure (if interpretable) is interpreted as peripheral rather than internal.

The greater acceptability of like-subject pseudogappings stems from the fact that the hearer can't make sense of the discourse unless some kind of constituent follows the elliptical V.

(8)° I know Debbie brought back an extra spoon or so, and I know she did $\begin{Bmatrix} a. & \emptyset_1 \text{ forks} \\ b. & \#\emptyset_2 \end{Bmatrix}$.

(# = pragmatically peculiar)

(9)° (JM, discussing the flashback in <u>Catch 22</u>):

It took me a long time to figure that out. I don't know whether it did $\begin{Bmatrix} a. & \emptyset_1 \text{ anybody else} \\ b. & \#\emptyset_2 \end{Bmatrix}$.

If the hearer recovers the peripheral gap $\emptyset_2$ instead of the internal gap $\emptyset_1$ in sentences like (8b) and (9b), the result is that either the second clause conveys no new information (as in (8b)), or the pieces of information to be drawn from the antecedent and target clauses are mutually contradictory (as in (9b)). VP Deletion is therefore impossible on semantic grounds, and processing is apparently delayed until the postverbal constituent is supplied.

If the subjects are different, of course, as in (7), no constituent need follow the verb for a reasonable interpretation. So the hearer chooses the more perceptible <u>peripheral</u> gap over the less perceptible <u>internal</u> one, in accordance with Hankamer's principle.

Although there are many problems involved in incorporating into the grammar a perceptual principle such as the one outlined here, it seems to me a most appropriate analysis of a constraint which has clearly not been grammatized.

2.8. <u>Interaction with Other Rules</u>.

When rather little is known about the place a transformational
rule occupies with respect to other transformations, it can be of
heuristic value to see how that rule interacts with other rules which
can apply to the same domain. This can reveal, for example, whether
there are ordering constraints.

In the case of Pseudogapping, it turns out that very little
hinges on the way it is ordered with respect to other rules. Perhaps
the most interesting finding concerns a kind of 'derivational
ambiguity': a type of derivation in which Pseudogapping and VP
Deletion apparently have the same effect, due to a VP stripped of its
object.

2.8.1. <u>Particle Shift</u>.
Frequently the elliptical V in a pseudogapped structure is a
verb-particle combination. Examples are found in §2.1 ((3), (4), (10),
(31), (33), (38)). Since the postelliptical object is so frequently
a personal pronoun (which, if unstressed, must occur before the
particle (cf. °*<u>She cheered up him</u>)), it is clear that if the option
to Pseudogap is not taken, Particle Shift must apply. Otherwise,
examples such as (1) would be generated.

(1)° *This should turn you on--it turns on me!

However, (1) will not be generated, regardless of the order in which
Particle Shift and Pseudogapping apply. If Pseudogapping is ordered
first, and applies, then it destroys the input for Particle Shift
(by removing V and Prt). But it makes no difference, because if the
particle doesn't show up at all, it clearly cannot occupy the offending
position in (1). Still assuming that Pseudogapping is ordered first,
if it fails to apply, then Particle Shift will later apply, due
to the pronoun trigger. If the potential postelliptical object
is pronominal, Particle Shift will necessarily apply. Then, when
the point of application of Pseudogapping is reached, it will make
no difference whether it actually applies, since the particle will
be in the proper position. If Pseudogapping does apply, then the
particle will have been moved only to be deleted. But this is
harmless. In conclusion, Particle Shift and Pseudogapping may apply
in the same derivation, and need not be ordered with respect to one
another.

2.8.2. <u>Right Node Raising (RNR)</u>.
Right Node Raising removes a pair of identical final constituents
from disjoint clauses, and reproduces a copy of them to the right, as
in (2).

(2)° Some of my friends like, and I absolutely adore,
bowling and ping-pong.

Right Node Raising will never affect a pseudogapping object, because
Pseudogapping's requirement of contrast between the paired objects
precludes the possibility of satisfying RNR's identity requirement.

Examples like (3) do not involve Pseudogapping at any stage of the derivation, since the paired objects are identical.

(3)° You can't cut off--even though you really should-- those two branches.[12]

Because the VPs in the two conjuncts are identical, the second one may be deleted, as shown in (4).

(4)° You can't cut off those two branches, even though you really should ∅.

However, the rightmost constituent of a clause (thus the one analyzed by RNR) need not be an object. Pseudogapping remnant objects may be flanked on the right by anaphoric occurrences of extraposed sentential subjects, or adverbials. Frequently in such cases, Right Node Raising can apply.

(5)° It may not drive her crazy--but it would ∅ me-- to have him call all the time.

(6)° That carpet may remind you--but it doesn't ∅ me-- of the kind of thing you see in waiting rooms.

(7)° It makes you feel more secure--at least it does ∅ me--when you have the written version of the paper.

Examples of this sort that are not acceptable generally violate some independent condition on RNR, as shown in (8).

(8)° ??Being an actress may have made you--but it hasn't $\left\{ \begin{array}{c} \emptyset \\ made \end{array} \right\}$ me--happy.

Here there seems to be a need for a final constituent which is 'heavier' (longer or more complex) than happy.

Must Right Node Raising and Pseudogapping be ordered with respect to one another? I think not. If Pseudogapping precedes RNR, then the latter must be able to match an overt occurrence of a final constituent with its null anaphor. Given recoverability of deletion, I see no problems resulting from this. On the other hand, if RNR precedes Pseudogapping, then when the latter applies, it will not effect right-peripheral ellipsis, since the final identical constituent will have already been moved out of its original clause by Right Node Raising. This too seems harmless. Just as in the case of Particle Shift and Pseudogapping, then, there is no need to order RNR and Pseudogapping with respect to one another.

2.8.3. <u>Wh-Q Movement</u>.

It is possible to construct questions with elliptical Vs in which the object is questioned ((8a)), the subject is questioned ((9b)), or which are ambiguous between a questioned subject and object ((9c)).

(9)° Sp. A: When it comes to weather forecasts, I believe only the weatherman.

Sp. B: a. I don't care who yóu believe. ??Who would the man in the stréet Ø?

[NP the man in the street would believe ___]
+wh
↑_____

b. Well, of course. He's the only one you cán believe. *Who would Ø the man in the stréet?

[NP ___ would believe the man in the street]
+wh
↑___

c. ??Sure, but who would the man in the stréet?

(either (a) or (b) interpretation)

Questions of the sort in (a) and (b) above are generally highly unaccept-able, but it seems slightly easier to question the object (as in (a)) than the subject ((b)). Despite their awkwardness, their respective derivations merit some discussion; an inquiry into what rules must apply may shed light on why (a) and (b) are poor.

Notice that the gap in (9a) is peripheral, and that in (9b), internal. Whether the gap in (a) was originally internal, and became peripheral due to Wh-Q Movement's ripping out the object, depends on what rule created the gap in the first place. If it was Pseudogapping, then, in order to avoid global conditions on that rule, we must assume it applied before Wh-Q Movement. On the other hand, if VP Deletion created the gap, that rule must have applied after Wh-Q Movement, deleting what was left of a VP whose object had been ripped out. This problem arises again in conjunction with Topicalization, discussed in §2.8.4.

(9b) is less problematical than (9a). The gap is internal, and the VP is unaffected by Wh-Q Movement. It seems necessary to suppose that Pseudogapping has applied; I cannot imagine what other rule would delete V.

The ambiguity of (9c) is rather tenuous, since intonational facts are bound to help disambiguate it. Auxiliaries which do not precede holes left by such rules as Pseudogapping or VP Deletion (as in the (a) interpretation) tolerate more reduction than auxiliaries which do. (Witness the contrast between Does that bother you? It would Ø me, and °..*It'd Ø me.) In (9b), would cannot cliticize to the subject. (This would change the judgment signified by '*' to one closer to '**'. In (9a), cliticization ([hu wʊd] → [huəd] or [hud]) causes a slight decline in acceptability (?? goes to *). This is apparently due to the influence of the hole on the other side of the subject (cf. Who'd the man in the street believe?, which is perfectly acceptable). But in

general, examples like (9a) tolerate cliticization better than examples like (9b). This is illustrated in (10).

(10)° Peter's dating Joan, but
    a. who is George Ø?
    b. ?who is Ø George?

    c. ?who's George Ø?
    d. *who's Ø George?

Note that contexts which favor deleting V in a wh-question tend to eliminate the possibility that an $\frac{Obj \quad Aux \quad Subj}{+wh}$ string might also be a $\frac{Subj \quad Aux \quad Obj}{+wh}$ string. Consider (11) and (12).

(11)° Sp. A: You should cut off this branch.

    Sp. B: $\left\{\begin{array}{c} \text{?What} \\ \text{?Which} \end{array}\right\}$ other ones should I Ø?

(12)° ?If we can't believe the weatherman, who cán we Ø?

Just as like subjects boost noncomparative pseudogapping judgments, so do they improve questions with elliptical main Vs. The subject pronouns in (11) and (12) cannot possibly be construed as objects, because of their phonological form. There are also clues provided by paired stresses, and co-occurrence restrictions (branches cannot cut). Hence the kind of ambiguity exhibited by (9c) seems artificial and contrived; I would not expect it to arise in natural conversation.

We have seen that the most acceptable type of wh-question whose V is elliptical is that in which an object is questioned, and in which there is no change in the subject. Assuming that no constituent follows the object, it will always be the case that the deleted V is clause-final, since the following object has been preposed. Two kinds of facts support the favorable effect of a hole which is clause-final rather than clause-internal: the harsher judgments when a subject is questioned, leaving an internal hole, and (2) the near-acceptability obtained when other rules affecting objects give rise to clause-final holes. The rules I have in mind are Cleft, Pseudo-cleft, and Topicalization.

2.8.4. Cleft, Pseudo-cleft, Topicalization.
Consider the following data.

CLEFT

(13)° Sp. A: That speed trap has never caught me.
    Sp. B: True. ?It's mé who it always has Ø.

PSEUDO-CLEFT

(14)° They can digest yogurt. What they cán't Ø is milk.
(15)° ??I won't ride up stréets the wrong way. What I will Ø is alleys.

TOPICALIZATION

> (16) N: Wouldn't filling out that long questionnaire
> discourage some people?
> D: Sóme people it does ∅.

> (17) It [a contact lens] is supposed to hurt. And sóme
> people it does ∅.

(13)-(15) range from acceptable to moderately unnatural. (16)
and (17) are quite acceptable. Some people, in fact, can <u>only</u> delete
V if the discourse conditions are right for Topicalization. That is,
they cannot apply Pseudogapping alone, but they can get what I call
'topicalized pseudogappings'. Topicalization is especially favored
if it has applied in the antecedent clause. Its operation in the
target clause is more likely, then, if it will contribute to
parallelism. Examples such as (18) are rather common.

> (18) Some of these materials I use. And some I don't ∅.

For some reason, topicalized pseudogappings are more common and
more acceptable than clefted or pseudo-clefted pseudogappings. I am
not sure why this is so, since all three constructions serve similar
discourse functions.

The untopicalized versions of (16) and (18) are very awkward.

> (16')° N: Wouldn't filling out that long questionnaire
> discourage some people?
> D: ??It does ∅ some people. (improves with stress
> on <u>some</u>)
> (18')° ??I use some of these materials. $\begin{Bmatrix} \text{And} \\ \text{But} \end{Bmatrix}$ I don't
> ∅ some.

Recall that Pseudogapping is disallowed when the target-clause object
is identical to that in the antecedent. In such a case, VP Deletion
must apply.

> (19)° That exhibit should have impressed me, but it
> didn't $\begin{Bmatrix} \text{a. *∅ me} \\ \text{b. ∅} \end{Bmatrix}$.

Perhaps (16') and (18') are poor for somewhat the same reason (19) is:
the corresponding objects are not 'contrasted' enough. In fact, the
structure underlying (16) and (16') apparently has identical
corresponding objects, since it can undergo VP Deletion.

> (20)° N: Wouldn't filling out that long questionnaire
> discourage some people?
> D: Yes, it does ∅.

It seems that even though the target-clause occurrence of <u>some people</u>
meets the identity condition on deletion, the stress it exhibits when
preposed allows it to remain behind.

Consider now (18) and (18'). Their paired objects are not referentially identical, as shown by the impossibility of VP Deletion.

(21)° #I use some of these materials. And I don't ∅.

Yet in some sense the target clause object seems partly anaphoric to the antecedent clause object, since they involve the same set, albeit different members of that set. Perhaps preposing somehow highlights what contrast there is--contrast which is apparently insufficient to allow straight Pseudogapping.[13] Some evidence for the correctness of this idea is found in (22).

(22)° ?I use $\left\{\begin{array}{c} \text{some} \\ \text{a few} \end{array}\right\}$ of these materials. But I don't ∅ most of them.

Even speakers who do not use pseudogappings find a contrast between (18') and (22) which goes in the direction predicted.

It may be then, that Topicalization here allows a means of deleting a redundant V when the objects are neither completely identical nor completely contrasting. That is, the objects show some kind of anaphoric relation, but not exactly the one demanded by the identity condition. Nor are they different enough to meet the 'contrastiveness' condition on rules which leave paired remnants, such as Gapping and Pseudogapping.

The derivations of (16) and (17) are far from clear. Virtually the same problem that arose in connection with wh-questions like (9a), (10a), (10c), (11), and (12) arises here. In these latter examples, the difficulty was to determine whether Wh-Q Movement applied to the output of Pseudogapping, or whether VP Deletion applied after Wh-Q Movement. The same contrasting object which destroys the potential for VP Deletion is a necessary environment for the operation of Pseudogapping. Since that object can be removed by Wh-Q Movement and Topicalization, either Pseudogapping must apply before these two rules, or VP Deletion, after.[14]

2.9. The Derivation of Pseudogappings.
2.9.1. A Statement of the Rule.

In this section I will be less concerned with formalizing a rule that will neither under- nor overgenerate than I will be with the broader issue of how the rule responsible for pseudogappings fits in with the other rules that delete (at least) repeated verbs: VP Deletion and Gapping.[15]

A first approximation to a formal statement of Pseudogapping might look something like (1).

(1) PSEUDOGAPPING (Optional)

$$\text{X [NP (Adv) Aux (Neg) V NP Y]}_S \text{ Z [NP (Adv) Aux (Neg) V NP W]}_S$$

$$\underbrace{}_{1} \underbrace{}_{2} \underbrace{}_{3} \underbrace{}_{4} \underbrace{}_{5} \underbrace{}_{6} \underbrace{}_{7} \underset{\downarrow}{\underbrace{}_{8}} \underbrace{}_{9} \underset{\downarrow}{\underbrace{}_{10}}$$

$$\emptyset \qquad \qquad \emptyset$$

Cond: $1 = 6$ $4 \neq 9$
       $3 = 8$ $5 = 10$

(1) more or less summarizes the facts as presented in §2.1–2.7.
However, it makes no provision for deprepositionalized pseudogappings
(§2.2), cases in which preverbal adverbs are deleted along with V,
the fact that Pseudogapping selects certain kinds of verbs, or the
limited range of contrastive postverbal remnants. I assume these
facts can be accommodated in one fashion or another.

One refinement that should not be necessary is a provision to
allow Pseudogapping to operate backward. (2) and (3) strike my
informants as highly unacceptable.

(2)° *Because it doesn't ∅ me, I can't understand why
         squashing spiders bothers Max.
(3)° *Unless he did ∅ you, I doubt that Doug Henning
         will thrill me.

These sentences bring up the issue of just what kinds of conjunctions
Pseudogapping allows for its forward operation. Coordinating
conjunctions (and, or and nor) are best. Subordinating conjunctions
are somewhat marginal:

(4)° ?I can't understand why squashing spiders bothers
         Max, because it doesn't ∅ me.
(5)° ?I doubt that Doug Henning will thrill me, unless
         he did ∅ you.

Since Pseudogapping allows change of speaker, there is frequently no
conjunction.

One thorny issue to which I have no satisfactory answer concerns
the derivation of comparative pseudogappings. Should these be derived
by the special rules applying only in comparatives, e.g. Comparative
Ellipsis (Bresnan 1975)? Or should they be generated by the same rule
as noncomparative instances? On the positive side of a single rule is
their obvious structural resemblance to noncomparative pseudogappings.
On the negative side is the fact of comparative pseudogappings'
greater latitude with respect to (1) possible pseudogapping subjects
(which are sometimes not coreferential to the matrix subject): (2)
the target V, which does not seem to come from just one or two sub-
categories, and can, on occasion, be deleted along with an infinitival
phrase (as in §2.1: (7) and (13)); (3) the remaindered object, which
is often not a (first person) pronoun. Despite these differences,

plus comparative pseudogappings' greater general acceptance,[16] I
am inclined to let a single rule generate both comparative and
non-comparative instances.

2.9.2. A Special Case of VP Deletion?

There are a number of similarities between VP deletions and pseudo-
gappings. These could be construed as evidence that the latter repre-
sents a special case of the former. I argue for this position in my
1978 CLS paper, as does Stump 1977. However, as I weigh the pros and
cons of subsuming pseudogappings under VP Deletion, I become less and
less convinced that it is desirable to do so. I summarize my reasons
below.

First, if the similarities are closely examined, each one turns
out to follow directly from a single shared property: the required
occurrence of a preelliptical auxiliary verb. This in itself
constitutes a rather weak case for collapsing the two rules, parti-
cularly since VP Deletion does not seem to share Pseudogapping's pre-
dilection for supportive do. Moreover, there are numerous (other)
constraints on Pseudogapping, not shared by VP Deletion. Hence a
whole host of restrictions would have to be called up for exactly
those applications of VP Deletion that corresponded to Pseudogapping.
Finally, a third counterargument to the proposal to collapse the two
rules comes from Jorge Hankamer's work (to appear) on the typology of
anaphoric processes. Let us consider each objection in some detail.

Among the similarities between pseudogappings and VP deletions
are the following:

   a. in finite clauses, both require as a preelliptical
      remnant a finite auxiliary verb.
   b. both require corresponding main verbs of the antecedent
      and target clauses to be identical.
   c. both allow an overt pre-auxiliary adverb.
   d. both allow negation to inhere in either the antecedent
      clause, the target clause, both, or neither.

Let us consider (b), (c), and (d) in that order. The fact that
both VP deletions and pseudogappings require corresponding main verbs
of the antecedent and target clasues to be elliptical can hardly
point to any unique similarity, since it is a characteristic they share
with gappings and do so/it constructions. This point is especially
damning in view of the fact that a competing candidate for the source
of Pseudogapping is Gapping.

Pre-auxiliary adverbs (...It certainly does (me)) generally lead
to lower acceptability if not accompanied by an auxiliary:

   (6)° ?Bill probably will pass and certainly, John.

This shared characteristic, then, seems attributable to the fact that
both constructions have an auxiliary. Finally, whenever (except for
comparatives) there is an auxiliary in the target clause, that
auxiliary can be negated. When there is an Aux node in both ante-
cedent and target clauses (as there must be if both contain an Aux

verb), negation may appear in one or the other, both, or neither. One hypothesis consistent with this, argued for by Schmerling 1978, is that positive imperatives in English do not have an Aux node, though negative imperatives do.

Each of the similarities, then, between VP Deletion and Pseudo-gapping seems to boil down to a single shared feature: the required presence of an auxiliary in the target clause.

The differences between Pseudogapping and VP Deletion are many. Among them are the following. (Note: illustrative data occur in the order pseudogappings, then VP deletions.)

    f.   VP Deletion may apply in subordinate positions, but embedded pseudogappings rapidly become awkward.

    (7)° Since tornadoes petrify Harold, I can't for the life of me figure out why he's so surprised about the fact that $\left\{ \begin{array}{l} \text{*they do } \emptyset \text{ me, too} \\ \text{hurricanes do } \emptyset \text{, too} \end{array} \right\}$.

    g. As a consequence of (f), the backward application allowed VP Deletion is not characteristic of Pseudogapping.

    (8)° *Although it doesn't $\emptyset$ me, it takes Karen a long time to clean the hamster's cage.

    (9)° Although it doesn't always $\emptyset$, it sometimes takes a long time to clean the hamster's cage.

    h. VP Deletion can apply in infinitive clauses, while Pseudo-gapping cannot.

    (10)° It [an enema] leaves some water in you. At least, it seems to $\left\{ \begin{array}{l} \text{*}\emptyset \text{ me} \\ \emptyset \end{array} \right\}$.

    (11)° Sp. A: Van Gogh's work is beginning to impress me.
            Sp. B: $\left\{ \begin{array}{l} \text{*It's starting to } \emptyset \text{ me, too} \\ \text{Well! It's finally starting to } \emptyset \end{array} \right\}$.

    i. The elliptical V in a VP deletion can belong to any class whatever; the elliptical V in a pseudogapping must belong to a certain class(es).

    (12)° The one they choose might be Gail, but it $\left\{ \begin{array}{l} \text{*won't } \emptyset \text{ me} \\ \text{might not } \emptyset \end{array} \right\}$.

    (13)° Sp. A: Tim's preface has me in it!
            Sp. B: *It does $\emptyset$ me $\emptyset$, too.
                 I'm not surprised it does $\emptyset$.

    j. The subject of a target VPD clause need not be coreferential with the subject of the antecedent clause. For most speakers, though, the subject of a pseudogapped clause must be core-ferential with the subject of the antecedent clause.

(14)° Sp. A: That thunderstorm bothered Millicent last
night.
Sp. B: ??Well, your stereo did ∅ me.
I'm afraid my stereo did ∅, too.

k. VP Deletion allows the full range of auxiliary combinations.
Pseudogappings with more than one auxiliary (either overt
or, especially, elliptical) are marginal.

(15)° Sp. A: Cream rinse makes my hair get dirty faster.
Sp. B: ??It may have ∅ mine ∅ once, too.
It might've ∅ a few years ago, but I doubt
that it does ∅ now.

l. As a consequence of (g) and (k), VP Deletion's potential for
multiple output is not shared by Pseudogapping.[17]

(16)° Sp. A: Terry seems to want to try to impress John.
Sp. B: *He doesn't seem to want to try to ∅ me.
*He doesn't seems to want to ∅ me.
*He doesn't seem to ∅ me.
*He doesn't ∅ me. (∅ = <u>seem to want to try to
impress</u>)

Sp. B: No. He doesn't seem to want to try to ∅.
He doesn't seem to want to ∅.
He doesn't seem to ∅.
He doesn't ∅.

One might argue (as did Stump 1977) that some of these differ-
ences are merely a consequence of the defining difference between VP
Deletion and Pseudogapping: presence versus absence of an unlike
target-clause object.[18]   It is true that the difficulty of recovering
clause-internal (as opposed to clause-final) deletions tends to result
in such rules not violating island constraints, not operating back-
ward, not operating in embedded clauses, and the like. However, I
do not see how the difficulty of recovering an internal deletion
accounts for the fact that pseudogappings sound less awkward in
comparatives. Note that if it could, we should expect gappings (which
involve clause-internal ellipsis) to be less stylistically marked in
comparatives. But most comparative gappings are ungrammatical:

(17)° Otto let his fingernails grow longer than Dorothy
$\begin{Bmatrix} *\emptyset \\ did \end{Bmatrix}$ her toenails ∅.

Nor does the fact of internal deletion predict the restrictions on the
class of the pseudogapped verb, or the peculiar tendency for the post-
elliptical object to be a first person pronoun, or the strong prefer-
ence for coreferential subjects. All these differences could not
reasonably stem from some single, other difference. Even if they are
not completely idiosyncratic, they certainly seem to warrant separate
treatment from the facts of VP Deletion.

My final object to subsuming Pseudogapping under VP Deletion stems from some work by Hankamer (to appear) on the typology of anaphoric processes. Briefly, Hankamer looked at a large number of rules requiring identity of sense (as well as rules requiring identity of reference) and placed these into classes on the basis of shared properties. VP Deletion (along with Sluicing and one pronominalization) are members of the class of free anaphora rules.[19] They are unbounded processes which may take place in a variety of constructions. They violate the island constraints. (This is shown for VP Deletion in Chapter Three, §3.0). They can operate 'backward', and the antecedent and anaphor may be in different sentences. Free anaphora rules contrast with ellipsis rules (Gapping, Comparative Ellipsis, Stripping). Ellipsis processes are discourse controlled,[20] require structural parallelism between antecedent and target clauses (which must be essentially adjacent, with at most a constant term intervening), and delete variable amounts of material in the target clause under identity with corresponding elements in the antecedent clause. Characteristic of ellipsis rules is a variable remnant (due to variable deletion). This contrasts with the fixed remnants of free anaphora rules (for example, the left auxiliary condition on VP Deletion).

Pseudogappings, with their preelliptical similarity to VP Deletion and postelliptical resemblance to Gapping, show mixed characteristics. Their fixed preelliptical remnant is suggestive of membership with the free anaphora rules, while their intolerance for varying syntactic relationships between the antecedent and anaphoric expressions clearly suggests kinship with the ellipsis rules. Hankamer (personal communication) has suggested that Pseudogapping shares more criterial properties with ellipsis rules than with free anaphora rules, thereby arguing for classification with the former. I agree with Hankamer, although Pseudogapping shows somewhat more leeway with respect to such properties as downward boundedness than 'pure' ellipsis rules.[21]

Suppose, then, that VP Deletion is a free anaphora rule and Pseudogapping, an ellipsis rule. Any treatment in which the latter is a special case of the former must countenance the existence of a rule which simultaneously belongs to two categories. It strikes me as most unlikely that a special case of a rule would be of a different category from its more general application. This is then a third reason not to collapse Pseudogapping with VP Deletion.[22]

2.9.3. A Special Case of Gapping?

Having rejected the idea of collapsing Pseudogapping with VP Deletion, let us see whether it is defensible to consider it as a special case of Gapping. I believe it is not. As was the case with VP Deletion, the similarities between Gapping and Pseudogapping are a consequence of a single shared property: a contrastive remnant beyond the elliptical V. It is due to this feature that both Gapping and Pseudogapping characteristically involve clause-internal ellipsis, and ellipsis of discontinuous strings. Clause-internal deletions are perceptually unfavorable as compared to clause-final deletions (Kuno 1975, Hankamer 1973). Hence it is not surprising that the antecedent and target domains of rules giving rise to them would have to be

adjacent to one another, since it is this relative positioning that allows for the shortest 'association lines' between them.

Some of the differences between pseudogapped and gapped clauses are traceable to the single feature of presence versus absence of a finite auxiliary. Others, however, are not. While Pseudogapping calls up a like-subject constraint (see §2.7), Gapping subjects must be <u>noncoreferential</u> to their antecedents. This is shown in (18).

(18)° Penny turned down the job at UCLA and $\begin{Bmatrix} *she \\ Paul \end{Bmatrix}$, the job at Texas.

Pseudogapping's required lack of contrast between subjects does not follow from the presence of an auxiliary, since it is perfectly possible to construct pseudogappings with contrasting subjects. So there are at least two criterial differences, one concerning possible subject types, the other concerning possible auxiliary types. Even possible postverbal remnant types are different. Gapping allows constituents other than NP, e.g. PP, as in (19).

(19)° Roy accepted a position in San Diego, and Richard Ø, in Fort Collins.

Acceptability declines if an auxiliary follows the second subject. Additionally, Gapping can, unlike Pseudogapping, delete a string of verbs, as in (20).

(20) Max <u>seemed to be trying to begin to</u> love Harriet, and Fred Ø, Sue.

These differences cast serious doubt on the unity of the two rules.

To summarize, the similarities between VP Deletion and Pseudogapping, and between Gapping and Pseudogapping, carry no real argument for considering Pseudogapping a special case of either rule. Pseudogapping's finite auxiliary carries with it some of the VP Deletion properties which are attributable to the latter's finite auxiliary. Yet Pseudogapping does not enjoy VP Deletion's ability to occur in a variety of constructions, because of its missing V followed by a closely bound (overt) constituent. Internal holes bring about fairly strict syntactic constraints. Exactly this feature of an internal hole, which makes Pseudogapping fairly different from VP Deletion, makes it superficially similar to Gapping. Yet Pseudogapping can apply in more syntactic environments than Gapping, because of its finite auxiliary. In other respects, however, Pseudogapping is much more constrained than Gapping. I believe that the most reasonable way of accounting for the idiosyncrasies of pseudogappings is by means of a separate Pseudogapping rule.

2.10. <u>Discourse Function of Pseudogapping</u>.

To the extent that all discourse-controlled deletion rules serve the Gricean function of brevity, Pseudogapping fits into this category.

However, unless there is right–peripheral ellipsis, frequently the only part of the string which meets the identity condition on deletion is V. This suggests that brevity is not a very strong consideration. Notice that a more radical deletion rule (single constituent Gapping: also called split coordination by Hudson 1976) can apply in cases where the subjects and auxiliaries are identical. Thus for instance, the target clauses in (28), (32), (37), (41), (43), and (45) could be shortened to those in (28'), (32'), (37'), (41'), (43'), and (45').[23]

(28')° N: Your call will get me through the week!
B: Me too.

(32')° Things like yogurt they can [digest]. But not milk.

(37')° N: That carpet reminds me of the kind of thing you see in waiting rooms.
F: Not me.

(41')° N: That gives me more respect for her.
L: Me too, certainly.

(43')° That disturbs Barbie, but not me.

(45')° N: Cream rinse makes my hair get dirty faster.
A: Mine, too.

In fact, the informants who found pseudogappings unnatural offered single constituent gappings as 'the way [they] would say it' in cases like (28), (32), (37), (41), (43), and (45). Where unlike subjects or auxiliaries prevented this, the choice was almost always no reduction at all, rather than pseudogapping.

The facts just presented suggest one way of deriving pseudo-gappings. Perhaps they represent an intermediate stage between no reduction at all, and single constituent (object) gappings. Pseudo-gappings share with single constituent gappings (in addition to post-verbal contrasting constituents) identical subjects, and potential contrast in polarity between the antecedent and target clauses. If the contrast goes in the direction POS → NEG, a single-constituent gapping may be the preferred alternative (see §2.5).

It might seem that every good single-constituent gapping implies a good pseudogapping, but not the reverse, since unlike auxiliaries will block single-constituent Gapping but not Pseudogapping. If this were so, we would want to consider single-constituent gappings as a special case of Pseudogapping. However, there are single-constituent gappings which cannot be turned into acceptable pseudo-gappings. This is shown in (1) and (2).[24]

(1)° Sp. A: Helen looked really unhappy.
Sp. B: a. Tired, too.
b. *She did Ø tired, too.

(2)° Bring me a few rags.
a. And a bucket, too.
b. *And do Ø a bucket, too.

It is clear that the idiosyncratic restrictions on Pseudogapping's V and postverbal remnant will not apply to the rule deriving single-constituent gappings. So some of the same negative considerations that applied to VP Deletion and regular Gapping as sources also apply here. Nevertheless, I feel that if pseudogappings are to be likened to any other surface construction, it should be single-constituent gappings.

2.11. Summary of Chapter Two.

In this chapter we have considered the basic structural features of a little-discussed, yet rather common elliptical main verb construction: pseudogappings. In a typical instance (illustrated by °'Cabaret' didn't thrill Eugene, but it did Ø me) the corresponding subjects are coreferential, the two clauses contrast in polarity, the elliptical verb is a 'psychological' predicate, there is a single (object) constituent to its right, and that constituent is a first person singular pronoun.

The rule which generates pseudogappings must leave behind a subject and auxiliary, like VP Deletion. However, the Aux constituent cannot be the infinitival particle to (cf. I'm not sure whether they hospital-ize little kids any more for tonsillectomies. They did/ °*wanted to Ø me). There are other differences between the two rules which tend to undermine any attempt to turn VP Deletion into a variable-deleting rule, in order to account for pseudogappings. In fact, there are difficulties in collapsing Pseudogapping with any other more general rule, even the coordinate reduction rule that frequently accounts for a reduced construction which shows up when the option to Pseudogap is not taken (e.g. °That disturbs Barbie, but not me). For this reason, it seems preferable to add a separate rule of Pseudogapping to Hankamer's class of adjacent-domain ellipsis rules.

Pseudogapping is dialect- and register-specific. Some speakers only get the more common comparative pseudogappings (e.g. They [flies] like the horses better than they do me). Although in fact noncompara-tive pseudogappings appear to be largely confined to informal contexts, speakers who lack the construction report that they sound formal. This constitues one of several issues requiring further research.

Footnotes

[2] This convention will not apply to examples quoted from other sources. Such data will appear with no overt mark, which is to be interpreted as being neutral between the two possibilities. Also, the convention will not be used in Chapters Three and Four, where it does not seem as crucial. Much of the data in Chapter Three is

ungrammatical, and is therefore invented. Many of the acceptable examples in Chapter Four occurred naturally. To those readers interested in knowing which examples fall into this class: throughout this dissertation I have tried to restrict the use of speaker initials to natural examples, and 'Sp. A/B' to invented ones.

[3]I owe this term to Greg Stump. His definition of pseudogapping is somewhat broader than mine. (See Footnote 18.)

[4]The lexical ambiguity of [du/dʌz/dɪd] suggests an explanation for the preponderance of do pseudogappings. Notice that [dɪd] in (i) and (ii) below may be either supportive do--giving a pseudogapping interpretation--or main verb do, as in do the dishes:

> (i) N: I'm going to type the dissertation myself.
> B: Oh, sure. I did mine.
> (ii) I wonder if they do the umlauts by hand. They did that one.

Perhaps one diachronic source of pseudogappings is to be found in constructions like (i) and (ii), in which main verb do was reinterpreted as supportive do. Once the pattern of pseudogapping was established, it was extended to allow auxiliaries other than do. This may have happened rather recently, since pseudogappings with auxiliaries other than do are relatively uncommon today. I am indebted to Arnold Zwicky and David Dowty for this speculation about the significance of the data in (i) and (ii).

[5]Even in comparatives, deletion of more than one V is quite uncommon if the post-deletion site remnant is an NP. Examples are more easily found where the contrastive constituent is PP:

> (i) I want to live with a man more than I do Ø with a woman. (Ø = want to live with)
> (ii) I am even more likely to be fixed up by my straight friends than I am Ø by my gay ones. (Ø = likely to be fixed up)

[6]This was brought to my attention by Jerry Morgan.

[7]David Dowty has suggested a similar analysis for factitive constructions, e.g. hammer flat - the metal.

[8]However, considering how rare pseudogappings are with contrasting antecedent- and target-clause subjects, it is surprising that this was the least important determinant of acceptability.

[9]This section is a shortened version of my 1978 LSA paper 'Extensions of the Two-constituent Limit on Gapping'.

[10]I owe this example to Greg Stump.

[11] This fact about unlike-subject pseudogappings is reminiscent of Hankamer's 1973 and Postal's 1974 observation that if Heavy NP Shift applies to an NP directly following an Equi verb (want, wish, expect), as in (i),

> (i) *I want to be executed all the first-year students
>   who failed their exams.

the output looks like a product of Equi, with an extra NP added on at the end. One (problem-ridden) way of treating both these cases is in transderivational terms.

[12] Notice that the morpheme string you really should those two branches is typical of one produced by Pseudogapping. However, the sharp intonational break after the modal is diagnostic of a clause boundary separating the modal from the object. This clearly shows that a different rule is at work.

[13] This was suggested to me by Arnold Zwicky.

[14] I am not aware of any independent evidence for any ordering constraints between VP Deletion and Wh-Q Movement, or VP Deletion and Topicalization. Clearly, any such evidence would be relevant to the problem at hand.

[15] One solution to the problem of pseudogappings, suggested to me by Joseph Emonds, is to take the dialect restrictedness of pseudo-gappings as evidence that they are not generated by the grammar at all. Rather, they represent some kind of 'performance error'. I strongly oppose this view, both because of the systematicity with which some speakers use pseudogappings, and because this kind of approach is clearly a hand-wave.

[16] The synchronic naturalness of comparative pseudogappings correlates with Stump's 1978 finding that pseudogappings are histori-cally best attested in adverbial comparative clauses. This suggests one source of noncomparative pseudogappings: an extension of the pattern found in comparatives.

[17] Clear examples of Pseudogapping's lack of multiple output with M, have and be combinations are hard to find. Because most of the verbs which can be pseudogapped do not occur in the progressive, there are few examples involving progressive be. There are none involving passive be, because the postelliptical constituent would be a by-phrase(which cannot lose its preposition). What remains is M + have. But even VP Deletion doesn't allow multiple outputs with this combination. Have must be repeated, because otherwise the modal is interpreted as nonpast.

> (i)° Sp. A: I should have used a socket wrench.
>   Sp. B: I should $\begin{Bmatrix} \text{have} \\ ??\emptyset \end{Bmatrix}$, too.

[18]Stump's definition of a pseudogapping is broader than mine.
For him, the defining difference is presence versus absence of
virtually any type of postelliptical constituent, including PP and
ADV. I believe that some of these are actually instances of VP
Deletion. Others seem a bit marginal, such as ??<u>Max spoke fluently</u>,
<u>and Albert did Ø haltingly</u>.

[19]The defining features of free anaphora rules are formal
syntactic ones. They have nothing to do with Hankamer and Sag's 1976
distinction between 'deep' and 'surface' anaphoric processes.

[20]This is not to say that the class of free anaphora processes
are not discourse-controlled; they can be.

[21]For example, note how much more acceptable an embedded pseudo-
gapping is than an embedded gapping.

> (i)° 'The Splendor of Dresden' impressed Rick, but (?Mary
>   told Sue that) it wouldn't Ø me.
> (ii)° 'The Splendor of Dresden' impressed Rick, and (*Mary
>   told Sue that) the King Tut exhibition Ø, Uncle Ira.

[22]The objection to collapsing Pseudogapping with VP Deletion on
the grounds that they belong to different classes relies, of course,
on the validity of Hankamer's rule typology schema. His classes seem
to be well-motivated. A second assumption is that it is undesirable
to allow for the existence of a rule of one type whose special appli-
cation is of another type. First of all, Pseudogapping's properties
are not so clearly diagnostic of 'ellipsis' class membership as, say
Gapping's or Comparative Ellipsis's. Some actually reflect free
anaphora properties, e.g. presence of a fixed remnant. Morever, one
might simply claim that when the special case of VP Deletion called
Pseudogapping applies, the property thereby inherited--an internal
hole--abruptly inhibits VP Deletion's ability to apply backward, in
embedded clauses, and the like. It would be viewed as fortuitous that
these properties are characteristic of ellipsis rules. Pseudogapping
will not fit neatly into Hankamer's rule schema regardless of what
rule, if any, it is subsumed under. So this argument may be weaker
than the other two presented in the text.

[23]I am not sure how the target clause remnants in these examples
are derived. It seems very likely that they represent an application
of Conjunction Reduction (Hankamer's Coordinate Deletion). I shall
continue to call them single-constituent gappings, with no implication
that Gapping is involved in their derivation.

[24]Example (2) suggests that Pseudogapping cannot apply in
imperatives.

CHAPTER THREE: EXPLAINING A CONSTRAINT ON VERB PHRASE DELETION

3.0.   <u>A Constraint on VP Deletion.</u>

Kuno 1975 gives cases where the source for Verb Phrase Deletion (henceforth VPD) is acceptable, but the rule cannot apply.

(1)   (= Kuno (6))
Sp. A: Did John hit Mary with a stick ↗or with a belt ↘ ?
Sp. B: a. He hit her with a belt.
b. *He did Ø with a belt.

(2)   (= Kuno (8))
Sp. A: Why did John hit Mary?
Sp. B: a. He hit her because he hated her.
b. *He did Ø because he hated her.

(3)   (= Kuno (9))
Sp. A: With whom did John want to go to Paris?
Sp. B: a. He wanted to go there with Mary.
b. *He wanted to Ø with Mary.

(4)   (= Kuno (48c))
*Mary didn't go to the theatre with her fáther; she
did Ø with her mother.

(5)   (= Kuno (45c))
*I didn't say Mary was robbed in Páris; she was Ø
in London.

Kaplan and Levin 1978 (henceforth K&L) note the same fact about VPD in certain conjoined sentences.

(6)   John hit Mary, and he $\begin{Bmatrix} \text{a.} & \text{hit her} \\ \text{b.} & \text{*did} \end{Bmatrix}$ because he hated her.

(7)   Eric got Fluffy out of the tree, and he $\begin{Bmatrix} \text{a.} & \text{got her out} \\ \text{b.} & \text{*did} \end{Bmatrix}$
by enticing her with a mouse.

(8)   John hit Mary, but he didn't $\begin{Bmatrix} \text{a.} & \text{hit her} \\ \text{b.} & \text{*Ø} \end{Bmatrix}$ because
he hated her.

Kuno contrasts cases such as (1)-(5) with other examples where VPD is possible, as in (9)-(11).

(9)   (= Kuno (22))
Sp. A: When did John want to go to Paris?
Sp. B: He wanted to Ø in September.

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(10) (= Kuno (47c))

      Mary didn't go to the theatre with her father but she
         did Ø with her mother.

(11) (= Kuno (44c))

      Mary was not robbed in Paris, but she was in London.

Kuno notes a systematic structural difference in the various input
trees, one which coincides exactly with the possibility or impossibility
of deletion. If an adverbial following the potential deletee is out-
side the constituency of the latter, then deletion is permitted. That
is, VPD may apply so long as the VP it analyzes is in the final position
of its parent VP node, as shown in (12) below.

(12)
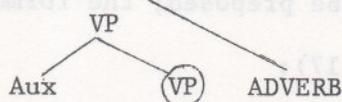
(9)-(11), then, are acceptable because the respective VPs <u>go to Paris</u>,
<u>go to the theatre</u>, and <u>robbed</u> occupy the position of the circled VP
node in (12). If, however, the VP to which VPD applies is a left
sister to an adverbial, as in (13), VPD is blocked.

(13)
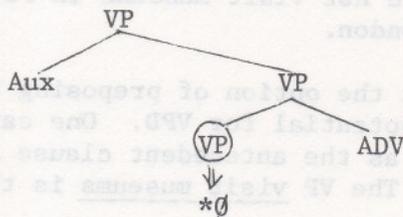
Hence (1)-(8) are poor, because each of their potential deletees
occupies the position of the circled VP node in (13).

These facts led Kuno to propose the following constraint.

(14)   <u>The Constraint on Verb Phrase Deletion</u>: Verb Phrase
       Deletion can apply only to the VP that is VP-final.
       (1975: 163)

After Grosu 1975, I shall refer to (14) as the <u>VPDC</u> (Verb Phrase
Deletion Constraint).

    It is important to establish whether Kuno proposes an independent
means of determining whether an adverb occupies the structural position
shown in (12), or that in (13). For if he does not, the VPDC would
be circular. That is, it would be a classic case of 'asserting the
consequent' to claim that if VPD is possible, then the adverb must be
'upstairs', as in (12); if it is not, the adverb must be 'downstairs',
as in (13).

Kuno does propose an independent criterion for determining the position of ADV. Whether ADV can be preposed provides a test of whether it is a right sister to the VP which is the potential deletee. An adverb which cannot appear in sentence-initial position is assumed to be a right sister to the immediately preceding VP; the latter should hence not be deletable, since it constitutes the left-branching node of the parent VP (and is thus subject to the VPDC). This correlation is shown in (15).

(15)   Sp. A: Did John hit Mary with a stick ↗ or with a
                belt ↘ ?
       Sp. B: a. *With a belt he hit her.
               b. *He did Ø with a belt.

(15a) and (15b) show that the VP hit her and the ADV with a belt are sisters. The latter cannot be preposed; the former cannot be deleted.

Consider now (16) and (17):

(16)   (= Kuno (28b))
       In Paris, Mary didn't visit museums, but in London,
          she visited museums.

(17)   (= Kuno (16))
       Mary did not visit museums in Paris, but she did Ø
          in London.

(16) and (17) show that the option of preposing the adverbial goes hand in hand with the potential for VPD. One can conclude that the ADV in London (as well as the antecedent clause ADV in Paris) is a sentential adverbial. The VP visit museums is therefore VP-final, and hence deletable.

The VPDC is applicable regardless of the makeup of the left context for deletion. In (1), (2), and (4)-(6) above the left context consists of supportive do. In (3), and (18c) below, it is the infinitive marker to. In (18a) it is a modal, and in (18b) and (19) it is an aspectual.

(18)   I see you're painting those walls with a roller. You

       really { a. *should Ø   }
               { b. *should be Ø   }   with a brush.
               { c. *should be able to Ø   }

(19)   *Randy's laughed at me before, but he always has Ø
          good-naturedly.

Because there are so many combinations of Aux constituents which meet the left context requirement on VPD, there are large numbers of potentially deletable VPs which may or may not satisfy VPDC. VPDC seems to make just the right predictions, regardless of the makeup of the left context for deletion. One strength of VPDC, then, is its ability to block a wide range of deviant examples.

Another argument for VPDC concerns VPD's apparent disregard
for all but one of the 1967 Ross constraints. It has been pointed
out (e.g. by Sag 1976) that while VPD violates the Complex Noun
Phrase Constraint ((20)), Sentential Subject Constraint ((21)), and
one subcase of the Coordinate Structure Constraint (which Grosu
calls the Element Constraint--(22)), it respects CSC's other sub-
case (the Conjunct Constraint--(23)).

(20) (= Sag (1.1.8))
     John didn't hit a home run, but I know a woman who
     did Ø.

(21) (= Sag (1.1.9))
     That Betsy won the batting crown is not surprising, but
     that Peter didn't know she did Ø is indeed surprising.

(22) (= Sag (1.1.10))
     Peter never hit a home run, but Betsy did Ø and she
     was very happy about it.

(23) (= Sag (1.1.11))
     *I couldn't lift this rock, but I know a boy who can
     Ø and bend a crowbar, too.

It would clearly be preferable to attribute the ungrammaticality of
(23) to something other than the Conjunct Constraint, since VPD so
flagrantly violates other constraints closely related to it. Indeed,
the VPDC predicts the poorness of examples like (23), since the
potential deletee is on the left branch of a VP, as shown in (24).

(24)

               VP
             /   \
         Aux   VP
          | / \
         can   VP   VP
             /   \   / \
       lift this rock and   VP
            ⇓   / \
          *Ø   bend a crowbar
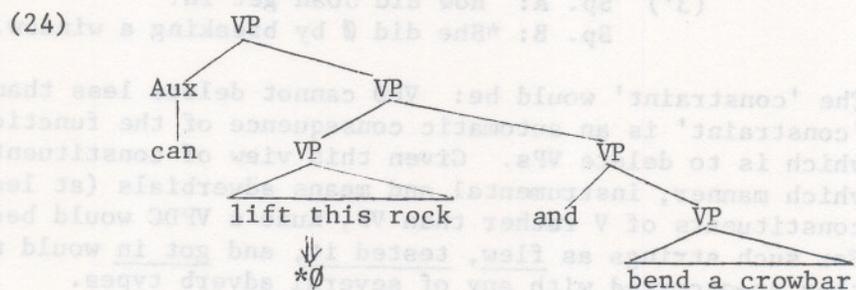
VPDC, then, allows us to preserve the generalization that VPD is
not subject to the Ross constraints.

3.1. Difficulties With the Verb Phrase Deletion Constraint.

The VPDC has a great deal of predictive power, since it blocks
deletions which are less than natural, and allows those which are
clearly acceptable. Nevertheless, there are several flaws in the
analysis. One is methodological, and stems from Kuno's acceptance of
an unargued-for claim in Lakoff and Ross 1966 (henceforth L&R). A
second weakness concerns a datum for which VPDC makes the wrong

prediction. A third problem concerns the fact that most of the
data which motivate the VPDC can be analyzed in another way. Finally,
a fourth difficulty, noticed by Grosu 1975, has to do with the lack
of generality of the constraint. This is symptomatic of the real
weakness of Kuno's whole approach: his failure to consider pro-form
reference to verb phrases in English, and specific interrelationships
between VPD and the VP pro-forms. I shall discuss each problem in
turn.

3.1.1. A Methodological Difficulty.

Kuno would assume that the underlined strings in such sentences
as (1)-(3) below have VP constituency.

> (1) The fact that Yuri Gagarin flew and <u>flew</u> successfully
>   showed that the Soviets' technology was at least as
>   sophisticated as the United States'.
> (2) Since John didn't want to test the cake with a knife,
>   he <u>tested it</u> with a toothpick.
> (3) Sp. A: How did Joan get in?
>   Sp. B: She <u>got in</u> by breaking a window.

Notice that if the underlined strings in (1)-(3) are 'less than' VPs,
that is, if the VP node immediately dominating them also immediately
dominates the following adverbials (<u>successfully</u>, <u>with a toothpick</u>,
<u>by breaking a window</u>), then it becomes unnecessary to constrain VPD
so that (1'), (2'), and (3') are blocked.

> (1') *The fact that Yuri Gagarin flew and did Ø success-
>   fully...
> (2') *Since John didn't want to test the cake with a knife,
>   he did Ø with a toothpick.
> (3') Sp. A: How did Joan get in?
>   Sp. B: *She did Ø by breaking a window.

The 'constraint' would be: VPD cannot delete less than a VP. This
'constraint' is an automatic consequence of the function of the rule,
which is to delete VPs. Given this view of constituent structure in
which manner, instrumental and means adverbials (at least) are sister
constituents of V rather than VP, Kuno's VPDC would become unnecessary.
For such strings as <u>flew</u>, <u>tested it</u>, and <u>got in</u> would not be VPs, if
they co-occurred with any of several adverb types.

What is Kuno's justification in analyzing the adverbials in
discourse fragments like (1)-(3) as being sisters--rather than
daughters--of the VP node which dominates each of the underlined
strings? Kuno cites evidence presented in L&R 1966 to the effect that
manner, duration, frequency, instrumental, and several other kinds of
adverbials, once believed by Chomsky to be inside VP (because they
enter into subcategorization restrictions on V) are actually outside
VP. The <u>do so</u> test putatively shows them to be outside VP: <u>do so</u>
can 'strand' (occur before) each of these kinds of adverbial.

(4) (= L&R (26))
   Manner Adverbials
    John flies planes carefully, but I do so with
     reckless abandon.

(5) (= L&R (27))
   Duration Adverbials
    John worked on the problem for eight hours, but I
    did so for only two hours.

(6) (= L&R (28))
   Frequency Adverbials
    John takes a bath once a year, but Harry does so
    twice a month.

(7) (= L&R (29))
   Instrumental Adverbials
    The army destroys villages with shells, but the air
    force does so with napalm.

Crucial to the validity of the do so test as a criterion for VP
constituency is the correctness of L&R's claim that do so 'replaces
all of the constituents of the verb phrase and only these' (L&R 1966:
II-5). However, if do so can refer to less than a VP, or more than a
VP, then the do so criterion for VP constituency is invalid--and,
consequently, the conclusion it implies: that many kinds of adverbs
are outside the VP constituency. Nowhere in L&R's report is there any
evidence to the effect that do so refers to a constituent, and that
that constituent is VP. In fact, there may even be counterevidence.
While it is true that do so can strand various kinds of adverbs, it
is also true that these adverbs are deleted under identity with a
corresponding constituent in the antecedent clause.

  (4') John files planes carefully, and he does so in order
    to keep his license. (does so = flies planes
    carefully)
  (5') John worked on the problem for eight hours, and I
    did so too. (did so = worked on the problem for
    eight hours)
  (6') John takes a bath twice a day, but you can be sure I
    don't do so. (do so = take a bath twice a day)
  (7') The army destroys villages with shells, and the air
    force does so too. (does so = destroys the
    village with shells)

If carefully, for eight hours, twice a day, and with shells are outside
the VP, as L&R claim, and if do so replaces all and only the consti-
tuents of the verb phrase, then by what rule are the adverbs in (4')-
(7') deleted? To preserve the generalization that do so replaces all
and only the constituents of the verb phrase, L&R must either postulate
an independent rule of Adverb Deletion, or else assume that the
adverbs in (4')-(7') are sisters of V rather than of VP. But the

latter approach represents exactly the (Chomskyan) position they are trying to refute.

The answer to this dilemma is that the problematical adverbs are simultaneously outside one VP (in (4)-(7), that dominating each of the strings flies planes, worked on the problem, takes a bath, and destroys villages) and inside another, in the following fashion:

$$
\begin{array}{c}
\text{VP} \\
\diagup \quad \diagdown \\
\text{VP} \qquad \text{ADV}
\end{array}
$$
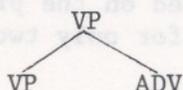
Do so Formation can analyze either of the VP nodes, thus accounting for sentences like (4)-(7) (bottom VP) and (4')-(7') (top VP). But the original criticism still holds: what independent evidence is there that do so 'replaces all of the constituents of the verb phrase and only these'? Furthermore, if both do so and VPD replace verb phrases, why can do so analyze either of the VPs in the configuration above, and VPD, only the higher one?

It is important to note that the claims of L&R 1966 are later rejected by both authors. Rather than introduce do so by a single rule of VP pronominalization, Ross 1972 proposes instead that do and so arise separately, do being present in underlying structure, and so being supplied by a transformation which pronominalizes the sentence embedded under that containing do. The data which led L&R to a claim about the constituent replaced by do so would thus lead Ross 1972 to a claim about the constituent replaced by so--namely, S. The node VP does not figure in Ross's analysis. So not only does Ross reject the earlier proposed constituency of VP, he rejects the constituent itself. Even though Ross 1972 itself is flawed (see Dowty 1972), it is--in certain respects--an advance over L&R 1966. In summary, Kuno might have been more cautious in drawing support for his analysis from a single source whose claims have been shown to be undersupported.

Since we have not ruled out the possibility that manner, duration, frequency and instrumental adverbs are inside the VP, there is a distinct possibility that the problem Kuno addresses is a pseudo-problem, at least with respect to formulating a constraint on VPD. For if the relevant adverb types have VP-constituency, then we avoid the embarrassing problem of some VPs which VPD can analyze, and other VPs which it cannot. Under the proposed view, the strings which Kuno prevents VPD from analyzing are not VPs, since they are not exhaustively dominated by VP. It automatically follows that VPD will not apply to them.

There is a two-sided effect to moving manner, duration, frequency and instrumental adverbs back into the VP, in the spirit of Chomsky 1965. First, it obviates the necessity for a constraint like VPDC. Second, it shifts the analytical problem originally posed by Kuno's data onto the VP pro-forms. If do so (and do it) can strand VP adverbials, then the rule(s) creating VP pro-forms can clearly refer

to 'less' than a VP, yet 'more' than a V (since objects are deleted along with V). I shall explore this problem in §3.2.

In this section I have demonstrated that the kind of constituent structure Kuno assumes for verb phrases may be in error. However, unless we are prepared to argue for Chomsky's treatment of adverbs, Kuno's data are still in need of explanation. If we expand the data base to include acceptable alternatives to the ungrammatical sentences Kuno presents, such an explanation emerges. For, as I will argue, the motivation underlying an apparently isolated condition on VPD is to be found in the discourse interrelationships among VPD, do so, and do it.

3.1.2. A Counterexample.

§3.1.1 demonstrated that the basis upon which the VPDC is founded may be false. However, even if we accept the premises which lead to its formulation, the principle turns out to be observationally inadequate. This has been shown by Kaplan and Levin 1978. Our argument appears below.

Consider (8).

(8) Sp. A: I think the secretary's been considering
             resigning.
     Sp. B: Yeah. She decided to resign last week.

Speaker B's response is ambiguous. Either the decision, or the resignation itself, took place last week. If the lower VP is deleted, however, as in (9),

(9) Sp. A: I think the secretary's been considering
             resigning.
     Sp. B: Yeah. She decided to Ø last week.

the association of the adverb with the lower VP is no longer possible. (9) can only mean that the secretary made her decision the previous week. This shows that the adverbial must be 'upstairs'. The lower VP would consequently be VP-final, and the VPDC would allow deletion to take place. If last week is fronted, the result is acceptable, and the association of the adverbial with the higher verb alone is preserved.

(10) Sp. A: I think the secretary's been considering
              resigning.
      Sp. B: Yeah. Last week she decided to resign.

(10), like (9), can only refer to the time of the decision to resign.

The facts in (8)-(10) are exactly as Kuno would predict. (8) loses a reading when the embedded VP is deleted (shown in (9)), since only the structure in which ADV is 'upstairs' allows VPD. (9) and (10) are ungrammatical under the interpretation in which last week modifies resign.

Consider now a case where the semantics of the input structure
are such that the adverbial can only be associated with the lower
verb.

(11) Sp. A: I think the secretary is considering
resigning.

Sp. B: Yeah. She $\begin{Bmatrix} \text{plans} \\ \text{wants} \end{Bmatrix}$ to resign next week.

Because of the future time reference of the adverb, and the present
time reference of the matrix verb, the former cannot modify the latter.
It can only modify the embedded verb. Hence (11), unlike (12), has
only one reading--that in which resigning is to take place the next
week.

Since <u>resign</u> and <u>next week</u> are sisters, the latter constituent
ought to be incapable of being preposed, and VPD ought to be inappli-
cable. While the first prediction is borne out ((12)), the second is
not ((13)).

(12) Sp. A: I think the secretary is considering
resigning.

Sp. B: Yeah. Next week she $\begin{Bmatrix} \text{??plans} \\ \text{*wants} \end{Bmatrix}$ to resign.

(13) Sp. A: I think the secretary is considering
resigning.

Sp. B: Yeah. She $\begin{Bmatrix} \text{plans to} \\ \text{wants to} \end{Bmatrix}$ ∅ next week.

(13) represents a straightforward violation of the VPDC, since VPD has
successfully deleted a VP which is on a left branch. Furthermore, (12)
and (13) counterexemplify the correlation Kuno observed between ADV
preposability and VP deletability. Rather than both--or neither--being
possible, the first is impossible (or nearly so in most dialects)--and
the second, possible.

Given the ambiguity of (8), the facts in (9) and (10) are exactly
as Kuno would predict. It seems, then, that the difficulty arises
only when an adverbial must be associated syntactically and semanti-
cally with the lower of two clauses. VPDC correctly predicts accepta-
bility in such instances if no reduction takes place, as in (11). The
principle is also consistent with the poor results obtained by preposing
the adverbial, as in (12). But it is completely inconsistent with the
preservation of both grammaticality, and the desired interpretation,
under deletion of the lower VP, as in (13). Hence (13) constitutes a
counterexample to VPDC.

3.1.3. A Reanalysis of the Data.

A subset of the class of data accounted for by VPDC is subject to
an entirely different explanation. Examples (1)-(6) in §3.1, repeated
below, may be unacceptable because they are overly redundant. If the
target clause is stripped of <u>all</u> constituents meeting the identity
condition, the result is perfectly acceptable, as the (b) examples below

show.

(1) Sp. A: Did John hit Mary with a stick ↗ or with a
belt ↘ ?
    Sp. B: a. *He did ∅ with a belt.
            b. With a belt.

(2) Sp. A: Why did John hit Mary?
    Sp. B: a.?*He did ∅ because he hated her.
            b. Because he hated her.

(3) Sp. A: With whom did John want to go to Paris?
    Sp. B: a. *He wanted to ∅ with Mary.
            b. (With) Mary.

(4) John hit Mary
    a. *, and he did ∅ because he hated her.
    b. (,) because he hated her.

(5) Eric got Fluffy out of the tree
    a. *, and he did ∅ by enticing her with a mouse.
    b. (,) by enticing her with a mouse.

(6) John hit Mary, but
    a. *he didn't ∅ because he hated her.
    b. not because he hated her.

It could be argued that the (a) versions of (1)-(6) violate a
discourse principle forbidding the repetition of strings which add no
new information to the discourse (Kaplan 1976). Certainly some such
principle seems necessary to block examples like (14).

(14) *Paula divorced Lothar, and she did ∅.

Notice that because the deleted VP in (7) is VP-final, VPDC cannot
block it. Now a dissenter may argue that the (a) versions of (1)-(6)
do add information to the discourse, since the material following
the VPD site is contrastive. Furthermore, not reducing at all has
one effect in (14), and quite a different effect in (1)-(6). Re-
instating the elliptical VP in (14) does not change the starred
judgment. In (1)-(6), however, supplying the missing VP restores
grammaticality. According to the principle which forbids the repe-
tition of strings, an entirely repeated string ought to be worse than
a partially repeated string. (1)-(6) seem to show that just the
reverse holds true. Therefore any attempt to give a unified account
of the judgments in the (a) versions of (1)-(6) and (14) is doomed
to failure.

A proponent of the No Repetition Without Differentiation
Principle might point out that full repetition is tolerated because it
typically carries with it a kind of emphasis that cannot be achieved
by stranding the focus constituent alone (as in the (b) versions), or
even by partial repetition (as in the (a) versions). In addition,
further data cited by Kuno suggest even more strongly the usefulness
of a pragmatic account. I will now elaborate.

Many of the examples which motivate VPDC fall into one of two types, in terms of their discourse function. Part of the data consist of <u>wh</u>-question/answer pairs (including 'fixed choice' questions which have the superficial structure of yes/no questions, but which demand one of the choices occurring in the question as the response: ((1)-(3), (15), (16)).

(15) (= Kuno (7))
      Sp. A: Where was John robbed?
      Sp. B: a. He was robbed in Paris.
               b. *He was Ø in Paris.

(16) (= Kuno (10))
      Sp. A: How does John want to go to Paris?
      Sp. B: a. He wants to go there by boat.
               b. *He wants to Ø by boat.

Other examples consist of rejoinders which have a strong corrective sense ((17)-(19)).

(17) (= Kuno (45a), (45c))
      I didn't say Mary was robbed in Páris; she was
      $\left\{ \begin{array}{c} \text{robbed} \\ *\text{Ø} \end{array} \right\}$ in London.

(18) (= Kuno (46a)-(46b))
      Mary didn't visit museums in Páris; she
      $\left\{ \begin{array}{c} \text{visited museums} \\ *\text{did Ø} \end{array} \right\}$ in London.

(19) (= Kuno (48a), (48c))
      Mary didn't go to the theatre with her fáther; she
      $\left\{ \begin{array}{c} \text{went} \\ *\text{did Ø} \end{array} \right\}$ with her mother.

As VPDC predicts, the wh-questions and corrections in (1)-(3) and (15)-(19) share the syntactic feature of a failed application of VPD to a nonfinal VP. It turns out, however, that (the antecedent clauses in) each of these examples share a semantic feature as well: presupposition. (1) and (2) presuppose that John hit Mary; (3) and (16) presuppose that John wanted to go to Paris; (15), that John was robbed; (17), that Mary was robbed; (18), that Mary visited museums; and (19), that Mary went to the theatre. These presuppositions are a consequence of the type of structure serving as the antecedent for VPD: either a forced-choice or wh-question ((1)-(3), (15) and (16)), or a statement in which the constituent believed to be in error is assigned contrastive stress ((17)-(19): <u>(in) Paris</u>, <u>(in) Paris</u>, <u>(with) her father</u>, respectively).

Notice that in (1)-(3) and (15)-(19) the very proposition that is presupposed in that antecedent is asserted in the first part of the (reduced) target clause. That is, if P is the proposition presupposed in the antecedent clause, then the proposition expressed by the deleted VP in the target clause, together with its subject and aux,

equals P. In (1) and (2), <u>He did Ø</u> = <u>John hit Mary</u>; in (3), <u>He wanted to Ø</u> = <u>John wanted to go to Paris</u>; in (15), <u>He was Ø</u> = <u>John was robbed</u>; in (16), <u>He wants to Ø</u> = <u>John wants to go to Paris</u>; in (17), <u>she was Ø</u> = <u>Mary was robbed</u>; in (18), <u>she did Ø</u> = <u>Mary visited museums</u>; and in (19), <u>she did Ø</u> = <u>Mary went to the theatre</u>. Each of these propositions is the same as that presupposed in the antecedent.

K&L 1978 propose that VPD following presupposition-containing structures is blocked just in case the proposition expressed by the reducible VP, together with its subject and aux, is the same as the proposition presupposed in the antecedent. From this it follows that VPD should be acceptable if the two propositions in question are not the same. The data in (20)-(24) uphold this prediction.

> (20) Sp. A: Who robbed Jones?
> Sp. B: Ralph did Ø.

> (21) Sp. A: Did John ↗ hit Mary? Or did Hilda ↘ ?
> Sp. B: John did Ø.

> (22) Máry didn't visit museums in Paris; Hélen did.

> (23) Sp. A: Why did John hit Mary?
> Sp. B: He didn't Ø.

> (24) Sp. A: What do you do for fun?
> Sp. B: I don't Ø.

The proposition presupposed by the <u>wh</u>-question in (20) is <u>Someone robbed Jones</u>. This contrasts with the proposition expressed by the elliptical VP, together with its subject and aux, in the reply: <u>Ralph robbed Jones</u>. Similarly, in (21), the presupposition of the antecedent for deletion is something like <u>Either John or Hilda hit Mary</u>. This is a different proposition from that in the target clause: <u>John hit Mary</u>. (22), (23) and (24) respectively presuppose the propositions <u>Someone [other than Mary] visited museums in Paris</u>; <u>John hit Mary</u>; <u>You do something for fun</u>. Each of these contrasts with the relevant proposition in the target clause. In (23) and (24), in fact, there is explicit denial of the propositions the <u>wh</u>-questions presuppose. Hence K&L's hypothesis is upheld.

It is obvious upon inspection that (20)-(24) involve deletion of VP-final VPs. So far, then, K&L's hypothesis seems to offer nothing over Kuno's VPDC. But consider (25).

> (25) (= Kuno (16))
> Mary didn't visit museums in Paris, but she did Ø in London.

(25) is similar to (18), except that (1) there is no presupposition in (25) that Mary visited museums, while there is in (18), and (2) VPD is acceptable in (25), while it is not in (18). Notice also that the

deletion in (25) is not clause-final. To account for the contrast
between (18) and (25), Kuno has to assume that the adverbial <u>in
London</u> is within the VP-constituency in (18), and outside it in
(25). The only support Kuno offers for this claim is the fact that
the adverbial in (18) cannot be preposed, while in (25) it can be.

(26) (= Kuno (46b))

       *In Paris, Mary didn't visit museums; in London, she
       visited museums.

(27) (= Kuno (28b))

       In Paris, Mary didn't visit museums, but in London,
       she visited museums.

Despite the explanatory power of K&L's presupposition hypothesis,
there are many kinds of examples it cannot handle without consider-
able additional machinery. For example, in order to account for (4)-
(5), repeated below, the redundant proposition

(4)   John hit Mary
       *, and he did Ø because he hated her.

(5)   Eric got Fluffy out of the tree
       *, and he did Ø by enticing her with a mouse.

must be permitted to be <u>asserted</u> (rather than presupposed) in the
antecedent clause. The sentence in (6) (*<u>John hit Mary, but he didn't
Ø because he hated her</u>) is a counterexample, because the proposition
expressed by the anaphoric VP, together with its subject and aux (<u>John
didn't hit Mary</u>) is neither presupposed nor asserted in the antecedent
clause. Yet the datum is unacceptable. Furthermore, the presupposi-
tion hypothesis often fails when the left context of the antecedent
VP is different from that of the target VP. For example, consider
(28).

(28) Sp. A: With whom will John go to Paris?
      Sp. B: a. *He might Ø with Mary.
            b. *He wants to Ø with Mary.

The relevant portions of (28a) and (28b) each contain a proposition
not presupposed in the <u>wh</u>-question serving as the antecedent for
deletion. Yet both replies are deviant. Only VPDC makes the correct
predictions.

Other examples showing the presupposition hypothesis to be too
weak (e.g. Sag's *<u>I couldn't lift this rock, but I know a boy who
can and bend a crowbar, too</u>) serve to demonstrate that K&L's
hypothesis covers a more limited range of data than VPDC. This does
not mean that the presupposition hypothesis is incorrect. However,
it does imply that it cannot supplant VPDC. I have no methodological
objections to acknowledging deviant discourse fragments which happen
to be blocked by two independent constraints. I conclude that the

two conditions can coexist. The data which can be blocked by either one represent the intersection of each of their respective domains.

3.1.4. Lack of Independent Motivation.

Although K&L's presupposition hypothesis cannot account for all of Kuno's data, thereby posing no threat to VPDC, there is still a difficulty with the latter which cannot be overlooked: lack of independent motivation.

Grosu 1975 proposed a slight reformulation of VPDC to account for certain facts in German which seem quite related to the English facts. His Sisterhood Condition changes the restriction against deleting non-final VPs to one forbidding the deletion of any VP which is not a sister to the auxiliary element which serves as the context for deletion (the 'VP-specifier'). For in German subordinate clauses, VPD targets precede Aux, and can be deleted only if they are not preceded by an adverb and are hence VP-initial. (In main clauses, the German facts are parallel to the English ones.) Both English VP-final VPs, and German VP-initial VPs, bear a sister relationship to their respective VP-specifiers. So Grosu's reformulation of VPDC can account not only for all of Kuno's data—since final VPs in English are sisters to their VP-specifiers, and non-final VPs are not—but also for certain facts about VPD in German.

Grosu's charge, then, concerns lack of generality of VPDC. Since the Sisterhood Condition predicts all of the English facts, and facts about German which the VPDC cannot account for, the Sisterhood Condition would seem to be more general and therefore preferable. However, even the Sisterhood Condition is insufficiently general. Recent work by Bresnan 1976 and Sag 1976, 1978 suggest that all of the data which originally motivated VPDC can be accounted for by a constraint so general that it predicts conditions on (at least) English relativization, wh-movement in questions, Complex NP Shift, deletion in comparative clauses, and Gapping. This constraint is Bresnan's Relativized A-over-A Principle (henceforth RAOAP).

3.1.4.1. The Relativized A-over-A Principle.

Bresnan's 1976 reformulation of Chomsky's 1973 A-over-A Condition 'requires target predicates in the structural descriptions of transformations to have maximal value only with respect to adjacent context predicates' (Sag 1978:28). This relativized version of the A-over-A Condition is needed in order to account for the well-known fact that VPD has multiple output possibilities. Thus in (29), each of the deleted VPs is maximal relative to the auxiliary which immediately precedes it.

> (29) Charles appeared to want to convince Amy, but Matthew
> a. didn't $\emptyset$.
> b. didn't appear to $\emptyset$.
> c. didn't appear to want to $\emptyset$.

With respect to deletion rules, Bresnan assumed that only a proper analysis that met the identity condition could count as maximal. In

other words, RAOAP was supposed to guarantee that the target of a deletion rule would be the maximal constituent that was recoverable. If so, RAOAP cannot account for the ungrammaticality of sentences like (30) and (31), since in each case VPD has analyzed the maximal constituent that is recoverable.

> (30) Sp. A: Did John hit Mary with a stick ↗ or with a belt ↘ ?
> Sp. B: *He did Ø with a belt.

(30')

$$VP_1 \rightarrow VP_2 \quad ADV$$

VP_2 → hit her
ADV → with a belt
(with a belt) ⇓ *Ø
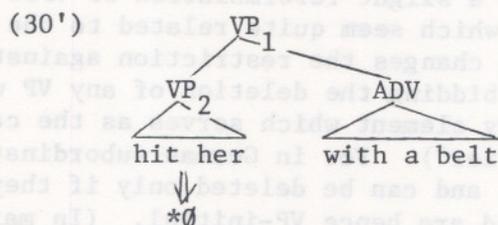
> (31) *Harry should plant turnips, while Jill should Ø and trim the hedge.

(31')

$$VP_1$$

Aux → should
VP_2 → VP_3, and VP_4
VP_3 → plant turnips ⇓ *Ø
VP_4 → VP_5
VP_5 → trim the hedge
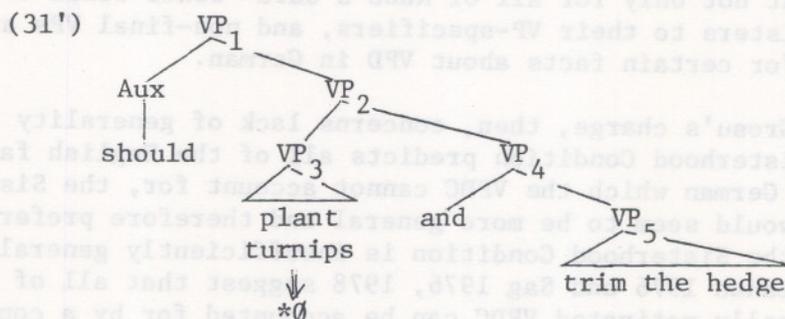
In (30'), VP_1 is actually the maximal constituent, but since it does not meet the identity condition, VP_2 is designated as the maximal constituent. In (31'), VP_3—rather than VP_2 or VP_1—is the maximal constituent, since it is the only one that is recoverable.

Sag, in contrast to Bresnan, does not allow the Recoverability of Deletion Principle (ROD) to interact with RAOAP. In his view, each constraint has an independent domain of application, so that a node cannot be deleted unless it satisfies both RAOAP and ROD. This refinement—as Sag notes—allows an account of all of Kuno's data. In (30'), for example, VP_2 satisfies ROD but not RAOAP; VP_1 satisfies RAOAP, but not ROD. Hence VPD is blocked in both cases, which is exactly the right result.

Sag's claim that RAOAP is not sensitive to ROD is preferable to Bresnan's claim that it is, since the latter position necessitates some kind of 'look-back' (or 'look-forward') condition on RAOAP. Moreover, allowing each rule an independent domain of application has the desirable consequence of completely eliminating the need for a special condition on VP Deletion along the lines of VPDC or the Sisterhood Condition. Each would be viewed as a special

case of RAOAP. The principle limiting the power of VPD would thus be one which is clearly needed elsewhere in the grammar. It therefore seems clear that the most satisfactory syntactic account for Kuno's data is one along the lines of Bresnan's RAOAP, appropriately modified in the manner suggested by Sag.[1]

3.2. VP Deletion and Pro-form Reference to VPs.

3.2.1. Expanding Kuno's Data.

We have seen that any of several strictly syntactic formulations suffice to prevent VPD from applying in the cases Kuno raised. Even the most attractive of the various mechanisms however (RAOAP), has nothing to say about why it applies to VPD and not to two other verb phrase anaphoric expressions (henceforth VPAEs) closely related to it: do so and do it. For in nearly all the cases where VPD is blocked, one or both of these anaphors is perfectly acceptable. This is illustrated in (1')-(6') in §1.1, and in (1)-(4) below.

(1) The aides feel that Mr. Kennedy wants to run but

doesn't see how he can $\left\{\begin{array}{l}*\emptyset \\ \text{do so/it}\end{array}\right\}$ and win

unless he replaces a president who has bowed out.

(2) The Craig translator not only gives you the answer,

it does $\left\{\begin{array}{l}*\emptyset \\ \text{it} \\ \text{so}\end{array}\right\}$ immediately.

(3) The fact that Yuri Gagarin flew and did $\left\{\begin{array}{l}*\emptyset \\ \text{so} \\ \text{it}\end{array}\right\}$

successfully showed that the Soviets' technology was at least as sophisticated as the United States'.

(4) I see you're painting those walls with a roller. You

really should $\left\{\begin{array}{l}*\emptyset \\ *\text{be }\emptyset \\ \text{do it/so} \\ \text{be doing it/so}\end{array}\right\}$ with a brush.

When a nonfinal VP is reduced, it invariably surfaces as a VP proform.[2] In final position, however, both null VP anaphors and proforms are found, as in (5).

(5) Short of evidence of the use of force, we must assume that people join a religious group because they

choose to $\left\{\begin{array}{l}\emptyset. \\ \text{do so.} \\ \text{do it.}\end{array}\right\}$

There is, then, some overlap in the distribution of the VPAEs. Here I will consider only VPAEs in non-final position, as these are the most pertinent to Kuno's original data. In this section I

will show how some independent findings of Ross bear on Kuno's data, and lead to an explanation which is quite different in nature from RAOAP, yet perfectly compatible with it.

3.2.2. <u>Nearer to Vee</u>.

In a 1974 Linguistic Institute Special Lecture, John Ross examined strings of constituents which may follow the verb in an S, with no particular expectation that certain of these constituents would occur 'inside' the VP, and others 'outside' the VP. He tested the behavior under transformation of dative-moved indirect objects, direct objects, prepositional objects, directional phrases, and different kinds of adverbs. He found that the order in which the constituents occur relative to V--and one another--correlated with their degree of receptivity to various transformations. Thus some English rules can only affect constituents which are very 'closely bound' to V--that is, always occur very near to V in the string. For example, Passive analyzes objects (and secondarily, subjects). Other rules (e.g. Adverb Preposing) pick out constituents which are 'loosely' bound. Loosely bound constituents (e.g. place, time, reason adverbials and concessives) have the potential of being separated from V by a large number of intervening constituents.

For each transformation, then, there is some portion of the string which constitutes its optimal range of application. As the rule is applied to constituents which increasingly depart from that optimal range, judgments become less and less favorable. Such continuously varying judgments suggest that degrees of bonding to V define a continuum, with roughly the following layout:

(6) CLOSELY   V—direct —prepositional —directional—
    BOUND   object   object

   manner—duration—frequency—instrumental—

   means—place—time—reason—concessive   LOOSELY
                                         BOUND

David Dowty (personal communication) has suggested dividing the verbal complement continuum into three classes. Class I consti-tuents include those which are very closely bound to V, including direct objects, indirect objects, prepositional objects, directional phrases, and the complements of discontinuous transitive verbs (e.g., hammer <u>the metal flat</u>). These are the constituents which have traditionally been said to be 'inside' the VP. Class II constituents include those which in early analyses were neither clearly inside nor outside the VP, and in later analyses were sisters to one VP, and daughters to another: manner, duration, frequency, instrumental, place, and means adverbs.[3] Class III constituents include the so-called 'sentential' adverbials: time and reason adverbials, and concessive clauses. The constituency of the three classes is indicated below.

(7)

```
                    S
        ┌───────────┼───────────┐
       NP           VP         ADV
                ┌────┴────┐      │
               VP        ADV   (III)
            ┌───┴───┐     │
           V      ⎧NP⎫   (II)
                  ⎩PP⎭
                   │
                  (I)
```
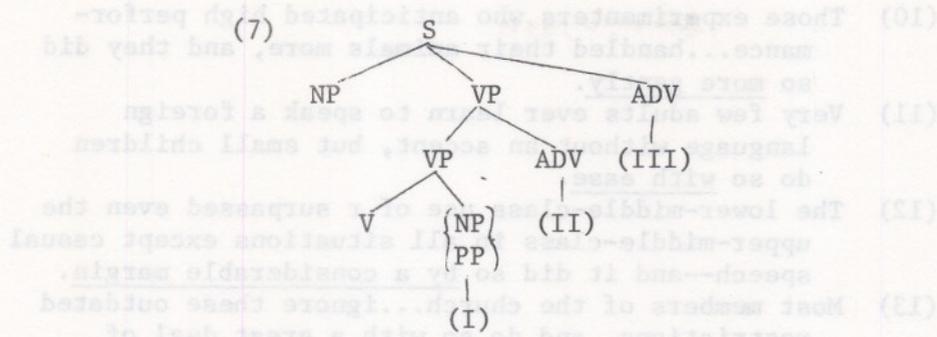
Among the tests Ross used to distinguish different degrees of
bonding to V were the VPAEs do it, do so, and VPD. He investigated
which postverbal constituents each anaphor could cover (that is,
refer to or replace under identity), and which ones each could
strand (occur immediately before. In (9) below, do it/so have
stranded the instrumental adverbial with his fancy hook.) Ross's
discovery that each VPAE covered a unique range on the scale of post-
verbal constituents is consistent with both the unacceptable VP
deletions Kuno offers (e.g. (8)), and the acceptable alternatives to
those data ((9)).

> (8) Sp. A: Peter got the strike he needed in the
> tenth frame!
> Sp. B: Did he $\left\{\begin{array}{l}\text{get it}\\ \text{*}\emptyset\end{array}\right\}$ with his fancy hook?

> (9) Sp. A: Peter got the strike he needed in the tenth
> frame!
> Sp. B: Did he do it/so with his fancy hook?

Possible and impossible VP deletions show that VPD can cover more
postverbal constituents--and strand fewer of these--than either
do it or do so. VPD can also cover more constituents which come
before a given V. This includes any VP higher than the VP dominating
the V in question.

The most relevant finding for our purposes concerns postverbal
constituents of Class II. While all three VP anaphors can generally
cover these (i.e. delete them under identity), only do so and do it
can strand them. These facts correlate with the judgments in (8)
and (9) above, plus many of those in previously cited data (e.g. (1)
(3), (5), (1'), (3'), and (5') in §3.1.1). In each of these
cases, the postverbal constituent is of Class II: an appropriate
distance from V to be stranded by the VP pro-forms, but too closely
bound to be stranded by VPD.[4]

It is worth noting that a large number of the natural occur-
rences of do so/it that I have recorded from natural conversation
and texts involve stranded adverbials of Class II--in particular,
manner adverbs.

(10) Those experimenters who anticipated high performance...handled their animals more, and they did so <u>more gently</u>.

(11) Very few adults ever learn to speak a foreign language without an accent, but small children do so <u>with ease</u>.

(12) The lower-middle-class use of r surpassed even the upper-middle-class in all situations except casual speech--and it did so <u>by a considerable margin</u>.

(13) Most members of the church...ignore these outdated restrictions, and do so <u>with a great deal of deliberation, and zeal</u>.

(14) Even though the most careful speakers cannot completely tame the tongue, at least when it goes wild it does so <u>grammatically</u>.

If supportive <u>do</u> (or a modal or aspectual) is substituted for <u>do so</u> in examples (10)-(14), acceptability declines. This is exactly in accord with the findings of Ross.

It is significant that Class II adverbs tend to be more restricted in the kinds of verbs they co-occur with than Class III adverbs. The former occur almost exclusively with nonstative verbs (and only certain ones of these).

MANNER

(15) Boris $\begin{Bmatrix} \text{listened to} \\ \text{*heard} \end{Bmatrix}$ the announcement <u>intently</u>.

PURPOSE

(16) I $\begin{Bmatrix} \text{learned} \\ \text{*knew} \end{Bmatrix}$ what sort of person Sal was <u>in order to determine her suitability for the job</u>.

MEANS

(17) Joe $\begin{Bmatrix} \text{learned} \\ \text{*knew} \end{Bmatrix}$ what sort of person Sal was <u>by hiring a detective</u>.

FREQUENCY

(18) Peter $\begin{Bmatrix} \text{saw} \\ \text{*liked} \end{Bmatrix}$ Ellen <u>every month or so</u>.

Class III constituents, on the other hand, may co-occur with statives as well as nonstatives.

PLACE

(19) I $\begin{Bmatrix} \text{gave a paper} \\ \text{was quite happy} \end{Bmatrix}$ <u>in Boston</u>.

TIME

(20) I $\left\{ \begin{array}{l} \text{joined} \\ \text{belonged to} \end{array} \right\}$ that group <u>a couple of years ago</u>.

REASON

(21) I $\left\{ \begin{array}{l} \text{complimented} \\ \text{liked} \\ \text{appreciated} \end{array} \right\}$ my mother-in-law <u>because of</u>
<u>her cooking</u>.

CONCESSIVE

(22) Lothar $\left\{ \begin{array}{l} \text{fired} \\ \text{disliked} \end{array} \right\}$ Jan, <u>although she played the</u>

<u>piano well</u>.

It is well-known that the only VPAE which can replace VPs
headed by a stative verb is VPD. Because Class II adverbials modify
nonstative verbs, the situation will not arise where the only VPAE
available to replace a verbal group followed by a Class II adverbial
is VPD. Complements of stative verbs are either of Class I, II
(<u>own a house</u>, <u>consist in X</u>, <u>believe in X</u>), or III.[5] Class I comple-
ments are largely incapable of being stranded. Furthermore, Class
III complements may be stranded by VPD. So stativity will rarely
prevent <u>do so/it</u> from stranding adverbials of Class II.

Although I have shown that there is no <u>necessity</u> for VPD to
replace verbal groups followed by Class II adverbials, I have not
shown that it is in fact <u>prohibited</u> from doing so. I believe that
the explanation for the restriction falls out of a basic difference
between the VP pro-forms and the null VP anaphor. I would like to
tentatively propose that the scope of reference of VPD is essentially
the verb phrase, while the constituent to which <u>do so</u> and, especially,
<u>do it</u> refer is the verb, plus the constituents it strictly subcate-
gorizes. I shall call this hypothesis the Specialization of the VP
Anaphors (SVPA).

3.2.3. Specialization of the VP Anaphors.

One fact favoring SVPA concerns the nonstativity restriction
on <u>do so/it</u>. In order to show this, it will be necessary to explicate
a general principle which bears on SVPA. This principle is stated
in (I).

(I) a. Any transformation which requires that a
         constituent type be of a certain subcategory
         must mention that constituent type in its
         structural description.
     b. If a transformation can affect any member of a
         particular constituent type, then its structural
         description will mention either a supercategory
         containing that type, or a category which
         dominates the constituent type in question.

Although I have never seen any discussion of (I), there seems to be a fair amount of evidence for it, in at least some version. For example, There-Insertion is sensitive to the definiteness or indefiniteness of the NPs it analyzes. Lexically governed rules (Passive, Raising, Dative Movement, Equi, Tough Movement) invariably mention the category V or Adj (from which each rule picks a proper subset). These cases constitute evidence for (Ia). On the other hand, some transformations (the variable movement rules--e.g. Wh-question Movement) seem best formulated in terms of a supercategory which can represent any of several constituent types. Such rules are insensitive (apply equally freely) to the various subcategories which comprise each of the component constituent types. Still other rules can affect a constituent type, yet are insensitive to its subclasses because they pick out a category which dominates the constituent type in question. Thus Passive moves Ns as a consequence of analyzing the NPs which dominate them. These cases constitute evidence for (Ib).

The application of (I) to do so Formation and VPD should be fairly obvious. It is no surprise that do so/it require the feature [-stative], provided we assume that the function of these VPAEs is to replace V and closely allied constituents. On the other hand, if a rule is totally insensitive to the subcategories of a particular constituent type, we would not expect it to single out that constituent. Any V whatever can be elliptical as a result of VPD, provided the VP containing it meets the conditions for deletion. This is completely consistent with the SVPA tenet that VPD refers to VPs. Thus, under SVPA, do so/it's sensitivity to stative properties of the replaced verb[6] is no more surprising than VPD's lack of sensitivity to them.

A second argument for SVPA concerns the differential ability of each of the VPAEs to have more than one interpretation when the antecedent clause contains embedded VPs. Here, VPD has a wider scope of reference than do so, and do so a wider scope than do it. Consider (23) below.

(23)   Joan hesitated to strip in front of Laszlo. She

knew very well that Norma wouldn't $\left\{\begin{array}{ll} \text{a.} & \emptyset \\ \text{b.} & \text{do so} \\ \text{c.} & \text{do it} \end{array}\right\}$.

Depending on Norma's inclinations, the null VP anaphor in (23a) is either VP_1 (hesitate to strip in front of Laszlo) or VP_2 (strip in front of Laszlo). In (23b), either VP_1 or VP_2 may be recovered. But among my informants, there is a clear tendency to recover VP_2. In (23c), only VP_2 may be recovered. Thus, in discourse fragments where the two (or more) VP reduction sites are equally plausible semantically, hearers tend to match a hole left by VPD with the matrix VP (although theoretically, any of the embedded VPs could serve as the antecedent). If the VPAE is do so, hearers are more likely to assign it the interpretation of an embedded VP, frequently the lowest, although in many cases the matrix VP is possible as well. If the VPAE is do it, hearers invariably match it to the most deeply embedded VP.

Recall that VPD--but not do so/it--can replace VPs headed by
stative verbs. Many of the verbs which are subcategorized for
sentential or VP complements do not express activity, but rather an
attitude toward the activity described in the complement. Hence
many embedding verbs are stative. That is one reason why there is
often greater potential ambiguity associated with a VPD site than
with do so or do it. Thus in (24) below, the null anaphor in (a)
can be either believed in trying to help the poor, or helped the poor.[7]

(24) I believe in helping the poor, and have
$$\begin{Bmatrix} \text{a.} & \emptyset \\ \text{b.} & \text{done so} \\ \text{c.} & \text{done it} \end{Bmatrix} \text{ for years.}$$

But (24b) and (24c) can only mean helped the poor, since believe is
stative. However, even in cases where the matrix V is nonstative,
if the VPAE is a pro-form, the VP most likely to be recovered is an
embedded one, frequently the lowest one (especially in the case of do
it). This is shown in (23) above, and in (25).

(25) Pat decided to swim the English Channel, since
Seth had
$$\begin{Bmatrix} \text{a.} & \emptyset \\ \text{b.} & \text{done so} \\ \text{c.} & \text{done it} \end{Bmatrix}.$$

In (25a), both VP_1 (decided to swim the English Channel) and VP_2
(swim the English Channel) are recoverable. In (25b), VP_2 is more
accessible than VP_1. In (25c), VP_2 is the only possible antecedent.
Other examples suggest that do so/it tend to select the candidate
V which is the most 'active'. This holds more strongly for do it
than do so. Embedding verbs, even nonstative ones, typically imply a
lower degree of activity than strictly single-clause verbs. That is
why hearers tend to match do so/it reduction sites with a lower V,
even if the higher one(s) are nonstative.

SVPA is constitent with the differential abilities of the VPAEs
to have more than one interpretation when the antecedent clause
contains embedded VPs. Just as this hypothesis predicts that VPD
covers a greater stretch of material to the right of a given V than
do so/it, so does it predict that VPD can reach farther to the left of
that V. And that is what the data show.

Let us now return to the impossible VP Deletions we were
concerned with at the beginning of this chapter. If we compare
these with the perfectly acceptable judgments obtained when we
substitute do so/it for VP Deletion, we are led to examine the
stretches of pre- and postverbal string which each VPAE can cover,
and the stretches which each can strand. Although the portions
overlap, there is a fairly clear 'division of labor': VPD can--and
often must--reach farther to the left, and farther to the right of
V, than either of the so-called 'VP' pro-forms. The scope of refer-
ence of the latter centers around the verb and closely bound
complements.[8] (Although I cannot elaborate here, do so can

apparently cover constituents farther to the left and right of V than do it; do it has a correspondingly greater ability than do so to strand very closely bound constituents.)

In terms of preventing VPD from stranding a constituent which is too closely bound to V, I see nothing wrong with a principle such as Bresnan's RAOAP, provided the constituent structure it assumes (i.e. that in which Class II adverbs are sisters to one VP node, daughters to another) is correct. RAOAP is certainly more widely applicable than either Kuno's VPDC or Grosu's Sisterhood Condition. Moreover, a mechanical means of blocking such marginal discourse fragments can be reconciled with the principles derived from examining the distribution of the various VPAEs. The application of RAOAP here can be seen as a grammatization of the principles which govern the specific interrelationships among VPD, do so and do it. That is, a stylistic tendency, or preference, for using VP pro-forms rather than the null VP anaphor to strand certain kinds of adverbials is being translated into a more rigid formulation, one which insures use of the VP pro-forms indirectly, by virtue of explicitly forbidding VPD. It is likely that the grammatization is not complete, since there is speaker variation with respect to the judgments of various discourse fragments. Moreover, the functional motivation behind it is still relatively transparent. A strictly synchronic study such as this one cannot, unfortunately, offer more than mere speculation as to whether English is changing with regard to the distribution of the VP anaphors.

3.3. Summary of Chapter Three.

In this chapter we have concerned ourselves with possible ways of blocking such deviant examples as Q: Where did Joe raise chickens? A: *He did Ø in Nevada. Of several syntactic mechanisms, either Bresnan's Relativized A-over-A Principle, or Sag's Immediate Domination Principle, is seen to be most satisfactory. Because the blocking mechanism covers such a wide range of data, there may be more than one functional motivation behind it. Acceptable discourse fragments such as Q: Where did Joe raise chickens? A: (In) Nevada suggest the relevance of a constraint against repetition of propositions which add no new information to the discourse. Another type of alternative, seen in the example Q: Where did Joe raise chickens? A: He did it/so in Nevada suggests that each of the verb phrase anaphors in English has a specialized function. Such a view is completely consistent with various differences among the null VP anaphor, do so and do it. The application of RAOAP (or IDP) in the generation of these data can be seen as the grammatization of one or more discourse-oriented principles.

Footnotes

[1] Sag's reformulation of RAOAP, the Immediate Domination Principle, can equally well account for Kuno's data.

[2] If the material preceding the VP meets the identity condition, the VP may be 'stripped' along with the other identical constituents, as in (i).

> (i) Sp. A: Why did John hit Mary?
> Sp. B: Because he hated her.

This, of course, has nothing to do with VPD.

[3] It is likely that some of the constituents I placed in Class II actually belong in Class III; the dividing line is quite hazy.

[4] There are, surprisingly, class III adverbials which VPD apparently cannot strand. Datum (2) in §3.1.1, repeated below, involves a reason adverbial, traditionally considered to be outside the VP. Yet only a pro-form is acceptable.

> (i) (= §3.1.1 (2))
> Sp. A: Why did John hit Mary?
> Sp. B: ?* He did Ø because he hated her.

Notice, however, that where the subjects are noncoreferential, VPD is acceptable.

> (ii) Kip wrote a letter because he thought it was required.
> $\begin{Bmatrix} \text{But} \\ \text{And} \end{Bmatrix}$ Bill did Ø because he thought it would be fun.

Comparable discourses involving stranded averbials of Class II do not allow VPD.

> (iii) Kip wrote a letter with a ball-point pen. $\begin{Bmatrix} \text{?*But} \\ \text{?*And} \end{Bmatrix}$
> Bill did Ø with a mechanical pencil.

[5] There are some Class II adverbs which can modify stative verbs: believe strongly, hear X well. But the majority are restricted to activity verbs.

[6] The nonstativity restriction on do so/it is a consequence, of course, of the nonstativity restriction on activity do:

> (i) What should Doug do? $\begin{Bmatrix} \text{Join} \\ \text{*Belong to} \end{Bmatrix}$ the FBI?

[7] The matrix VP is quite likely to provide the preferred interpretation, because if the lower one were intended, the hearer might expect the speaker to use a VP pro-form.

[8] This formulation does not rule out the possibility of do so referring to nonconstituents. This is clearly an undesirable consequence of the analysis. At this point I know of no satisfactory way of dealing with it.

CHAPTER FOUR: THE BE-HEADED VP DELETION CONSTRAINT[1]

4.0. The Data.

This chapter examines the difference in acceptability between such discourses as (1) and (2).

> (1) Ollie might be ready by noon. *Evelyn is not going to.
>
> (2) Ollie might be ready by noon. Evelyn $\begin{Bmatrix} \text{will not} \\ \text{won't} \end{Bmatrix}$.

The string be ready by noon meets the identity condition on deletion in both (1) and (2). Yet (1) is not acceptable, and (2) is. The star associated with (1) disappears if infinitival be in the repeated string (hereafter referred to as Anaphoric Infinitival (AI) be) is syntactically overt, and everything after it is deleted. This is shown in (3).

> (3) Ollie might be ready by noon. Evelyn is not going to be.

(2) may be modified in the same way as (1), yielding (the also acceptable) (4):

> (4) Ollie might be ready by noon. Evelyn $\begin{Bmatrix} \text{will not} \\ \text{won't} \end{Bmatrix}$ be.

The data set in (1) and (3) is representative of a class in which underlying AI be is required to be overt in surface structure. The pair in (2) and (4) illustrate a class in which underlying AI be may surface, but is not required to. The remaining possibility--that underlying AI be prohibited from appearing in surface structure--is shown in (5).

> (5) Sp. A: I can't be a good father, husband and
>   researcher at the same time.
>   Sp. B: Neither can I $\begin{Bmatrix} \text{a. *be} \\ \text{b. } \emptyset \end{Bmatrix}$.

There are then three classes of data which I wish to account for. Further examples of each class are listed in (6)-(20) below.

AI BE MAY NOT BE DELETED

> (6) I expect to be looked after if I need to $\begin{Bmatrix} \text{a. be} \\ \text{b. *}\emptyset \end{Bmatrix}$.

> (7) B: He couldn't be any older 'n you.
>   D; He has to $\begin{Bmatrix} \text{a. be} \\ \text{b. ??}\emptyset \end{Bmatrix}$.

> (8) I will never be left alone unless I ask to $\begin{Bmatrix} \text{a. be} \\ \text{b. ??}\emptyset \end{Bmatrix}$.

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(9) The cake turned out to be done, even though it didn't appear to $\left\{\begin{array}{l}\text{a. be}\\\text{b. *}\emptyset\end{array}\right\}$.

(10) It proved to be difficult to get to town that day, and it continued to $\left\{\begin{array}{l}\text{a. be}\\\text{b. *}\emptyset\end{array}\right\}$ for the rest of the week.

(11) Sheila's bound to be impressed with the offer, but Ted's not $\left\{\begin{array}{l}\text{likely}\\\text{going}\\\text{liable}\\\text{apt}\end{array}\right\}$ to $\left\{\begin{array}{l}\text{a. be}\\\text{b. *}\emptyset\end{array}\right\}$.

AI BE MAY BE DELETED

(12) N: There's nothing Friday afternoon except phonology. And that's gonna be changed.

P: It bétter $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. be}\end{array}\right\}$

(13) N: Will all my mail be forwarded?

B: Yeah. It will $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. be}\end{array}\right\}$.

(14) If you think it [a lecture] will be a disaster, it will $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. be}\end{array}\right\}$.

(15) N: That would be a really neat paper topic.

J: You think it would $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. be}\end{array}\right\}$?

(16) N: So it [a particular situation] may not be permanent.

S: It míght not $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. be}\end{array}\right\}$.

(17) M: Are you gonna be home tonight?

C: I cán $\left\{\begin{array}{l}\text{a. be}\\\text{b. }\emptyset\end{array}\right\}$.

AI BE MUST BE DELETED

(18) It won't be painful for me to sit up, will it $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. *be}\end{array}\right\}$?

(19) Sp. A: You could easily be in the office by 4:00.

Sp. B: Sò I cóuld $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. *be}\end{array}\right\}$.

(20) Sp. A: Will she be home tonight?

Sp. B: Súre she wìll $\left\{\begin{array}{l}\text{a. }\emptyset\\\text{b. *be}\end{array}\right\}$.

(21) Sp. A: We can be ready in a few minutes.

      Sp. B: Nó we càn't $\begin{Bmatrix} \text{a.} & \emptyset \\ \text{b.} & \text{*be} \end{Bmatrix}$.

This chapter proposes factors influencing the discourse choice between preserving AI be--possible in (1)-(4) & (6)-(17)--and deleting it--possible in (2), (4), and (12)-(17), and disallowed in (1), (3), and (6)-(10). The cases where AI be must be elliptical ((5) and (18)- (21)) result from entirely different principles from those governing instances in which AI be is either optionally or obligatorily present. Cases like (5) and (18)-(21) will hence be treated in a separate section (§ 3.3).

Data from natural conversation indicate that allowing AI be to surface is an option which speakers regularly take, even when deletion would have little or no ill effect upon grammaticality. Why ellipsis of AI be is uncommon in natural discourse is not at all clear. In this chapter I will consider the kinds of cases where deletion is syntactically possible, regardless of whether it actually occurs, and contrast these with instances where deletion leads to lower accepta- bility than preservation. The potential for deletion will be seen to be a matter of an interaction between at least two principles of differing relative strengths. When the effect of the more influential constraint is minimal, a subtle, pragmatic feature can then influence judgments.

4.1. The Left Modal Requirement.

The burden of this section is to argue that the makeup of the left-hand context of AI be is the primary determinant of whether the latter can be deleted along with its complement. Other factors are involved, but only to the extent that they can swing in one direction or the other a judgment already predicted by what I will call the left modal requirement.

The reader has probably noticed a pattern in the data in §4.0. There is a consistent difference between the left contexts of AI be where deletion is possible ((2), (12)-(17)) and those where it is not ((1), (6)-(11)). In discourses in which there is an option of deleting AI be, the left context is a modal, possibly followed by NEG. In discourses where AI be must be present in surface structure, it is flanked on the left by either a verb or adjective which takes the infinitive marker to (appear, fail, tend; try, hesitate, want; be bound, going, likely). The data suggest that modals are both necessary for deletion ((1), (3) and (6)-(11)) and sufficient for it ((2), (4), and (12)-(17)). All of the discourses in (1)-(4) & (6)-(17) which sound unnatural without be have a lexical verb or adjective which takes the infinitive marker to. This is not to say that all examples of be-deletion[2] after modals are good, or that deletion of AI be in infinitive clauses is marginal or unacceptable. Exceptions do occur in both directions. However, a second principle, proposed in §4.2, interacts with the first to account for apparent exceptions to the left modal condition.[3]

The data show pretty clearly that AI be-deletion is sensitive to the makeup of the left context. Why though, should it distinguish between the modals and the infinitival marker? I suspect the reason is partly semantic, but primarily phonological. This is discussed in §4.4.

4.2. Control.
4.2.1. Apparent Exceptions to the Left Modal Requirement.

The left modal requirement seems to be the basic determinant of whether AI be can be deleted in a given discourse fragment. However, the value of a pragmatic parameter--the degree of control the subject of the infinitival be-group has over the state of affairs described therein--can also be influential. Other things being equal, the more direct or immediate responsibility the subject has for bringing about the relevant state of affairs, the greater the potential for deletion. In discourses where independent principles favoring be-deletion apply (for instance, if a modal comprises the left-hand environment), and the degree of control is high, the judgments tend to be strongly favorable. And, in discourses where a low degree of control co-occurs with other conditions disfavoring deletion, the judgments are the most strongly negative. If the control facts lead to a grammaticality prediction inconsistent with that based on phonological and/or syntactic facts, the judgment usually reflects the latter considerations more strongly than the former. However, control seems to be the key to explaining intermediate judgments in several seemingly disparate cases. In some of these, there is a judgment of 'less-than-acceptable' associated with a set of phonological and syntactic facts which normally sanction deletion. In others, discourses which would normally be starred for syntactic or phonological reasons are marginally acceptable. As an example of the first type of case, consider (1) and (2).

SETTING: A CONCERT

(1) Sp. A. Look, people can't find their seats. Some úshers ought to be here.

Sp. B: I'm sorry, but none cán $\begin{Bmatrix} \text{a. ?}\emptyset \\ \text{b. be} \end{Bmatrix}$. Every single $\begin{Bmatrix} \text{usher} \\ \text{one} \end{Bmatrix}$ is sick.

(2) Sp. A: Look, people can't find their seats. There ought to be some úshers here.

Sp. B: I'm sorry, but there $\begin{Bmatrix} \text{cán't} \\ \text{cánnot} \end{Bmatrix}$ $\begin{Bmatrix} \text{a. *}\emptyset \\ \text{b. be} \end{Bmatrix}$. Every single $\begin{Bmatrix} \text{usher} \\ \text{one} \end{Bmatrix}$ is sick.

Even speakers who find (1a) unnatural find it better than (2a). (1) and (2) have the same truth conditions, but different superficial structures. The potential for deletion hinges on whether the target-clause subject is 'empty', as in (1), or agentive, as in (2). I know of no subject which exhibits less potential for control than dummy there. Simply preventing there from occurring in subject position

seems to move the judgment in the direction which the control hypothesis predicts.

In the second type of case, control serves to boost a judgment associated with a discourse fragment which, for example, fails to meet the left modal requirement. (3) and (4) are exemplary.

> (3) Only Barb will be tall. It's obvious to me that Sandy isn't going to $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.

> (4) Only Barb will be civil to the winner. It's obvious to me that Sandy isn't going to $\left\{ \begin{array}{c} ?\emptyset \\ be \end{array} \right\}$.

Be-deletion is less jarring in (4) than in (3), because the relevant situation in (4), that of being civil, is under the control of the (unexpressed) subject of be. Control does not characterize the relevant state of affairs in (3). Yet in both (3) and (4), the left-hand environment of the be-group is ADJ + to, a context which, according to the left modal requirement, should forbid be-deletion. The control hypothesis accounts for the greater potential for be-deletion in (4).

Further evidence for claiming that greater control implies greater potential for deleting AI be comes from speakers' reasons for rejecting such discourses as (5).

> (5) Sp. A: Maybe you'll be ranked first or second for that job.
> Sp. B: *Gee, I'd really like to $\emptyset$.

Most of my informants commented that it sounded from Speaker B's response as though he'd like to perform some action. No such impression accompanies discourses where AI be is supplied. Clearly, control is a necessary condition for performing an action. And some states of affairs (to be on time, to be polite, to be in Chicago) are much more likely to result from some action(s) on the part of the subject than others (to be seen, to be tall, to be rescued). So it stands to reason that it is most crucial to repeat AI be when the complement is not under the control of the subject.

4.2.2. Control and the Root/epistemic Distinction.

There is at least one case where AI be resists deletion, despite the presence of a modal in the left context. That is when the modal carries epistemic interpretation, but might be ambiguous between root and epistemic senses. This is illustrated in (6).

> (6) Secretary (to student):
> You $\left\{ \begin{array}{c} may \\ could \end{array} \right\}$ be in Jacques Transue's section, if you requested 201 at night.

Student:

$$
\text{Then my friend} \left\{ \begin{array}{l} \text{?may } \emptyset \\ \text{?could } \emptyset \\ \text{may be} \\ \text{could be} \end{array} \right\} \text{ too. She also}
$$

requested a night section.

The contrast, though not strong, is one reliably reported by my informants. (6) concerns the probability of a particular student's being assigned to a particular section. The student, though permitted to express section preferences, has no control during the actual assigning process. Recall that the control hypothesis predicts that when the subject has little or no immediate control over the state of affairs described in be's complement, speakers prefer for AI be to be repeated rather than suppressed. The judgments in (6) are consistent with this prediction.

If there is no possibility of the modal's carrying root interpretation, then be-deletion is usually permitted.[4] This is shown in (7) and (8).

(7) (= §4.0 (16))

    N: So it [a particular situation] may not be permanent.

    S: It might not $\left\{ \begin{array}{l} \emptyset \\ \text{be} \end{array} \right\}$.

(8)   A: That should be easy to test, shouldn't it?

    J: Yeah. It should $\left\{ \begin{array}{l} \emptyset \\ \text{be} \end{array} \right\}$.

(7) and (8) contrast with (6) in that each of their modals can only refer to some degree of probability (epistemic sense) and not to some degree of permission or obligation (root sense). Actually, the concessive if you requested 201 at night in (6) forces epistemic interpretation. But the subject of (6)'s target clause is a potential controller of actions. When be is elliptical, the hearer has a brief but distinct impression that the predicate is one controlled by the subject. (This has been reported by my informants.) This is, of course, not the case in (6). Hence the lowered acceptability. Apparently, if the subject is low enough on the animacy scale to preclude control, however, as in (7) and (8), the sequence Subject + Modal alone lends no feeling of possible root interpretation. So be may either be preserved or deleted.

I have just claimed that be-deletion in target clauses whose subject is a potential controller lends the impression of actual control. This claim, in conjunction with the control hypothesis, leads to two predictions:

    (a) While be-deletion in certain epistemic contexts leads to lowered acceptability, deletion in root contexts should not, since the resultant implication of actual control accords with the facts.

(b) In discourse pieces where no other cues are available to disambiguate between root and epistemic interpretations, the presence of AI be is consistent with both; the absence of AI be is consistent with the root sense only.

Let's see how these predictions are borne out by the facts. To test prediction (a), we need to consider a discourse in which it is clear that the modal is to be interpreted deontically, as in (9).

(9) Sp. A: Listen. You $\left\{ \begin{matrix} can \\ could \end{matrix} \right\}$ be in my section, if you

don't mind a pretty large class.

Sp. B: Gee, thanks. Say, do you think my friend

$\left\{ \begin{matrix} can\ \emptyset \\ could\ \emptyset \\ can\ be \\ could\ be \end{matrix} \right\}$, too?

Like (6), (9) permits AI be to be preserved. However, unlike (6), (9) also permits it to be deleted. This is a reflection of the greater degree of control found in (9), and is thus perfectly consistent with the control hypothesis.

The second prediction can be tested as easily as the first. Consider (10).

(10) Sp. A: You could be in my section.

Sp. B: And maybe my friend could $\left\{ \begin{matrix} a.\ be \\ b.\ \emptyset \end{matrix} \right\}$, too?

(10a) is consistent with two interpretations, (10b) with only one. In (10a), Speaker B might be asking permission. Or, he may be inquiring about the likelihood of a particular section assignment. (10b) eliminates the latter (epistemic) interpretation, leaving only the root one.

As a final illustration of principles (a) and (b), consider (11).

(11) Sp. A: We ought to be well-stocked on soft drinks.

Sp. B: You're right, we definitely $\left\{ \begin{matrix} ought\ to \\ should \end{matrix} \right\}$ be.

(11) is ambiguous between root and epistemic interpretations, since AI be (which may be associated with either) is present, and there are no disambiguating cues. Hence the second speaker could continue with either (12a) or (12b).

(12) a. I know we have four Cokes and three Frescas in the refrigerator. (epistemic)

b. Let's add that to the shopping list. (root)

If, however, AI be is elliptical in Speaker B's reply, the root sense is favored. Here (12b) would be a natural continuation of the reply, but not (12a).

To summarize, AI be may always be preserved, regardless of the degree of control associated with the subject and modal. The absence of AI be correlates with either root-interpreted modals, or epistemically-interpreted ones whose subjects are not potential controllers.

4.2.2.1. Independent Evidence for Control.

It is not especially surprising that the deletability of AI be correlates with control. For there are other cases in the literature [5] involving copular be in which a distinction in grammaticality or meaning hinges on whether the subject exercises immediate control over the property named by the complement of be. For example, adjective phrases whose subjects do not exert control are banned from occurring in the progressive:

(13) *John is being $\begin{cases} \text{tall} \\ \text{American} \end{cases}$.

The class of examples illustrated in (13) contrasts with another in which subject control seems to enable occurrence of the progressive:

(14) John is being $\begin{cases} \text{obnoxious} \\ \text{civil} \\ \text{sweet} \end{cases}$.

If the predicate is of the tough class, we can keep it constant yet obtain a contrast similar to that in (13) and (14) by changing the degree of control exercised by the surface subject: [6]

(15) a. John is being hard to please.
b. *It is being hard to please John.
c. *To please John is being hard.

Similarly, it has been noted (Dowty to appear) that certain kinds of do sentences select high-control rather than low-control complements:

(16) What I did then was be
a. civil to her.
b. as obnoxious as possible.
c. *tall.
d. *20 years old.

(Note: although not all speakers accept sentences like those in (16a) and (16b), everybody seems to agree that sentences like those in (16c) and (16d) are much worse.)

One might be led to account for these and other, related contrasts in terms of an operator DO which combines with activity predicates (here, as in (14), (15a), (16a) and (16b)) roughly along the lines of

Ross 1972 or Dowty (1972; to appear). Or one might argue, as has
Barbara Partee 1977, that the contrasts are directly attributable,
not to any property of the subject, progressive aspect, or complement,
but rather to the difference between one kind of copular be, be_1,
which combines with nonstative predicates, and another, be_2, which
combines with stative predicates. I will not evaluate these approaches
here, but merely note that either one could be adopted to account for
differences in deletability of AI be which are attributable to differ-
ences in degree of control (though not to differences in the left
context). Examples in which be is deletable would involve either an
occurrence of DO or be_1; examples in which be is not deletable would
either have no occurrence of DO, or an occurrence of be_2.

4.2.2.2. A Gap in the Data.

The observations in §4.2.1 stem primarily from informants'
reactions to artificial data, rather than from examination of naturally
occurring discourse. In particular, I have found to be quite rare,
discourses in which both antecedent and target clauses contain a root
modal immediately before a be-phrase (as in (9)). I believe this is
so because there is too much competition from a variety of verbs which
describe how the resultant relevant state of affairs may arise. These
verbs supply more information than the copula, which only allows
expression of the final result of an action(s), offering no hint as
to how that state was achieved. Hence many potential cases of AI be-
deletion go unrealized, because its structural description is never
met. Speakers follow the Gricean maxim of quantity and use a more
informative verb like switch, meet, make. Quite frequently, be
appears in one (would-be antecedent or target) clause, and a lexical
verb in the other.

This is not to say that be-deletion is rare in all modal contexts.
It is rare in root modal contexts, because it is unlikely to have
the possibility of applying. (Even when the structural description
is met, the rule need not apply. This reduces the number of occur-
rences even further.) Not surprisingly, nearly all the cases of be-
deletion in a modal context which I have come across have involved
subjects low on the animacy scale, and modals carrying epistemic
interpretation. With epistemic modals, the focus is on the relation-
ship of the subject to a final state of affairs. Unlike with root
modals, the subject need not help bring the state of affairs about.
So be-phrases in antecedent and target are unlikely to be replaced by
other predicates. The structural description of be-deletion is thus
met more frequently, and hence applies more than in root modal
contexts.

4.2.3. Control and Deletion in Infinitival Clauses.

According to the left modal requirement, AI be should not be
subject to deletion in infinitival clauses. But just as a low degree
of subject control in a modal context can change the positive
prediction of the left modal requirement, so can lexical verbs taking
to-infinitives which imply a high degree of subject control override
that principle's negative prediction for such verbs. Consider (13)-
(15).

(13) I can be a little more lenient in my grading if I
have to $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$.

(14) I gotta be around. I'll tell you, I hadn't planned
to $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$.

(15) Sometimes I would like to be nicer to some people
than they would like me to $\left\{ \begin{array}{c} ?\emptyset \\ be \end{array} \right\}$.

Notice that in each of (13)-(15), the subject of the target clause is
the person who is directly responsible for bringing about the state
of affairs described in the complement. AI be may be either overt
or elliptical, despite its occurrence after the infinitival marker
to. Apparently, the ameliorating effect of control is stronger than
the unfavorable effect of the presence of the infinitive marker to
on the left.

Consider now some infinitival cases where the subject of the
target clause is not directly responsible for bringing about the state
of affairs described in the complement.

(16) I expect to be looked after if I need to $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.

(17) Only the big VP will be deletable. The smaller VP
is not going to $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.

(18) The use of whistles can be effective, but only as
effective as the community wants them to $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.

Like many cases in which AI be cannot be deleted after infinitival
to, the antecedent and anaphor in (16) are contained in passivized
sentences. (19) provides another illustration of this.

(19) I really hope to be invited to the Prom. I'd be
awfully disappointed not to $\left\{ \begin{array}{c} *\emptyset \\ be \end{array} \right\}$.

In passives, the surface subject does not have direct or immediate
responsibility for bringing about the state of affairs described in
the complement. Only the logical subject does. The principle of
control predicts that acceptability will decline if AI be is deleted,
and it does.

Copular be in (17) is quite close semantically to passive be,
since the sentence means that the big VP, but not the smaller VP, is
(going to be) capable of being deleted. Hence the same application

of control that accounted for the acceptability of (16) predicts the judgment in (17).

(18) is different from (16) and (17) in that it is neither a passive, nor clearly relatable to the passive. In addition, the containing construction is a comparative, and the verb under which AI be is embedded (want) takes a surface object which is coreferential to the subject of the infinitival clause. But none of these factors seems to be responsible for the fact that AI be cannot be deleted. Once again, the absence of subject control is decisive. There are discourse fragments quite comparable to (18) in other major respects, but which do not require the repetition of AI be. This is because the target-clause subject in such discourse fragments has the power to bring about or not bring about a particular state of affairs. Compare (18) with (15), repeated below.

(15) Sometimes I would like to be nicer to some people than they would like me to $\left\{ \begin{array}{c} ?\emptyset \\ be \end{array} \right\}$.

The difference in acceptability between (15) and (18) correlates with differences in the amount of subject control implied by each. And the correlations are just what the control hypothesis would predict.

The left modal requirement and the control hypothesis make conflicting predictions for cases where the feature [-control] co-occurs with the feature [+left modal], and where the two features [+control] and [-left modal] co-occur. It may seem from the examples so far that where a conflict arises, the control principle takes precedence. But I believe that the left modal condition is really the stronger of the two principles. Recall the delicate conditions for setting up a contrast between root and epistemic modals (§ 4.2.1). Even when the conditions for the contrast are met, the difference in acceptability is not very strong. And, although passives in to-infinitives are (predictably) unacceptable, the improvement achieved by substituting a modal (while retaining the passive features) is so great that it leads me to suspect that control, or lack of it, only becomes relevant when all other factors are held constant. Consider, for example, (20)-(22).

(20) Only the big VP will be deletable. The smaller VP will not $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$.

(21) Decide which of the ambiguous sentences in Fromkin and Rodman's exercise (10) can be disambiguated by immediate constituent analysis, and which cannot $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$, and draw...

(22) One theory claims that they can't be distinguished, while another claims that they can $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$.

In these examples, the positive effect of a modal context is far from offset by the lack of subject control. Examples like these in which AI be has been deleted occur quite frequently. In contrast, I have collected very few natural examples of high-control be-deletion in infinitival clauses. I conclude that the modal/non-modal distinction is of greater importance than the [+control/-control] distinction.

4.3. Anaphoric Infinitival be in Questions, Tags, and Emphatic Constructions.

4.3.1. General Considerations.

Preserving AI be is an option which is nearly always available to speakers, so long as the rule which provides for its deletion is either VP Deletion, or one of the (interpretive) rules closely associated with it.[7] However, there are some cases in which AI be must be deleted. These cases divide into two subtypes. In the first, AI be is deleted purely as a consequence of the way a particular rule operates. The second case involves related rejoinder types containing agreement/contradiction particles which are intonationally integral to the entire construction. Each rejoinder type systematically resists interruption or expansion by any lexeme, thereby covering AI be. In both types of cases, then, the relevant restrictions are not special to AI be. Rather, as I will argue, the inability of AI be to occur in particular construction types falls out of general conditions on these constructions.

4.3.2. Questions and Tags.

A number of constructions in English require that a subject permute around the first auxiliary. When the material following the first auxiliary is anaphoric, it is normally truncated, as in (1)-(2) below.

(1) Sp. A: George gave up chasing after women.
     Sp. B: Did Larry Ø?

(2) Sp. A: I haven't installed our automatic garage
             door opener yet.
     Sp. B: Why haven't you Ø?

Suppose that the repeated string begins with infinitival be. In ordinary yes/no and wh-questions, there is an option in structure. As in the familiar VP Deletion-in-a-left-modal-context cases, AI be may be either preserved or deleted. This is shown in (3) and (4).

(3) Sp. A: I'm afraid that answer wouldn't be right.
     Sp. B: Wouldn't it $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$?

(4) Sp. A: You can't be in a sorority.
     Sp. B: Why can't I $\left\{ \begin{array}{c} \emptyset \\ be \end{array} \right\}$?

However, in certain other constructions in which the subject and first auxiliary (or more accurately, copies of them) are permuted, AI be must be elliptical. Consider (5)-(8).

TAG QUESTIONS

(5) That should be easy to test, shouldn't it $\left\{\begin{array}{c}\emptyset\\ \text{*be}\end{array}\right\}$?

(6) There wouldn't be an auxiliary, would there $\left\{\begin{array}{c}\emptyset\\ \text{*be}\end{array}\right\}$?

SO AND NEITHER TAGS

(7) They ought to be grateful to him, and so should my
husband $\left\{\begin{array}{c}\emptyset\\ \text{*be}\end{array}\right\}$.

(8) Sp. A: I can't be patient with them any longer.
Sp. B: Neither can I $\left\{\begin{array}{c}\emptyset\\ \text{*be}\end{array}\right\}$.

AI be cannot be repeated in either tag questions or so/neither tags. But this is not surprising, given the strict limitations on the number and kinds of pieces found in the various tags. The only phonologically independent verbal element permitted is the one carrying tense. This clearly rules out AI be, both in a position following the subject, as in (5)-(8), and in a position preceding it, as in (9) and (10):

(9) *That should be easy to test, shouldn't be it?

(10) *They ought to be grateful to him, and so should be
my husband.

Whether a construction involving Subject-auxiliary inversion tolerates AI be, then, depends on the trigger. Yes/no and wh-questions freely admit it; tags do not.

4.3.3. Emphatic Constructions.
4.3.3.1. Emphatic Constructions with Inverted Auxiliaries.
The emphatic use of Subject-auxiliary inversion presents an interesting contrast with the interrogative use. Consider (11)-(13).

(11) Sp. A: Somebody needs to take over Linguistics 820.
Would you be willing?
Sp. B: a. Wòuld I éver $\left\{\begin{array}{c}\emptyset\\ \text{*be}\end{array}\right\}$!

(12) Sp. A: I'd be better off if I'd gone into engineering.
Sp. B: Woùldn't we áll $\left\{\begin{array}{c}\emptyset\\ \text{??be}\end{array}\right\}$!

(13) Sp. A: Some of us would be better off if we'd gone
into engineering.

Sp. B: Wòuldn't we all $\left\{ \begin{array}{c} \emptyset \\ \text{be} \end{array} \right\}$?

The exclamations in (11)-(12) sound much more natural without AI be
than with it. The minimal pair in (12) and (13) shows the contrast
between interrogatives and exclamations in terms of their receptive-
ness to the presence of AI be. (13) is mildly emphatic, but is still
closer to a question than an exclamation. Hence the option in structure.
As a question exhibits more and more exclamatory properties, however,
the suppression of AI be becomes increasingly obligatory. Consider
(14), in which Speaker B's reply, delivered with rising-falling
intonation, conveys a positive emphatic response, in much the same
fashion as the surface exclamation in (11).

(14) Sp. A: Somebody needs to take over Linguistics 820.
Would you be willing?

Sp. B: Wòuld I $\left\{ \begin{array}{c} \emptyset \\ \text{??be} \end{array} \right\}$?

The only way (for Speaker B) to include be here is to echo A's entire
question, from would to willing, with heavy stress and rising intona-
tion on willing. Any statement of the distribution of AI be, then,
must distinguish between genuine questions and emphatic rhetorical
ones.

In summary, exclamations pattern with questions (but not tags) in
allowing reduction but not requiring it, and with tags (but not
questions) in rejecting AI be.

4.3.3.2. Emphatic Constructions with Intonationally United Particles.
It turns out that emphasis plays a decisive role in several other
types of rejoinder sequences. Strongly resistant to overt AI be are
certain constructions which express either agreement or disagreement
with a previous assertion, or a positive or negative response to a
question. The following types are surely not exhaustive, but are, I
feel, representative.

AGREEMENT FOLLOWING AN ASSERTION/QUESTION

(15) Sp. A: That could be David Niven!

Sp. B: a. $\left\{ \begin{array}{c} \text{Sò} \\ \text{Yès} \end{array} \right\}$ it cóuld $\left\{ \begin{array}{c} \emptyset \\ \text{*be} \end{array} \right\}$.

b. * $\left\{ \begin{array}{c} \text{Sò} \\ \text{Yès} \end{array} \right\}$ it cŏuld $\left\{ \begin{array}{c} \emptyset \\ \text{bé} \end{array} \right\}$

(16) Sp. A: I'll be busier than ever before.

Sp. B: $\begin{Bmatrix} \text{Of cóurse} \\ \text{Súre} \end{Bmatrix}$ you wǐll $\begin{Bmatrix} \emptyset \\ ??\text{be} \end{Bmatrix}$.

(17) N: Couldn't that be a stain?

L: a. Súre it còuld $\begin{Bmatrix} \emptyset \\ ??\text{be} \end{Bmatrix}$.

    b. *Súre it còuld $\begin{Bmatrix} \emptyset \\ \text{bè} \end{Bmatrix}$.

CONTRADICTION FOLLOWING A STATEMENT

(18) N: And fighting in fun can be fun.

D: Nó it càn't $\begin{Bmatrix} \\ *\text{be} \end{Bmatrix}$.

P: Yés it càn $\begin{Bmatrix} \emptyset \\ *\text{be} \end{Bmatrix}$.

(19) Sp. A: I can't be patient with them any longer.

Sp. B: a. Súre you càn $\begin{Bmatrix} \emptyset \\ *\text{be} \end{Bmatrix}$.

    b. *Súre you càn $\begin{Bmatrix} \emptyset \\ \text{bè} \end{Bmatrix}$.

(20) Sp. A: Joe can be Sue's date.

Sp. B: Sure he càn $\begin{Bmatrix} \emptyset \\ *\text{be} \end{Bmatrix}$! (sarcasm)

(21) Sp. A: Your project won't be any good.

Sp. B: a. It wǐll $\begin{Bmatrix} \text{só} \\ \text{tóo} \end{Bmatrix}$!

    b. *It wǐll $\begin{Bmatrix} \text{só} \\ \text{tóo} \end{Bmatrix}$ be!

(22) Sp. A: Max will be helpless without Erma.

Sp. B: a. He $\begin{Bmatrix} \text{wón't éither} \\ \text{wǐll nót} \end{Bmatrix}$!

    b. *He $\begin{Bmatrix} \text{wón't éither} \\ \text{wǐll nót} \end{Bmatrix}$ be!

(15)-(22) contain what I will call 'polarity intensifier particles':
so, yes, sure, of course, too, no, either. Each occurs initially,
except for the utterance-final so/too in (21), and either in (22).
All are stressed, and the initial particles are intonationally united
with the rest of the reply.

It is significant that there is no intonation break separating the particle from the material that follows it. For if one is imposed, as in (23)-(25), it becomes possible to preserve AI be.

(23) N: Couldn't that be a stain?

　　 L: Sure, it could $\left\{\begin{array}{c}\emptyset\\be\end{array}\right\}$. (cf. (17))

(24) N: And fighting in fun can be fun.

　　 L: No, it can't $\left\{\begin{array}{c}\emptyset\\be\end{array}\right\}$.

　　 P: Yes, it can $\left\{\begin{array}{c}\emptyset\\be\end{array}\right\}$. (cf. (18))

(25) Sp. A: I can't be patient with them any longer.

　　 Sp. B: Sure, you can $\left\{\begin{array}{c}\emptyset\\be\end{array}\right\}$. (cf. (19))

In fact, some speakers find examples like (23)-(25) distinctly better with AI be retained. The contrasts between (23)-(25) and (17)-(19) respectively strongly suggest that the prohibition against expressing AI be in (15)-(22) is attributable to some fact(s) about the various constructions containing it rather than to a constraint specifically affecting strings containing AI be.

There is another piece of evidence that the constraint against preserving AI be in (15)-(22) is a reflection of a more general condition(s). There are elements other than AI be which, if introduced into these intensifier particle-headed constructions, have the same effect as AI be: either ungrammaticality, or grammaticality at the expense of losing the construction. Consider (26):

(26) N: And fighting in fun can be fun.

　　 D: a. *No it absolutely $\left\{\begin{array}{c}can't\\cannot\end{array}\right\}$.

　　　　 b. No, it absolutely $\left\{\begin{array}{c}can't\\cannot\end{array}\right\}$ (be).

The adverb in (26) can be incorporated only at the expense of sacrificing the contradictory rejoinder pattern found in (18). There are clear parllels between (18D) and (26a), which are both poor, and between (24) and (26b), which are both good. All the judgments can be accounted for by proper formulation of the rules which are responsible for the various response forms in (15)-(22).

4.3.4. Summary of §4.3.3.

I have found that AI be may not be repeated in yes/no and wh-questions, so and neither tags, and emphatic constructions with intonationally united particles, such as Yés I càn! It is interesting to note that some of the constructions banning the repetition of AI be are stylistically informal (such as the various emphatic constructions, in particular the ones involving sarcasm). The absence of AI

be in some informal constructions is matched by its obligatory presence in certain formal constructions, such as Raising to Object. Although I have not investigated this phenomenon, it holds promise of lending independent support to an otherwise purely syntactic account of the distribution of AI be in various constructions.

4.4. Some Prosodic Considerations.

The fact that AI be-deletion does not normally apply in marked infinitival clauses is probably due primarily to phonological considerations. Wherever possible, to cliticizes to a neighboring element, preferably one to its right (see Zwicky 1980). Such procliticization is impossible when the head of the anaphoric verbal group introduced by to is any verb other than be. If the head remains behind, so must the rest of the VP.

(1) Sp. A: Throw the ball to me.

Sp. B: I don't want to $\left\{ \begin{array}{l} \emptyset \\ *\text{throw} \end{array} \right\}$.

If the head is be, however, then to can procliticize to it--but only if be remains behind. This is very likely part of the explanation for be-deletion's sensitivity to the make-up of the left context.[8]

AI be can bear two different degrees of stress. When it does not precede its head (as it does not when its complement is deleted), it often receives secondary stress (Selkirk 1972). The auxiliary element preceding it (modal, supportive do, or not) is destressed, as shown in (2).

(2) All your mail will be forwarded. Yours wĭll bè, too.

For many speakers, be can encliticize to the element preceding it, thereby becoming destressed. The preceding element then bears secondary stress.

(3) All your mail will be forwarded. Yours wìll bĕ, too.

If infinitival (also participial) be serves as the left context for VP Deletion, it cannot bear contrastive stress (Zwicky and Levin to appear).

(4) I wouldn't be upset not to be elected, but I

wouldn't be upset $\left\{ \begin{array}{l} \text{tó be} \\ *\text{to bé} \end{array} \right\}$ $\emptyset$, either.

This fact is not unique to be, but is true also of have, been, being, the infinitival auxiliary do of some British dialects, done, doing, and infinitival to. Notice that to in (4) can bear contrastive stress because it is separated from the VP Deletion site. When it is directly before the hole, it cannot be contrastively stressed, regardless of whether the deleted verbal group is headed by be.

(5) Sp. A: I don't want to ride 'The Scrambler'.

    Sp. B: Well, I want $\left\{\begin{array}{c}\text{*tó}\\\text{to}\end{array}\right\}$.

(6) Sp. A: I don't want to be morally corrupt.

    Sp. B: Well, I intend $\left\{\begin{array}{c}\text{*tó}\\\text{?to}\end{array}\right\}$.

It seems, then, that regardless of the degree of stress borne by either to or be, the highest degrees of acceptability are obtained when be is not deleted.

4.5. Summary of Chapter Four.

There are some cases in which an anaphoric occurrence of infinitival be is obligatorily deleted.

(1) D: Those two would be perfect together.

    R: Would they éver $\left\{\begin{array}{c}\text{ø}\\\text{*be}\end{array}\right\}$!

others in which it is optionally deleted,

(2) P: Cindy, please be careful.

    C: I will $\left\{\begin{array}{c}\text{ø}\\\text{be}\end{array}\right\}$.

and still others where it cannot undergo deletion at all.

(3) I expect to be looked after if I need to $\left\{\begin{array}{c}\text{*ø}\\\text{be}\end{array}\right\}$.

(1) exemplifies cases where AI (anaphoric infinitival) be's obligatory absence can be attributed to the fact that the containing construction bears exactly one auxiliary verb. Since this element carries tense, AI be is automatically excluded. Cases (2) and (3) are best explained in terms of one major principle and a second, less general principle, whose effects are not felt unless the first principle is inapplicable. Deletion of AI be is nearly always possible if the verb closest to AI be in the left context is a modal (case 2). Deletion is usually marginal or impossible if the left context is composed of a lexical verb or adjective taking a marked infinitive (case 3). Differences in deletability within one of these two contexts is usually attributable to a semantic/pragmatic feature: the extent to which the subject of the be-phrase has direct control over whether the state of affairs described therein is actually realized. This is probably the major determinant of the acceptability difference between (4) and (5).

(4) The use of whistles can be effective, but only as effective as the community wants them to $\left\{\begin{array}{c}\text{*ø}\\\text{be}\end{array}\right\}$.

(5) Sometimes I would like to be nicer to some people than
they would like me to $\left\{ \begin{array}{c} ?\emptyset \\ be \end{array} \right\}$.

The possibility of deleting AI <u>be</u> after a modal but not after
<u>V/Adj to</u> seems due to a reluctance of <u>to</u> to occur finally so long as
there is another element available to bear sentence-final stress.
<u>To</u> does occur finally when the head of the anaphoric verbal group is
any lexeme other than <u>be</u>. Many of the verbs taking marked infinitives
select nonstative complements. Perhaps this association of final <u>to</u>
with nonstative complements leads to the observed thwarted expecta-
tion of an active complement when the first element to be recovered
following <u>to</u> is AI <u>be</u>. This is consistent with the greater accept-
ability of examples in which the complement is one implying subject
responsibility for bringing about the relevant state of affairs. This
perceptual principle--VP deletion holes following <u>to</u> are not headed by
<u>be</u>--does not apply to modals. Nevertheless, the high degree of
repetition of AI <u>be</u> after modals in natural conversation is suggestive
of a less grammatized version of the same principle.

Footnotes

[1] A revised version of this chapter (Levin to appear) was presented
at the Eighth Colloquium on New Ways of Analyzing Variation in English.
In that version the left modal requirement (§ 4.1 below) is replaced
by a negative condition forbidding <u>be</u>-deletion in infinitival clauses.

[2] 'Be-deletion' will be used to refer to whatever deletion rule
is responsible for deleting AI <u>be</u>. (See Footnote 7.)

[3] The left modal condition appears to be necessary to account for
some facts we've already seen (§2.9.2.h) about Pseudogapping. This
rule may apply only if the target V is flanked on the left by a modal
or an occurrence of <u>Neg</u>. The rule cannot operate in infinitival
clauses.

(i) N: Drinks like that knock me over.
    M: a. They would ∅ me.
       b.° *They seem to ∅ me, too.

(ii)° Sp. A: Will she sue the hospital?

    Sp. B: She $\left\{ \begin{array}{c} might \\ *plans to \end{array} \right\}$ ∅ the doctor.

It is clear then, that the left-modal requirement is needed for at
least one rule other than the one deleting AI <u>be</u>. It is likely that
there are other rules as well which call up the same constraint.

[4] Be-deletion with existential <u>there</u> as subject is not very
acceptable, despite the impossibility of the modal's carrying root
interpretation.

[5] Here I will not review the literature which appeals to notions very close to that of control, such as 'volition' or 'intentionality'.

[6] Lasnik and Fiengo 1974 use data like that in (15) above to argue that the (a) class of sentences have distinct sources from the (b) and (c) classes (i.e. in order to argue against Tough Movement). Several of their other arguments, suggested by the data in (i)-(iii) below, simply show different manifestations of the same factor: control. Thus what may appear to be several arguments reduce to one.

(i) a. John is intentionally easy to please.
     b. *It is intentionally easy to please John.
     c. *To please John is intentionally easy.

(ii) Be easy to please.

(iii) a. John must be easy to please. (ambiguous between
         root and epistemic interpretations)
      b. It must be easy to please John. (epistemic only)
      c. To please John must be easy. (epistemic only)

[7] The details of the generation of the data in this chapter will depend, of course, on which of the various competing analyses of the English auxiliary is adopted. It is not my purpose here to weigh the relative merits of such approaches as Pullum and Wilson 1977, Akmajian, Steele and Wasow 1979, or Sag (in preparation). It appears that the problems the data might present for any particular approach have already been noted.

[8] Modals do not (to my knowledge) share with to the 'right if possible' principle.

CHAPTER FIVE: SUMMARY AND SUGGESTIONS FOR FURTHER RESEARCH

5.0. <u>Summary</u>.

In this dissertation I have examined three constructions
containing different sorts of reduced verb phrases. The construc-
tions are linked primarily by their common lack of a repeated main
verb. Two of these (described in Chapters Two and Three) also share
the characteristic of a postverbal VP constituent which fails to
meet the identity condition and therefore must be overt. Deleting
less than a full VP is quite awkward or impossible, if the postverbal
constituent remaining behind is a PP or closely bound adverbial, as
in (1) and (2).

(1) Sp. A: Where did Mary visit museums?
     Sp. B: *She did in Paris.

(2) Sp. A: Why would you choose extra-strength Tylenol?
     Sp. B: Because it works. *And it does quickly.

If the postverbal constituent is a direct object, as in (3)

(3) Sp. A: Elvis Presley movies make me sick.
     Sp. B: They do me, too.

many speakers find the deletion acceptable. However, pseudogappings
(as in (3)) are highly constrained, much more so than VP deletions.
Thus acceptability declines if the pseudogapping subjects are not
coreferential ((4)), the remaindered object is not first person
((5)), the verb is not causative ((6)), the left context for deletion
is infinitival <u>to</u> ((7)), or the pseudogapped clause is embedded ((8)).

(4) Sp. A: Elvis Presley movies make me sick.
     Sp. B: ??Tyrone Power movies do me.

(5) Sp. A: Elvis Presley movies make me sick.
     Sp. B: ??They do Jim, too.

(6) Sp. A: Tim's preface has me in it!
     Sp. B: *It does me, too.

(7) Sp. A. Elvis Presley movies used to make me sick.
     Sp. B: They $\left\{ \begin{array}{l} \text{did} \\ \text{*used to} \end{array} \right\}$ me, too.

(8) Sp. A: Elvis Presley movies make me sick.
     Sp. B: ??George says (*that) they do $\left\{ \begin{array}{l} \text{him} \\ \text{me} \end{array} \right\}$, too.

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While pseudogappings are acceptable to many speakers if these conditions are respected, very little can improve the deletions in such discourse fragments as (1) and (2). Consequently in the past, attention has focused on preventing examples such as the latter from being generated. Given a view of VP constituency according to which most adverbs are outside the 'main' VP but are themselves dominated by VP, any of several formal devices may block the relevant examples: the Verb Phrase Deletion Constraint (Kuno 1975), the Sisterhood Condition (Grosu 1975), or the Relativized A-over-A Principle (Sag 1976).[1] However, these solutions are only as valid as the view of constituent structure they presuppose. Moreover, even if that constituent structure is correct, none of the constraints is directly relatable to principles governing a well-formed discourse: nor can they tie the ungrammatical structures to acceptable alternatives. Much of the data originally proposed by Kuno (e.g. (1) above) can be shown to violate a general discourse prohibition against repeating propositions without adding new information. For example, (1') and (2') are acceptable alternatives to (1) and (2).[2]

> (1') Sp. A: Where did Mary visit museums?
>   Sp. B: (In) Paris.

> (2') Sp. A: Why would you choose extra-strength Tylenol?
>   Sp. B: Because it works--quickly.

Another acceptable alternative is to use a VP pro-form--do so or do it. Consideration of this range of facts leads to an account different from the brevity-based explanation, yet one compatible with it. The syntactic and pragmatic differences between VP Deletion and do so/it can be seen as the outcome of a tendency of similar anaphors to 'specialize'. Finally, a syntactic account such as Kuno's, Grosu's, or Sag's need not be rejected. It may represent the 'translation' of strong stylistic tendencies into a more rigid grammatical formulation.

The last type of verbal reduction (Chapter Four) is one in which the target V is infinitival copular or passive be, and its complement (NP, PP or AP for copular be, AP for passive be) is anaphoric, as in (9).

> (9) He could easily be more cooperative. But he won't
> $\left\{ \begin{matrix} be \\ ?\emptyset \end{matrix} \right\}$. Because he doesn't have to $\left\{ \begin{matrix} be \\ *\emptyset \end{matrix} \right\}$.

Although a repeated NP, PP, AP, or VP after a non-first occurrence of infinitival be is normally elliptical, be itself is usually overt. In cases where it is elliptical, the element preceding it is a modal, rather than a V or Adj requiring a marked (to) infinitive. Deletion of be after to improves slightly if the state of affairs described in be's complement is one which is under immediate control of the subject. This is consistent with strong judgments of unacceptability obtained when AI be is passive, and is deleted after to:

I expect to be looked after if I need to $\left\{ \begin{array}{c} \text{be} \\ *\emptyset \end{array} \right\}$.   For passives
normally imply a low degree of immediate control by the superficial
subject. In summary, the rule deleting anaphoric infinitival be
must be sensitive to both syntactic (left context) and pragmatic
(control) properties.

5.1. Suggestions for Further Research.

During the course of this study, a number of side issues arose.
I expect that some of these will be of central importance to issues
raised in the preceding three chapters. The preliminary observations
in §5.1.1-7 below are meant to suggest directions for the continuation
of this study. They concern: the relative deletability of certain
types of constituents (§5.1.1), how psycholinguistic evidence might
bear on intuitive judgments of acceptability (§5.1.2), the significance
of determining the conditions on Pseudogapping in British English
(§5.1.3), the fact that low frequency of occurrence of a certain
construction does not imply low acceptability (§5.1.4), a correlation
between a construction's distribution among various registers and
dialects, and the number of grammatical conditions the rule obeys
(§5.1.5), the pragmatic effects of not applying an extremely common
deletion rule (§5.1.6), and some extensions of the two-constituent
limit on Gapping (§5.1.7).

5.1.1.

The three processes I have examined have the common effect of
deleting an identical main verb. The range of judgments noted for
single informants, and dialectal variation associated with the
relevant data suggest that minor constituents (V) are more resistant
to deletion than major constituents (VP).

This finding is reminiscent of some facts in Levin 1976 about
the kinds of constituents that can serve as fragment replies to wh-
questions. Types of possible replies turn out to be coextensive
with the kinds of constituents that can be questioned. Nonterminal
nodes (major constituents) can be questioned, and can serve as
replies, but terminal (lexical) nodes--N, V, P, Particle, for
instance--cannot. Note that the reply to a wh-question can be V just
in case that V happens to constitute an entire VP (Morgan 1973):

(1) Q: What is Robert doing?
     A: a. Sleeping.
         b. *Hitting.

(2) Q: What did you do with that old rocking chair?
     A: a. *Gave away.
         b. *Sold.

Although English does not have a special question morpheme for VP,
VP fragment replies provide some evidence that that node can be
questioned. Questioning V alone, however, is nearly impossible,
even in echo questions.

(3) Sp. A: Steve just drank the gasoline.
    Sp. B: ??Steve just WHÁT the gasoline?
    Sp. A: a. ?Drank.
          b. Drank it.

(4) Sp. A: Steve just drank the gasoline.
    Sp. B: Steve just did WHÁT with the gasoline?
    Sp. A: a. *Drank.
          b. Drank it.

The greater ease of questioning and remaindering VP seems to be related to the greater ease of deleting anaphoric VPs as opposed to anaphoric Vs. However, the constraint against questioning or remaindering V is much more absolute than the constraint against having V as a deletion target. Various ameliorating effects--such as parallelism--can conspire to make V more deletable in some instances. But questioning V is un-English. The difference does not necessarily mean that the constraints are unrelated. In fact, it may well fall out of general differences between variable movement rules and discourse-controlled deletion rules.

5.1.2.
    Much remains to be done to establish the psycholinguistic reasons behind the low acceptability of (1) pseudogapped sentences which do not bear a particular cluster of properties; (2) discourse fragments in which V (+ NP) are elliptical, and the remaindered constituent is PP or a VP adverbial; (3) sentences in which anaphoric infinitival be is flanked on the left by the infinitive marker to. Careful psycholinguistic experimentation might confirm the relative processing difficulty of these types of configuration. It might, however, be overly optimistic to expect the processing differences to be gross enough to manifest themselves through such parameters as reaction time. This does not mean, of course, that there is no point in designing psycholinguistic experiments to tap differences of the kind expected. However, it is not clear which of the measurable paremeters would be the most sensitive to the increased burden of the parser.

    I will now outline an experiment which I believe would tap the reliability of informants' intuitive judgments of acceptability--or at least, say something about how accessible each of the three constructions is. My assumption is that surface structure types which are hardest to recall are those which are least familiar or acceptable to the speaker in question. The subject's task would be verbatim repetition of a sentence whose oral presentation was immediately followed by the recital of a list of numbers or nonsense words. I hypothesize that: (1) superficial structure will be best recalled when the deletion is VP deletion, or there is no deletion at all; (2) errors will be most frequent when the deleted material includes AI be; (3) the most common error types will be the supplying of AI be, and the elliptical subparts of VP.[3]

Clearly, I would predict similar results for subjects whose dialects admitted the same kinds of pseudogappings, or who had tendencies to delete AI <u>be</u> in the same environments. It would probably be advisable to test recall of surface structure for a number of unrelated constructions, in order to detect individual differences in speakers' general abilities to recall surface structure.

5.1.3.

The tendencies and constraints discussed in this dissertation must ultimately be incorporated into the grammar of American English. However, I have not checked the data with any speakers of non-American varieties of English. Because pseudogappings show greater dialect variability than the other two constructions, an early task is to determine how the former are regarded in non-American dialects. British English has a construction much like pseudogapping, illustrated in Halliday and Hasan 1973 (172: [4: 60]):

(5)   Sp. A: Is she suing the hospital?
       Sp. B: She is the doctor.

(6)   Sp. A: Has he sold his collection yet?
       Sp. B: He has some of the paintings; I'm not sure
                about the rest.

As in American English, the postverbal constituent cannot be adjectival:

(7)   Sp. A: Did the lions seem hungry?
       Sp. B: *No, but they did restless.
                (from Halliday and Hasan 1973 (119: [3:72]))

However, I suspect that the classes of possible pseudogapping verbs and objects are greater in number than they are in American English. (5) and (6) do not sound nearly as typical of American English as pseudogappings in which the elliptical verb is a 'psychological' predicate and the object is either <u>me</u> or <u>mine</u>.

It would be revealing to find out how common pseudogappings are in British English, and to determine the inventory of conditions on their occurrence. Suppose, for example, that the like-subject condition (§2.7) is not respected, so that such examples as (8) are possible in spoken registers.

(8)   Sp. A: Helen will pick Sue up at 7:00.
       Sp. B: And Paul will me.

I assume that the differences between the American and British auxiliary systems affect Pseudogapping in the same way that they affect VP Deletion.[4] Although the details may be different, I expect the argument could be made that unlike-subject pseudogappings in British English are temporarily ambiguous between a pseudogapping

and VP deletion. But if unlike-subject pseudogappings are acceptable in these dialects, then it follows that either British speakers employ different parsing strategies from American speakers, or that the perceptual account of the like-subject condition is wrong. Clearly, then, investigation of the pseudogapping facts in non-American varieties of English can have implications for the generality of the constraints proposed, and the explanations of those constraints.[5]

5.1.4.

There is no necessary correlation between a construction deemed to be grammatical and its actual frequency of usage. Most of my informants found deletion of AI be after modals absolutely unobjec- tionable. Yet my data from natural conversation show deletion of AI be after modals to be quite unusual,[6] though certainly more common than deletion after the infinitive marker to. Also, some informants recognized (noncomparative) pseudogappings as a construction they heard rather frequently, and did not find objectionable, but would not use themselves. I believe that pseudogappings show both social distribution and stylistic differentiation, but at this point I cannot say with which nonlinguistic aspects of the social context pseudogappings correlate most highly. Many of the noncomparative pseudogappings cited in Chapter Two come from four speakers who are female, over 50 years old, and are either not college-educated (three of the four), grew up in rural areas (three), or both (two). Clearly, these trends need to be substantiated by a much larger number of informants, and more systematic observations.

5.1.5.

Constructions limited to certain registers are less widely accepted than constructions which cut across a number of registers. That is, register-restricted rules tend also to be dialect-restricted. Moreover, such rules are likely to place more grammatical and/or pragmatic constraints on their application than rules found in a greater number of varieties.

Both Pseudogapping and Gapping are associated with particular registers. Pseudogapping is largely restricted to oral language, and is least marked in casual settings. Gapping, on the other hand, sounds most natural in formal written language, and 'media' registers: newspaper and magazine articles, and radio and television news broadcasts. Given these facts, it follows from the hypothesis above that acceptability judgments for specific pseudogapped and gapped sentences ought to be less uniform (and in general, less favorable) across speakers than judgments for some other construction with a wider distribution. Many of my informants found pseudogappings less than natural, but were unable to decide exactly how bad they were. And gapped sentences are clearly odd for some speakers. Arnold Zwicky (personal communication) has noted that some speakers seem not to use them at all. And the gapping strategy is far from universal; there are languages which do not allow Gapping.

Pseudogapping and Gapping also uphold the third prediction of the hypothesis: that they should be subject to a number of grammatical and/or pragmatic constraints. As we have seen (Chapter Two), Pseudogapping strongly prefers that the paired subjects be coreferential, that the target V be a nonagentive 'psychological' predicate or other causative, and that the remaindered object be a personal or possessive pronoun, preferably first person singular. Gapping as well has fairly rigid structural requirements. Antecedent and target clauses must be coordinately conjoined, and structurally parallel. No contrast is permitted between the two auxiliaries, but is required between the subjects and one of the VP constituents. Thus for both Pseudogapping and Gapping, register-restrictedness goes hand in hand with dialect particularity, and numerous restrictions on the syntactic environments in which the rules may apply.[7]

The correlation noted above is upheld in a slightly different way by Comparative Pseudogapping and VP Deletion. Both of these enjoy greater cross-register and cross-dialect acceptance, and fewer idiosyncratic conditions of application than noncomparative pseudogappings and gappings. This is particularly true of VP Deletion, which seems to be at the opposite end of the scale from Pseudogapping: it has a maximally general domain of application, and extremely wide speaker use and acceptance. Comparative pseudogappings, though closer to the noncomparative pseudogapping end, nevertheless occupy a different point on the scale from the latter. The wider distribution of comparative pseudogappings across registers (particularly written ones) goes hand in hand with the generally high judgments accorded them by many different speakers, and with the less rigid structural conditions for application of the rule. In particular, there are more classes of possible subjects, elliptical verbs, and objects, as well as greater potential for deletion when the target domain includes more than one V.

5.1.6.

When an optional deletion rule is used quite widely, pragmatic associations grow up around structures to which the rule fails to apply. (This is suggested in Bolinger 1977.) That is, discourse fragments in which the rule's structural description is met but the rule fails to apply are more marked than discourse fragments in which the rule does not apply.

Bolinger 1977 suggests several effects of repetition which are picked up 'through casual association' (p. 7). One of these is admonition (as in Mary wants to eat my soup but Mary isn't going to get the chance.) I believe that this is a consequence of a more general effect of repetition, viz. the implication that the addressee (and perhaps the speaker as well) is a child, who is not expected to have mastered the rule(s) in question.

This brings us to an interesting example of how the pragmatic effects of not applying a reduction rule (in this case, VP Deletion) can be deliberately exploited. In the movie 'Butch Cassidy and the

Sundance Kid' there is a scene in which the two anti-heroes (Paul Newman and Robert Redford) are ascending steep cliffs in an effort to escape from a posse, which is not far behind. The dialogue between the two includes such lines as (9).

(9) I don't think they could have sent Lord Baltimore after us. Do yōu think they could have sent Lord Baltimore after us?

The effect of childlike innocence is undeniable, and is clearly at odds with the personality profile of the speaker. Yet is accomplishes the goal of endearing the two gangsters to the viewer.[8] Repetition here serves another purpose: it creates tension in the viewer. Newman and Redford need every bit of the time which separates them from the posse. Yet they stop periodically and engage in conversation in which the repetition not only suggests triviality of subject matter (due to the evocation of the speech-to-young-children register), but also wastes precious seconds.

5.1.7.

For rules which minimally delete main verbs, there seems to be a constraint to the effect that the material remaindered before and throughout the VP cannot comprise more than two constituents. While this has been noticed for gapped clauses (Hankamer 1973, Stillings 1975, Sag 1976), there has been little attention devoted to the question of whether the two-constituent limit extends to rules besides Gapping.[9] To a large extent the answer to this question depends on one's conception of Gapping. Gapping as traditionally conceived (Ross 1970) applies to coordinately conjoined clauses to delete portions of the second (and following) clauses which are identical to corresponding portions of the first clause, and leaves behind one unlike constituent before a deleted main verb, and one after. For Hankamer (in progress) the rule just described is but a special case of a universally available process applying to structurally parallel coordinately conjoined clauses. This process, which includes some cases of what has traditionally been called Conjunction Reduction, must remainder exactly two constituents per clause. So for Hankamer, the two-constituent limit has wider applicability than to just the 'old Gapping', but does not necessarily hold for more than one formally stated rule.

I would like to suggest that the two-constituent limit is valid for deletion rules whose targets include main verbs. The two constituents remaindered depend on the rule, but do not add up to more than two. This hypothesis requires the assumptions that (1) the negative morpheme and certain adverbs (ones that may appear in immediate postsubject position) are dominated by a single node, perhaps Aux. (2) If the rule in question requires that the target-clause Aux be overt, that that node 'count' as one of the two remaindered constituents, even if it dominates more than one

remaindered element (say, <u>really</u>, <u>should</u>, and <u>not</u>). Clearly, (1) and (2) require supporting arguments.

I will now sketch how the two-constituent limit applies to Gapping, Pseudogapping and VP Deletion. Imagine an antecedent and target clause exhibiting parallel structure whose VPs contain paired contrasting objects, but which are otherwise identical. Then, if deletion-under-identity is to take place, there is a constraint to the effect that at most one constituent to the left of the VP is permitted to contrast with the corresponding constituent in the antecedent clause. This may be either the subject or the auxiliary. Thus if contrast resides in the subject, the auxiliaries must be identical, and the second occurrence deleted. This is the process known as Gapping (<u>Ian wanted to play Bach, and George Ø Chopin</u>). If contrast resides in the auxiliary, then the subjects are identical, with the second occurrence generally repeated. Here the rule is Pseudo-gapping (<u>Maybe that show could interest you, but it doesn't Ø me</u>). For both constructions, the number of contrasting constituents adds up to two: <u>Subj</u> - <u>Obj</u> (Gapping) (which, however, may remainder as a second remnant constituents other than the object), and <u>Aux</u> - <u>Obj</u> (Pseudogapping). If contrasts characterize corresponding auxiliaries and subjects, then deletion of the repeated verb is disallowed: <u>Ian played Bach, and George</u> $\left\{\begin{array}{l}\text{*did}\\ \text{played}\end{array}\right\}$ <u>Chopin</u>; <u>Helen will find you, and Valencia</u> $\left\{\begin{array}{l}\text{*will}\\ \text{will find}\end{array}\right\}$ <u>me</u>. If, however, there is no pair of contrasting elements in the VPs, then simultaneous contrast between paired subjects and auxiliaries is permitted (VP Deletion): <u>I don't know the Berkeley campus, but Eric might</u>).

It seems, then, that different verb-deleting rules pick out different combinations of antecedent- and target-clause linked contrasting pairs, and that no more than two such pairs are permitted for a given rule. In the summarizing chart below, 'X' stands for a target-clause constituent which either can or must contrast with the corresponding antecedent-clause constituent. '___' stands for a target-clause constituent which is identical to the antecedent-clause correspondent, and is either elliptical, or overt (but in pronominal form).[10]

(10) OBLIGATORY AND OPTIONAL LOCATIONS FOR CONTRAST:
      VERBAL ELLIPSIS RULES

Subject	Auxiliary	Verb	Object	Rule
X	X			VERB PHRASE DELETION
___	X	___	X	PSEUDOGAPPING
X	___	___	X	GAPPING

5.2. Concluding Remarks.

The seven preliminary observations of §5.1 represent relatively scattered extensions of the major themes of this study. However, I expect more than one of these (in particular, those in §s 5.1.1, 5.1.2, 5.1.7) to prove relevant to answering what I consider to be the major challenge raised by some findings of this work. That is: to provide a precise characterization of the kinds of repeated substrings which are too small/short/'light' to constitute normal deletion targets. 'Normal' here means strings whose deletion is not associated with either low acceptability, or heavy grammatical or pragmatic conditions. The interest in providing such a characterization lies in its implications for language processing. We are relatively far from such a precise account. But I believe that this dissertation has laid some of the groundwork.

Footnotes

[1] To get RAOAP to work, it is necessary to assume that it designates the maximal constituent without regard for whether that constituent satisfies the recoverability condition on deletion. (See §3.2.4.1 for explanation.)

[2] Of course, there is also a longer way of expressing the new information, viz. to repeat the entire string, as in (i) and (ii):

> (i)   Sp. A: Where did Mary visit museums?
> Sp. B: She visited museums in Paris.
>
> (ii) Sp. A: Why would you choose extra-strength Tylenol?
> Sp. B: Because it works. And it works quickly.

Because (i) and (ii) are acceptable, one might argue that they violate the prohibition against repeating propositions. But these kinds of sentences often represent afterthoughts, where full repetition may be needed because the antecedent for deletion has lost its saliency. Or else the repetition lends an emphatic tone which is otherwise difficult to achieve. The differentiation would thus lie in emphasis.

[3] I have one bit of anecdotal evidence which upholds hypothesis (3). The title of my paper appearing in Proceedings from the 14th Regional Meeting, Chicago Linguistic Society, is 'Some Identity-of-Sense Deletions Puzzle Me. Do They You?' In an announcement of the publication in a campus periodical (Ohio State's onCampus) the title appeared as 'Some Identity-of-Sense Deletions Puzzle Me. Do They Puzzle You?' It is clear that an editor or typist interpreted the omission of the second occurrence of puzzle in the original announcement as being unintentional.

[4] For example, I would expect that the British infinitival auxiliary do stranded by VP Deletion can also show up in pseudo-gappings.

[5]The perspective could be broadened even further to include cross-linguistic comparisons. My interest here would be to investigate the language-specificity of the principle according to which major constituents are more analyzable than minor constituents.

[6]There may be register differences: in formal, academic writing I found deletion of AI be after modals to be more common.

[7]The correlation between the way a construction is distributed across registers and the way it is distributed across dialects is illustrated by other constructions as well. For example, many phonological and syntactic features of nonstandard dialects of American English are found in standard dialects in informal registers. And phonological and syntactic features associated primarily with standard dialects are found in nonstandard dialects in formal registers (often through hypercorrection). The same point is illustrated by features of American English restricted to formal registers--e.g. the polite do of Do have some onion pie!--which British speakers do not consider to be particularly formal.

[8]In (9), which is a composite reconstructed from memory, part of the effect is due to the lack of pronominalization of Lord Baltimore.

[9]This problem is addressed in Hankamer (to appear) and Levin 1978.

[10]It has been shown (Stillings 1975, Sag 1976) that Gapping can sometimes remainder three constituents:

> (i)   John talked to his supervisor about his thesis,
>   and Erich, to the dean, about departmental policies.
>   (from Sag 1976)

Similar examples can be constructed for Pseudogapping and VP Deletion:

> (ii) Sp. A: The stiff requirements weed people out pretty
>   fast.
>   Sp. B: They would me the first quarter!

> (iii) I can't fix it now. But Marion can in about an hour.

With VP Deletion in particular, more than one 'extra' constituent can appear on the right periphery. For some cases (e.g. (i) and (ii)) the third constituent (underlined in the examples above) can be shown to be outside the VP (by the preposing test) and therefore not under the domain of the rule in question. But this does not work for (i). More research is needed to determine the conditions under which three remnant pieces are acceptable.

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Stranded to*

Arnold M. Zwicky

The problem I will be examining in this brief paper is located
in the intersection of two larger problem areas, both having to do
with what Selkirk 1972 has characterized as 'dependents of a head',
words which are phonologically attached to and syntactically
subordinate to neighboring material from some open syntactic category.
For brevity, I will refer to such words as leaners. Among the leaners
in English are articles, prepositions, coordinating conjunctions,
auxiliaries, and complementizers.

The first problem area concerns the distinction between an
obligatory leaner, which cannot occur without a member of the category
on which it depends, and an optional leaner, which can. In English
the articles (1) and the coordinating conjunctions (2) are obligatory
leaners, while the prepositions (3) and the auxiliaries (4) are optional
leaners:

> (1) *Wilma said she was pointing at a lion, but I couldn't
>   see the (at all).
> (2) *It was Susan that I saw Terry and (in London).
> (3) It was Wystan I sent the poem to (last week).
> (4) Margaret thinks Norman is a genius, but I don't
>   think he is (at all).

The second area concerns the principles of attachment for leaners,
in particular the principles governing in which direction a leaner
attaches to other material in its sentence. In English articles, (5)
coordinating conjunctions, (6) and prepositions (7) always attach to
following material, while auxiliaries (8) sometimes attach to following
material, sometimes to preceding material (in these examples, square
brackets indicate phrasing):

> (5) I saw [the lion].
> (6) I saw Terry [and Susan].
> (7) I sent the poems [to Wystan].
> (8) a. ['S he] going?
>   b. [He's] going?

Principles of attachment must also specify whether a leaner is
clitic or not, that is, whether it forms a phonological word with its
supporting material, or whether it merely forms a phonological phrase
with it. In what follows I will discuss phonological phrasing only,
without making any claims about cliticization--and indeed in many
cases such claims would be too strong.

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I turn now to the behavior of the English complementizer <u>to</u> as a leaner. Examples (9)-(13) illustrate the fact that <u>to</u> is an obligatory leaner; it is unacceptable when it is stranded as the only morpheme left in certain constituents.

(9) Children really shouldn't play with rifles, since
    a. to do so
    b. *to
    c. for them to do so   } can be incredibly
    d. ?for them to[1]   dangerous.

(10) It's not easy to justify your attitudes, and
    a. to justify them
    b. to do so
    c. *to   you would have to
    d. in order to justify them } do some fast
    e. in order to do so   talking.
    f. in order to

(11) You should print a letter of retraction, though I
  doubt that a. to print such a letter } would
               b. to do so
               c. *to

actually placate Jerry.

(12) If you want to finish your thesis, then
    a. to finish
    b. to do so   } you're going to have to write fast.
    c. *to

(13) Children really should learn to use rifles, since
    a. not to do so
    b. not to
    c. for them not to do so   } can leave them
    d. for them not to   defenseless.

I should point out here that the unacceptability of <u>to</u> in these examples does not depend on the stress assigned to it: the complementizer may be completely unstressed and reduced to [tə], unstressed but pronounced [tu], or contrastively stressed--all are unacceptable.

Contrastively stressed <u>to</u> is unacceptable for reasons described in Zwicky and Levin (to appear 1980), while the ungrammaticality of [tə] in the examples above presumably follows from the ungrammaticality of [tu] there, in combination with the rather complex conditions on the reduction of [tu] to [tə] that apply in English (certainly the problem is not that a reduced form appears in subject position, since reduced <u>he</u> [i] and <u>you</u> [yə] appear there). Consequently, it is the case of <u>to</u> not bearing special stress that I want to focus on here.

Now compare <u>to</u> with the obligatory leaners in (1) and (2) above. Though articles and coordinating conjunctions need a constituent to

Appendix

to [to] that would go along with its being clitic:

If the principle of Right Attachment is to be usefully precise, the sense of 'the constituent on the next left' of some given constituent must be carefully specified. The problem arises here like the following (compare example (17) in the main text):

As for the intermediate constituents in structures like (iii) and (iv), there is no principled basis for choosing one of them over another. Indeed, the weakest claims about attachment would be made by choosing the highest constituent--the first person we could find in (ii), C_1 in (iii), B_1 in (iv). For any node in a tree, there is a unique such highest constituent (if there is any material at all to the right/left of that node).

(ii)
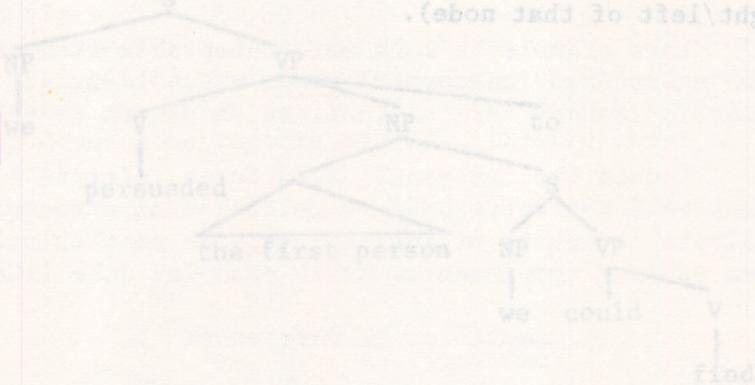
There is no constituent to the right of to. But what is the constituent to the left of to: the V find, the VP could find, the S we could find, or the NP the first person we could find? The problem arises in general for structures of the forms (iii) or (iv):

(iii) (iv)
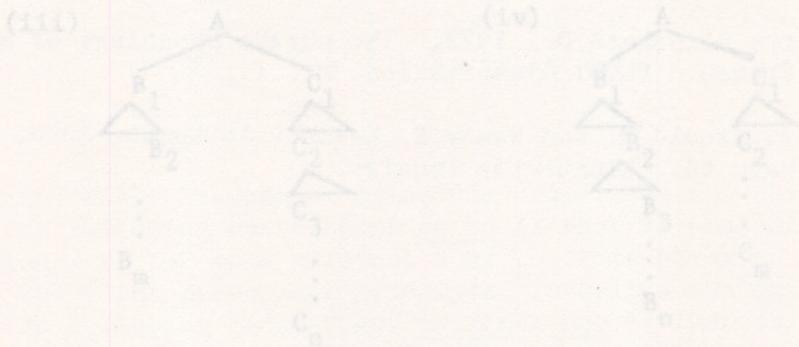
(for $n \geq 2$). In (iii), which of the various C_i ($1 \leq i \leq m$) is the constituent to the right of a B_j ($1 \leq j \leq m$)? In (iv), which of the various B_i ($1 \leq i \leq n$) is the constituent to the left of a C_j ($1 \leq j \leq m$)?

If we choose the lowest constituent--the V find in (ii), C_m in (iii), B_n in (iv)--then in each case we are choosing the following/ preceding word as the constituent to which to is attached and making the claim that to is clitic to this word. But in (ii), and in many other cases, this claim is overstrong: to does not show the reduction