Chapter 6

ON THE NOTION "REORDERING TRANSFORMATION"

6.0.   In Chapter 4, I presented evidence which showed that the

rules of <u>Relative Clause Formation</u> and <u>Question</u> are subject to a variety

of constraints. Since the facts cited in § 5.3.4 above show that

these constraints do not affect rules of pronominalization, the question

arises as to whether there are other rules than just the two studied in

Chapter 4 which are subject to the constraints, and if so, whether it

is possible to predict from the formal statement of a rule whether that

rule will obey the constraints or not. This question has already been

begged: the constraints in Chapter 4 were stated not in terms of the

specific rules of <u>Relative Clause Formation</u> or <u>Question</u>, which were

used to exemplify the effect of the constraints, but rather in terms

of "reordering transformations". In this chapter, I will give a

precise characterization of this presystematic term.

In § 6.1, I will describe briefly a large number of

rules, some apparently related, some not, showing that each is subject

to the constraints. In § 6.2, I will show that transformations which

reorder a constituent, but leave behind a pro-form, to indicate the

place the copied constituent occupied before the operation of the

rule, are not affected by the constraints, and that it is rather

transformations which "chop" a constituent and move it from its

original position without leaving any trace, which are subject to the

constraints. In § 6.3, •I will show that even chopping transformations

are not subject to the constraints unless the chopped constituent it

moved over a variable. In § 6.4, I will show that the feature-

changing rules discussed in § 5.1.3 also obey the constraints. This

fact leads to a theory of <u>islands</u>, the maximal domains of chopping

and feature-changing rules. In § 6.5, a brief summary of the

characterization arrived at is given.

6.1.   <u>Some Rules Obeying the Constraints</u>

6.1.0.   At the outset of my research on variables, I noticed that

the German rule which preposes various types of constituents to the

front of a sentence, thereby triggering a rule which inverts subject

and verb (thus (6.1a) becomes (6.1b), (6.1c), or (6.1d)),

> (6.1)   a.   Ich   sprach   gestern   mit   Orje   Über   Liebe.
>
> 'I   spoke   yesterday with Orje   about   love.'
>
> b.   Gestern   sprach   ich   mit   Orje   Über   Liebe.
>
> c.   Mit   Orje   sprach   ich   gestern   Über   Liebe.
>
> d.   Über   Liebe   sprach   ich   gestern   mit   Orje.

obeyed the same constraints as the rules of <u>Relative Clause Formation</u>

and <u>Question</u> and the rules involved in cleft sentences, like (6.2),

and pseudo-cleft sentences, like (6.3).

> (6.2)   Es war   gestern,   dass   ich mit   Orje Über   Liebe sprac
>
> It was   yesterday that   I   with Orje about   love   spoke
>
> 'It was yesterday that I spoke with Orje about love.'

(6.3) WorÜber ich gestern mit Orje sprach war Liebe.

Where about I yesterday with Orje spoke was love.

'What I spoke with Orje about yesterday was love.'

At that time, I concluded that the way to explain the similarity of the constraints on these rules was to assume that one rule was basic, and was a component of the operations of the other three rules. But Noam Chomsky pointed out to me an alternative possibility: this similarity of constraints might be derivable from some formal property shared by the four rules, rather than from some assumed common function or component. My further research proved Chomsky correct: there are a large number of transformations which obey the same constraints as the four rules that I had originally noticed, rules whose operations are far too dissimilar for it to be possible that there is one rule which is basic to each of these.

In my brief discussion of each of these rules, I will first give an example which is sufficiently complex to suggest that the scope of the rule is unboundedly large, and then give examples to show that the rule is subject to the Complex NP Constraint (CNPC), the Coordinate Structure Constraint (CSC), the Sentential Subject Constraint (SSC), and, where possible, the Left Branch Condition on pied piping (LBC). I have partitioned the rules into three arbitrary groups: the rules in § 6.1.1 produce clauses which resemble questions or relative clauses, some of which may derive

from rules which can be collapsed with the rules of Question and Relative Clause Formation[1]. The rules in § 6.1.2 share only the property of producing structures which in no way resemble relative clauses. The rules in § 6.1.3 constitute the only counter-evidence I know of (but cf. § 6.4) to the claim that only "reordering transformations" are subject to the constraints of Chapter 4.

6.1.1.

6.1.1.1.   One rule which results in question-like structures is the rule which produces exclamatory sentences, like those in (6.4).

> (6.4)   a.   How brave he is!
>
> b.   How surprisingly well he dances!
>
> c.   The bravery of our boys in Vietnam, Thailand, Cambodia, Korea, Malaya, Iceland, Nepal, Egypt, Turkey, Kazakhistan, Morocco, Haiti, Peru, Chile, Quebec, the Honduras, Baffinland, Monaco, and all the other places in the world where freedom needs protection!

I imagine that sentences like (6.4c), which consist of a single abstract NP, spoken reverentially, will derive from sentences like (6.4a), where he is replaced by our boys in Vietnam, etc., but I do not know how the rules that effect this conversion should be

formulated.

Although the sentences in (6.4) resemble questions, they are much more limited, for there are many question words that cannot head an exclamatory sentence, as (6.5) shows.

(6.5)   a. *Whether he left!

b. ˌ *Why he knows the answer![2]

c. *Which boy is tall!

It seems likely to me that the restriction which is operative here is that it is only sentences with degree adverbs which can function in exclamatory sentences. This is indicated by the fact that if the word <u>bravery</u>, which is derived from a lexical item allowing degree modifiers (<u>very brave</u>), is replaced in (6.4c) by an abstract noun like <u>arrival</u>, whose underlying lexical item does not admit of degree modification (*<u>very arrive</u>, *<u>arrive very</u>), the sentence becomes ungrammatical. But there are several classes of counter-examples to this generalization (cf. e.g., the sentences in (6.6)), and although these seem intuitively to be different from the sentences in (6.4), I have no convincing arguments which show this to necessarily be the case.

(6.6) ✡ a. When my daughter came home last night![3]

✡ b. What my husband eats!

✡ c. Where my son and that girl he married are living!

But no matter what the source for such sentences as

those in (6.4) is, it is clear that the rule which forms them must

be able to move the <u>wh</u>-ed constituents to the front of the sentence

from indefinitely deeply embedded structures (cf. (6.7)).

> (6.7)   How brave everybody must think you expect me
>
>   to believe he is!

That this rule is subject to the CNPC, the CSC, and the

SSC, can be seen from (6.8), (6.9), and (6.10), respectively.

> (6.8)   a.   *How brave I know a boy who is!
>
>   b.   How brave they must believe (*the claim) that
>
>   you are![4]
>
> (6.9)   a.   *How brave he is tall and!
>
>   b.   *How brave Mike is cowardly and Sam is!
>
> (6.10)   a.   *How brave that Tom is must be believed!
>
>   b.   How brave it must be believed (?that) Tom is![5]

That it is also subject to the LBC can be seen from the

fact that it is (6.4a) that is grammatical, and not (6.11).

> (6.11)   *How he is brave![6]

The reason that (6.11) is ungrammatical is the same as the one given

for the ungrammaticality of (4.190), in § 4.3.2.1 above.

6.1.1.2.   The first constructions which exhibit relative-clause-like

structures are clauses introduced by <u>where</u>, <u>when</u>, <u>after</u>, <u>before</u>, <u>since</u>,

<u>until</u>, and <u>while</u>. Michael L. Geis has proposed[7] that all of these

clauses be treated as deriving from relative clauses on such head

nouns as _place_ or _time_. Thus _at the time at which_ becomes _at the_

time when, which may, by deletion of the NP _at the time_, result in

a clause introduced by the single word _when_. That the source in

the constituent sentence for the phrase _at that time_, from which this

word derives,can be indefinitely far down the tree can be seen from

(6.12),

> (6.12) Bill left when everyone will believe that the
>
> police have forced me to confess that I shot
>
> Sandra.

where the word _when_ refers to the time of the shooting of Sandra. That

the rule which forms such adverbial clauses, if it is different from

the rule of _Relative Clause Formation_, which I doubt, is subject to

the CNPC, the CSC and the SSC can be seen from (6.13), (6.14), and

(6.15), respectively.

> (6.13) a. *Bill left when I am looking at a girl who vomited.
>
> b. Bill left when I believe (*the claim)(?that)
>
> the bomb had just exploded.
>
> (6.14)   When I am awake (*at that time) and Susan
>
> is asleep, Bill will leave.
>
> (6.15) a. *Bill left when that noone else was awake
>
> is certain.[8]
>
> b. Bill left when it is certain that noone else
>
> was awake.

Sentences similar to these, which show the other adverbial clauses mentioned to be subject to the three major constraints, can also be constructed, but I will not undertake this here.

6.1.1.3.   The second type of relative-clause-like construction is exemplified in (6.16):

(6.16)   Here's a knife for you to cut up the onions with.

<u>For to</u> phrases can modify noun phrases in the same way as relative clauses. The subjects of these clauses can be deleted under interesting conditions (cf. (6.17)).

(6.17) a. I brought a razor to shave $\left\{ \begin{matrix} \text{myself} \\ \text{*himself} \end{matrix} \right\}$ with.

  b. I brought a razor with which to shave $\left\{ \begin{matrix} \text{myself} \\ \text{*himself} \end{matrix} \right\}$.

  c. I brought John a razor to shave $\left\{ \begin{matrix} \text{*myself} \\ \text{himself} \end{matrix} \right\}$ with.

  d. I brought John a razor with which to shave $\left\{ \begin{matrix} \text{*myself} \\ \text{himself} \end{matrix} \right\}$

The presence of the relative pronoun <u>which</u> in (6.17b) and (6.17d) suggests that whatever rule forms these clauses always preposes this pronoun to the front of the clause, deleting it obligatorily just in case the embedded subject has not been deleted. Thus (6.16) would be derived from the structure which underlies (6.18).

(6.18)   *Here's a knife which for you to cut up the onions with.

Somehow the rule which forms these clauses must prevent a preposition

which precedes the NP to be relativized from pied piping, unless the subject of the clause has been (or will be?) deleted -- nothing can save a structure like (6.19), where the preposition <u>with</u> has pied piped, except possibly some <u>ad hoc</u> rule to reinsert the preposition where it came from, a rule unstateable under present conventions, in any account.

(6.19)   *Here's a knifc with which for you to cut up
            the onions.

Constituents can be moved by this rule from indefinitely far down the tree, as (6.20) shows.

(6.20)   Here's a plate for you to make Bob try to
            begin to force his sister to leave the
            cookies on.

I am not sure whether this rule can relativize elements from within <u>that</u>-clauses at all, but if so, it is only elements dominated by VP in such clauses, not subjects, that can be relativized. (6.21a) may be grammatical, but (6.22b) is almost certainly not.

(6.21)   a. ?Here's a knife for you to say that you cut
             up the onions with.

         b. *Here's a knife for you to say was on the table.

Thus we see that this rule, even if it should someday prove to be collapsible with the rule of <u>Relative Clause Formation</u>, will have to have a number of special restrictions imposed on it. And yet the

sentences in (6.22), (6.23), and (6.24) show it to be subject to the CNPC, the CSC, and the SSC, respectively.

(6.22)   a. *Here's a pole for you to kiss the girl who tied the string around.

          b. ?Here's a razor for you to announce (*the possibility) that you will shave with.

(6.23)   *Here's a razor for you to chop up these nuts with this cleaver and.

(6.24)   a. *Here's a razor for that you will be shaved with to be announced.

          b. ??Here's a razor for it to be announced that you will be shaved with.

Whether or not the LBC can be shown to be operative for this rule will depend upon it being possible to set up a contrast between such sentences as those in (6.25).

(6.25)   a. ?I loaned Maggie a Swiss Army knife with whose corkscrew to open the padlock.

          b. *I loaned Maggie a Swiss Army knife whose to open the padlock with corkscrew.

While it is clear that (6.25b) is word salad, I am not sure that (6.25a) is fully grammatical. If not, this rule cannot be shown to be subject to the LBC.

6.1.1.4.   It is well-known that appositive clauses obey the same restrictions restrictive relative clauses do, but it may not have been observed before that sentential clauses, like those in (6.26), also do.

>   (6.26)   a.   Fluffy is sick, which few people realize.
>
>   b.   Fluffy is sick, which I'm not sure you know Sarah expects me to believe Joan realizes.

Sentence (6.26b) suggests that this rule must be able to prepose the relative pronoun which, which stands for the sentence Fluffy is sick, from indefinitely deeply embedded positions, and sentences (6.27), (6.28), and (6.29) show that it too is subject to the CNPC, the CSC, and the SSC.

>   (6.27)   a.   *Fluffy is sick, which I slapped a boy who wouldn't acknowledge.
>
>   b.   Fluffy is sick, which I believe (*the claim) that few people realize.
>
>   (6.28)   *Fluffy is sick, which I fell asleep and Tom suddenly realized.
>
>   (6.29)   a.   *Fluffy is sick, which that noone here realizes is certain.
>
>   b.   Fluffy is sick, which it is certain that noone here realizes.

The same restrictions apply to sentential as-clauses: the word as can be substituted for which in sentences (6.26) - (6.29) with

no change in grammaticality, although this is not in general true.
The sentences in (6.30) show that the rule which forms as-clauses must
be sensitive both to the presence of certain types of negation and to
the syntactic environment from which the constituent which as replaces
comes.[9]

(6.30) a. Fluffy is sick, $\left\{\begin{array}{l}\text{which}\\ \text{*as}\end{array}\right\}$ nobody knows.

 b. Fluffy is sick, $\left\{\begin{array}{l}\text{which}\\ \text{as}\end{array}\right\}$ not everybody knows.

 c. Fluffy is sick, $\left\{\begin{array}{l}\text{which}\\ \text{*as}\end{array}\right\}$ surprises me.

These restrictions on as-clauses are unlike any known to
obtain on relative clauses, restrictive or appositive, so I am highly
doubtful that the rule which forms as-clauses can be collapsed with
other rules which form relative clauses.

6.1.1.5.   The rules that form cleft sentences, pseudo-cleft sen-
tences, and topicalized sentences are also subject to the constraints.
The sentences in (6.32) show them all to be subject to the CNPC, and
those in (6.33), (6.34), and (6.35) show them to be subject to the
CSC, the SSC, and the LBC, respectively, while the sentences in
(6.31) show their scope to be unbounded.

(6.31) a. It was this hat that Tom said Al thought you
             wanted me to make Jack put on.

 b. What Tom said Al thought you wanted me to
             make Jack put on was this hat.

        c.   This hat Tom said Al thought you wanted me

             to make Jack put on.

(6.32) a.   *It is this hat that I know the boy who is wearing.

        b.   It is this hat that I believe (*the claim)

             that he was wearing.

        c.   *What I know the boy who was wearing is this hat.

        d.   What I believe (*the claim) that he was

             wearing is this hat.

        e.   *This hat I know the boy who was wearing.

        f.   This hat I believe (*the claim) that he

             was wearing.

(6.33) a.   *It is this hat that the gloves and were on

             the table.

        b.   *What the gloves and were on the table was this hat.

        c.   *This hat the gloves and were on the table.

(6.34) a.   *It is this hat that that he was wearing is certain.

        b.   It is this hat that it is certain that he

             was wearing.

        c.   *What that he was wearing is certain is this hat.

        d.   What it is certain that he was wearing is this hat.

        e.   *This hat that he was wearing is certain.

        f.   This hat it is certain that he was wearing.

(6.35) a.   *It was John's that I stole bike.

        b.   *The one whose I stole bike was John's.

        c.   *John's I stole bike.

Because of the many additional similarities shared by these constructions, I am inclined to think they all derive from the same deep structure source, although I can propose none that is convincing. But all that is at issue here is the fact that the set or sets of rules that produce these constructions are all subject to the constraints of Chapter 4.

6.1.1.6.   The next relative-clause-like construction I will consider is that exemplified in (6.36).

> (6.36)   Maxwell isn't (half) the doctor that his
>
> father was.

The fact that the element <u>half</u> can precede the modified NP in (6.36) shows that this sentence cannot be considered to be an instance of a predicate nominal modified by a relative clause, as in (6.37),

> (6.37)   Maxwell is the man who won the Nobel Prize
>
> for horoscopy.

for if <u>half</u> is present in (6.36), the "relative clause" must be present, as the ungrammaticality of (6.38) indicates.[10]

> (6.38)   *Maxwell isn't half the doctor.

It seems probable that (6.36) can be related to such sentences as those in (6.39),

> (6.39)   a.   Maxwell is quite $\begin{Bmatrix} a \\ the \end{Bmatrix}$ doctor.
>
> b.   Maxwell isn't much of a doctor.

        c.   Maxwell is more of a doctor than his son is.

but no analysis of these constructions has been deep enough for this
to be established positively. One final point of interest about these
constructions is that the "relativized" element seems to have to
follow the copula <u>be</u> in both the matrix and constituent sentences.
When this strange constraint is violated, ungrammatical sentences such
as those in (6.40) result.

      (6.40)   a.   *Maxwell isn't (half) the doctor that was here.

              b.   *Maxwell isn't (half) the doctor that

                    polished off the vodka.

              c.   *(Half) the doctor that Maxwell's father

                    was sat down.

As (6.41) suggests, the <u>that</u>-clause of (6.36) is not
bounded in length:

      (6.31)   Maxwell isn't (half) the doctor that I

                    feared Marge would realize Tom had confessed

                    that he knew Bill expected him to be.

Whatever rule it is that forms such clauses, it is subject to the
CNPC, the CSC, and the SSC, as sentences (6.42), (6.34), and (6.44),
respectively, show.

      (6.42)   a.   *Maxwell isn't half the doctor that I know

                    an African chief who is.

              b.   Maxwell isn't half the doctor that people

                    around here believe (*the claim) that his

                    father was.

(6.43)   *Maxwell isn't half the doctor that his sister

is a psychologist and his father was.

(6.44) a. *Maxwell isn't half the doctor that that he

would be if he studied is certain.

b. Maxwell isn't half the doctor that it is

certain that he would be if he studied.

6.1.1.7.   The last two cases of relative-clause-like constructions

that I will discuss are those exemplified in (6.45).

(6.45) a. He's the happiest that I've ever seen him.

b. The hardest that it ever snowed was last

January 12th.

I have grouped these two constructions together only on the basis of

the fact that they both contain superlatives. What their deep

structures are in fact, and whether the same rules are used in

forming each, is anyone's guess. The grammar of superlatives, if it

is not the most poorly understood of all problems yet investigated

within the framework of generative grammar, is certainly not far off

the pace.[11]

That both of the that-clauses in (6.45) can be extended

without bound is suggested by the random degree of complexity attained

in (6.46).

(6.46) a. He's the happiest that any of my friends

could estimate anybody would expect you to

▸believe that I've ever seen him.

b. The hardest that I think I remember him

ever telling me that he had heard of it

snowing around here was last January 12th.

The rules that produce such constructions are subject
to the three constraints of Chapter 4, as sentences (6.47)-(6.49) show.

(6.47) a. *He's the happiest that we ever talked to

the boy who had seen him.

b. He's the happiest that I believe (*the

claim) that he's ever been.

c. *The hardest that I ever knew a man who said

that it had snowed was last January 12th.

d. The hardest that I believe (*the claim)

that it ever snowed was last January 12th.

(6.48) a. *He's the happiest that I've ever seen him

drunk and.

b. *The hardest that all the power lines were down

and it snowed was last January 12th.

(6.49) a. *He is the happiest that that he has ever

been is believed.

b. He is the happiest that it is believed

that he has ever been.

c. *The hardest that that it has snowed here is

believed was last January 12th.

d. The hardest that it is believed that it has

snowed here was last January 12th.

6.1.2.

6.1.2.0.   While no arguments are available (and I doubt that any

are forthcoming) that all the above structures are offshoots of

either the rule of <u>Relative Clause Formation</u> or the rule of <u>Question</u>,

since all the constructions discussed exhibit some clause headed by

a <u>wh</u>-word or the word <u>that</u>, it is at least logically possible that an

analysis will someday be discovered which makes use of one of these

two rules to derive all of the above constructions. But in the case

of those constructions that I will discuss in this section, such an

analysis would be inconceivable, for the structures produced contain

relative-clause-like structures only incidentally, if at all.

6.1.2.1.   The rule of <u>Extraposition from NP</u>, (1.10), because of its

formal structure, is upward bounded, so it is impossible to show with

such sentences as (4.18) that it is subject to the CNPC; the same

obtains for the SSC. It is, however, possible to show that it

must be subject to the CSC. For consider structure (6.50):

(6.50)
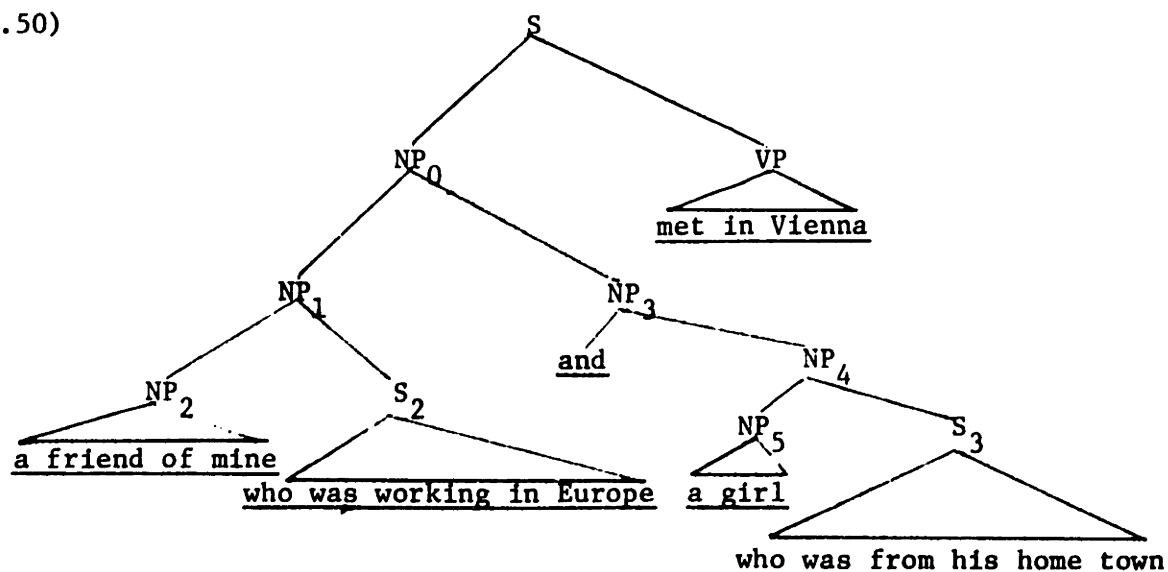
If the rule of <u>Extraposition from NP</u> applied to this structure to move S_2 out of NP_1, or S_3 out of NP_4, one of the ungrammatical sentences in (6.51) would be generated.

> (6.51) a. *A friend of mine and a girl who was from
>
>   his home town met in Vienna who was working
>
>   in Europe.
>
>   b. *A friend of mine who was working in Europe
>
>   and a girl met in Vienna who was from his
>
>   home town.

A similar example can be constructed to show that <u>Extraposition</u>, (4.126), must also be subject to the CSC.

(6.52)
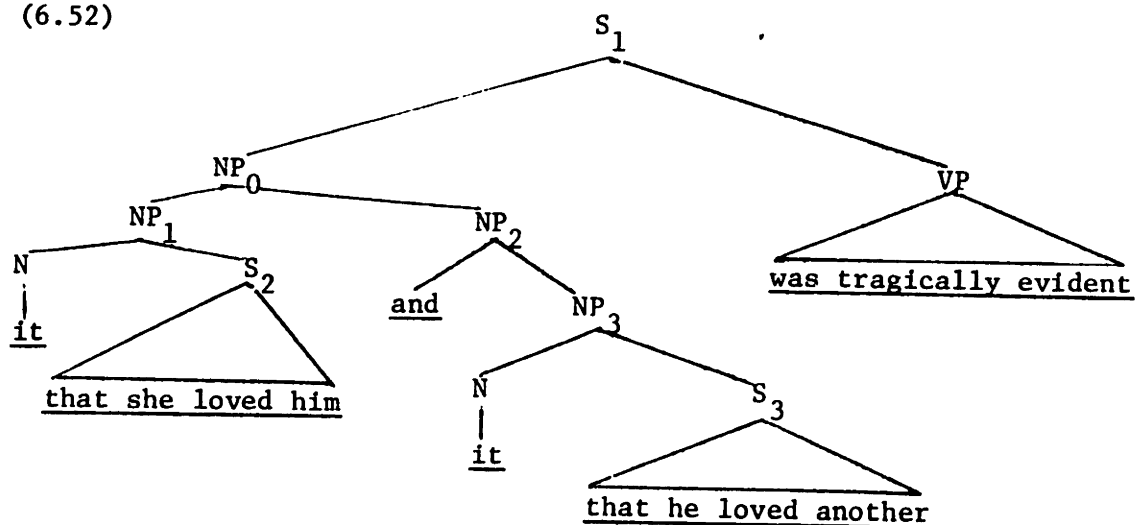
If <u>Extraposition</u> does not apply to this structure, the rule of <u>It Deletion,</u> which was stated in **(4.128)**, will delete both occurrences of <u>it</u> in (6.52), and the grammatical (6.53) will result.

(6.53)   That she loved him and that he loved another

was painfully evident.

However, if <u>Extraposition</u> were allowed to apply to either S_2 or

S_3 in this structure, one of the ungrammatical structures in (6.54)

would be produced.

(6.54)   a. *It and that he loved another was painfully

evident that she loved him.

b. *That she loved him and it was painfully

evident that he loved another.

The CSC must be invoked to block the generation of the sentences in

(6.51), and it can also block the generation of those in (6.54).

However, since it is not known what the relative ordering of the rules

of <u>Extraposition</u> and <u>Conjunction Reduction</u> is, it might be that the

rules could be ordered in such a way as to prevent (6.54) without the

CSC being necessary. But such a rule-ordering explanation is not

available in the case of (6.51), for if the analysis presented in

Lakoff and Peters (1966) is correct, the conjoined NP subject of

such verbs as <u>meet</u>, <u>similar</u>, etc. is derived from a conjoined NP

in deep structure. It therefore seems inescapable that the CSC must

constrain the operation of at least one rule, <u>Extraposition from NP</u>,

which cannot be argued to be a subcase of the rules of <u>Relative Clause</u>

<u>Formation</u> or <u>Question</u>.

6.1.2.2.   Although the rule of <u>NP Shift</u>, (5.57), cannot be shown

to be subject to the CNPC or the SSC, because it, like the two

extraposition rules, is subject to the stronger restriction of being upward bounded, it can be shown to obey the CSC, for the a-sentences below must not be converted into the b-sentences.

(6.55) a. Mary and [an old friend who comes from Miami]$_{NP}$ kissed.

       b. *Mary and kissed an old friend who comes from Miami.

(6.56) a. I gave a picture of a covered bridge and [a hundred hikers from Hoboken]$_{NP}$ to my sister.

       b. *I gave a picture of a covered bridge and to my sister a hundred hikers from Hoboken.

(6.57) a. Joan plays [a wonderful old guitar from Spain]$_{NP}$ and sings folksongs.

       b. *Joan plays and sings folksongs a wonderful old guitar from Spain.[12]

That the rule of NP Shift is also subject to the LBC was argued in § 4.3.2.1 above, in connection with the ungrammaticality of (4.188b) and (4.188c).

6.1.2.3. The rule of Conjunction Reduction, whose operation was described informally in § 4.2.4.1. above, is stated roughly as in (6.58).

(6.58) Conjunction Reduction

    a. $[and - [X - A]_B^n \,]_B$

$$1 \quad 2 \quad 3 \quad \overset{OPT}{\Longrightarrow}$$

$$[1 \quad 2 \quad 0]_B \#3$$

b. $\quad [and - [A - X]_B^n]_B$

$$1 \quad 2 \quad 3 \qquad\qquad \xrightarrow{OPT}$$
$$2\#[1 \quad 0 \quad 3]_B$$

Condition: all occurrences of A are identical.

This notation should be interpreted to mean that in any coordinate node of the category B, which dominates any number of conjuncts which are also of the category B, and each of which either ends or begins with a constituent of category A, where all occurrences of A are identical, all of these occurrences of A are superimposed, and adjoined to the conjoined node B. Thus (4.118) could be converted into (4.119) by the operation of this rule.

This rule must be formulated in such a way as to reorder each instance of the category A, adjoining it to the coordinate node, for otherwise the following facts cannot be explained. If my intuitions are correct, (6.59a) cannot be converted into (6.59b), and (6.60a) can be converted into (6.60b) only if the parenthesized NP, the claim, is not present.

(6.59)   a.   Sally might be pregnant, and I know a girl who definitely is pregnant.

          b.?* Sally might be, and I know a girl who definitely is, pregnant.

(6.60)   a.   Sally might be pregnant, and I believe (the claim) that Sheila definitely is pregnant.

b. ?Sally might be, and I believe (?*the claim)

that Sheila definitely is, pregnant.

Some speakers claim to find no difference between the
version of (6.60b) in which the claim is present and the one in which
it is not, or between (6.59b) and either of these. If all are held to
be ungrammatical, then rule (6.58) must simply be restricted in such
a way that the nodes A cannot be dominated by a that-clause. However,
if all are held to be grammatical, then there is a serious inadequacy
in my analysis, for I would hold that if a rule is subject to one
of the constraints of Chapter 4, it must be subject to all. And it
seems clear that at least the CSC must constrain the operation of
rule (6.58), for I know of noone who finds the result of the conver-
sion of (6.61a) into (6.61b) grammatical.

> (6.61) a. The younger woman might have been tall
>
> and blonde, and the older one definitely
>
> was blonde.
>
> b. **The younger woman might have been tall and,
>
> and the older one definitely was, blonde.

But the picture is complicated by the existence of such sentences as
those in (6.62) and (6.63).

> (6.62) a. Sally is tall, and maybe blonde, and Sheila
>
> is short, and definitely is blonde.
>
> b. ?*Sally is tall, and maybe, and Sheila is
>
> short, and definitely is, blonde.

(6.63) a. Hank plays the guitar and finds arrangements

for all the old folksongs which are still

sung in these hills, and Ernie writes down

all the old folksongs which are still sung

in these hills.

b. ??Hank plays the guitar and finds arrangements

for, and Ernie writes down, all the old folk-

songs which are still sung in these hills.

In my speech, (6.62b) and (6.63b) are clearly far better than (6.61b), but I am not confident enough of this judgment to assert that they should be considered fully grammatical. However, if all three are to be considered ungrammatical, as well as (6.59b) and the version of (6.60b) in which the NP the claim appears, at least the rule which converts (4.118) into (4.119) must be formulated as a reordering rule, and be subject to the CNPC and the CSC. That this rule must also be subject to the LBC was pointed out in § 4.3.2.4 above, in connection with the ungrammaticality of (4.239) (but cf. also the discussion of sentence (4.241)).

6.1.2.4. The next rule I will discuss in connection with the constraints of Chapter 4 is the rule which converts (6.64a) to (6.64b), by preposing a VP which immediately follows an emphatically stressed auxiliary verb, under various conditions which need not concern us here.

(6.64) a.   They said that Tom $\begin{cases} \text{would pay up, and he} \begin{cases} \text{did} \\ \text{will} \end{cases} \text{pay u} \\ \text{had gone home, and he has gone} \\ \text{was working, and he is working} \end{cases}$

b.   They said that Tom $\begin{cases} \text{would pay up, and pay up he} \begin{cases} \text{did} \\ \text{will} \end{cases} \\ \text{?had gone home, and gone home he} \\ \text{was working, and working he is} \end{cases}$

The statement of this rule must make crucial use of a variable, as
(6.65) suggests.

(6.65)   They said Tom would pay up, and pay up I'm

sure everybody will tell you that his lawyers

expect me to believe he did.

The rule is subject to the CNPC, the CSC, and the SSC, as can be seen
from (6.66), (6.67), and (6.68), respectively.

(6.66) a.   They said nobody would pay up, but I know

a boy who did pay up.

b.   *They said nobody would pay up, but pay up

I know a boy who did.

c.   They said that Tom would pay up, and pay up

I believe (*the claim) that he did.

(6.67) a.   They said that Tom wouldn't pay up, but he

did go to the bank, and he did pay up.

b.   *They said that Tom wouldn't pay up, but pay

up he did go to the bank and he did.

(6.68) a.   *They said that Tom would pay up, and pay up

that he did is well-known.

b.   They said that Tom would pay up, and pay up

it is well-known that he did.

6.1.2.5.   The statement of the rule which converts (6.69a) into
(6.69b) also must make crucial use of variables, as the complexity of
(6.70) suggests.

(6.69)   a.   Although Dick is handsome, I'm still going

              marry Herman.

         b.   Handsome though Dick is, I'm still going

              to marry Herman.

(6.70)   Handsome though everyone expects me to try

              to force Bill to make Mom agree that Dick is,

              I'm still going to marry Herman.

That this rule is subject to the CNPC, the CSC, and the SSC can be
seen from sentences (6.71), (6.72), and (6.73), respectively.

(6.71)   a.   *Handsome though I know several boys who are,

              I'm still going to marry Herman.

         b.   Handsome though I believe (*the claim) that

              Dick is, I'm still going to marry Herman.

(6.72)   *Handsome though Dick is fair, Nordic,

              strong and, I'm still going to marry Herman.

(6.73)   a.   *Handsome though that Dick will be is likely,

              I'm still going to marry Herman.

         b.   Handsome though it is likely that Dick will

              be, I'm still going to marry Herman.

6.1.2.6.   Whatever rule it is that derives sentences like (6.74)
from some equally unknown deep structure, its statement must make

crucial use of a variable, as such sentences as (6.75), if they are grammatical, would suggest.

(6.74)   The more contented we pretended to be, the more we grew angry at the doctors.

(6.75)   ?The more contented the nurses began to try to persuade us to pretend to be, the more angry we grew at the doctors.

That this rule is subject to the CNPC, the CSC, and the SSC can be seen from sentences (6.76), (6.77), and (6.78), respectively.

(6.76) a. *The more contented I laughed at the nurse who thought that we were becoming, the more angry we grew at the doctors.

b. ??The more contented the nurses began to believe (*the claim) that we were going to pretend to be, the more angry we grew at the doctors.[13]

(6.77)   *The more contented we pretended to be better fed and, the more angry we grew at the doctors.

(6.78) a. *The more contented for us to pretend to be became possible, the more angry we grew at the doctors.

b. ?The more contented it became possible for us to pretend to be, the more angry we grew at the doctors.

6.1.2.7.   The next rule I will consider in this section is the

rule which converts such sentences as (6.79a) into (6.79b), provided

that the object of the preposition <u>de</u> has been pronominalized.

(6.79)   a.   J'ai   une photo   de cette maison.

I have a   picture of this   house.

b.   J'en   ai   une photo.

I of it have a   picture.

'I have a picture of it.'

This rule seems to be able to operate over a potentially indefinitely

large portion of a tree, as (6.80b), which results from (6.80a) if

the NP <u>la table</u> 'the table' has been pronominalized, shows.[14]

(6.80)   a.   Je vois le   bout du   toit de l'aile

I see   the end   of the roof of the wing

gauche de la   maison.

left   of the house.

'I see the end of the roof of the left wing of the house.'

b.   J'en   vois le   bout du   toit de l'aile   gauche.

I of it see   the end   of the roof of the wing left.

'I see the end of the roof of its left wing.'

This rule is subject to a stronger constraint than the combination

of the CNPC and the SSC -- it is upward bounded.[15]   It can be shown to

be subject to the CSC by the fact that (6.81a) cannot become (6.81b)

if the NP <u>la maison</u> 'the house' has been pronominalized.[16]

(6.81) a. Je vois la porte du   garage et le toit

I see the door of the garage and the roof

de la maison.

of the house.

b. *J'en vois la porte du garage et le toit.[17]

6.1.2.8. The last rule I will deal with in this subsection, the rule which produces structures like (6.82),

(6.82) I have some ṕapers to grade.

also seems not to be able to move NP's out of tensed clauses (cf. (6.83)),

(6.83) ?*I have some ṕapers to announce that I've

got to grade.

although this rule appears to be able to range indefinitely far down into a tree, as (6.84) suggests.

(6.84) I have some ṕapers to try to finish grading.

It is not clear to me whether sentences (6.82) and (6.84) can be argued to be synonymous with any reading of (6.85a) and (6.85b), respectively.

(6.85) a. I have to grade some papers.

b. I have to try to finish grading some papers.

If their meaning is correct, they are the most obvious source for (6.82) and (6.84). But if they cannot be the source for these sentences, I am at a loss to suggest what might be. It seems unlikely that a structure like that shown in (6.86) can serve as a source;

(6.86)
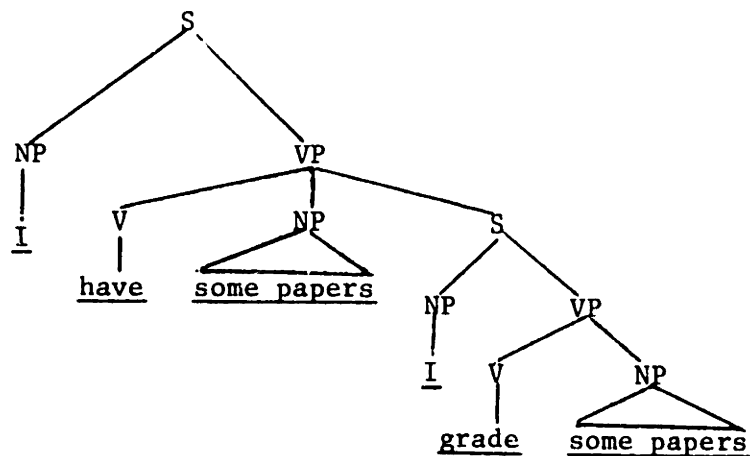
for there are sentences like (6.87),

(6.87)   I have getting into college to consider.

where the NP that directly follows __have__ in surface structure is

abstract, and I know of no other verb which takes an NP S object

(e.g., verbs like __compel, motivate, challenge__, etc.),where the NP

can be inanimate.

However, no matter what the source of such sentences is,

the fact that the rule that produces them obeys the CSC and the LBC

can be seen from the ungrammaticality of the sentences in (6.88)

and (6.89).

(6.88)   a.   *I have some papers to grade these exams and.

         b.   *I have some voice exercises to play the

              guitar and sing.

(6.89)   *I have John's to grade paper.

6.1.3.

6.1.3.0.   In § 4.1.4 above, I argued from the fact that the rule

which forms relative clauses in Japanese is subject to the crossover

condition, (4.30), and to the CNPC (it is also subject to the CSC, but not to the SSC, as I showed in § 4.4.1) to the conclusion that the rule must be formulated as a "reordering transformation" (in a sense which will be made more precise in § 6.2 and §6.3 below). This is only one of the possible conclusions: the other is that is not the case that the crossover condition and the constraints of Chapter 4 only affect "reordering transformations"; rather, there are some transformations whose only effect is to delete constituents under identity, but which are nonetheless still subject to the constraints. The question then arises as to how such deletions are to be distinguished from other rules of pronominalization, which I showed, in § 5.3.4, not to be subject to the constraints, of Chapter 4. This question will be taken up in § 6.4 below.

6.1.3.1.   The first two pronominalization-like rules I will consider are those which produce those comparative constructions which exhibit the morphemes -er...than and as...as. Since these two constructions behave alike in all respects of interest here, I will give examples of only the former construction.

As (6.90) suggests, than-clauses of any desired length can be constructed.

(6.90)   Wilt is taller than I imagine anybody would ever guess that people had begun expecting Red to announce that he was.

▸

One of the operations that takes place in the formation of than-clauses is that the compared element in the than-clause is obligatorily deleted if it is identical to the element of the main clause with which it is compared. Thus in (6.91a), because the two compared adjectives are dissimilar, the one in the than-clause is retained. In (6.91b), however, since the compared adjectives are identical, the parenthesized occurrence in the than-clause is obligatorily deleted.

(6.91)   a.   The sofa was longer than the room was wide.

           b.   The sofa was longer than the desk was (long).

This deletion operation is subject to the CNPC, the CSC, and the SSC, as the sentences in (6.92), (6.93), and (6.94) show.

(6.92)   a.   *Wilt is taller than I know a boy who is.

           b.   Wilt is taller than I believe (*the claim) that Bill is.

(6.93)   a.   *Wilt is taller than Bill is strong and.

           b.   *Dean drank more booze than Frank ate Wheaties and Sammy drank.

(6.94)   a.   *Wilt is taller than that Bill is is generally believed.

           b.   Wilt is taller than it is generally believed that Bill is.

There is another deletion rule which is subject to the constraints and which is probably best treated as being a special case of the rule which forms comparatives. In sentences containing

-er...than or inherently comparative verbs like <u>increase</u>, <u>diminish</u>, <u>outrun</u>, <u>overthrow</u>, etc., it is possible to have <u>by</u>-phrases, like those in (6.95), which make precise the amount by which the compared elements differ.[18]

(6.95)   a.   Wilt is taller than Bill by 7 millimeters.

b.   The raise which Scrooge generously gave Tom's father increased his yearly salary by five cents.

c.   The hare outran the tortoise by so much that he forgot the latter was even in the race any more.

d.   Who knew Mickey would overthrow home plate by that much?

If two sentences contain such <u>by</u>-phrases, as is the case with the sentences of (6.96),

(6.96)   a.   Wilt is taller than Bill by that much.

b.   Big O is taller than the Cooz by that much.

then it is possible for one sentence to appear as a subconstituent of the other, superficially, at least, as a degree modifier of <u>much</u>. Thus (6.96b) can become a modifier of the occurrence of <u>much</u> in (6.96a), as in (6.97).

(6.97)   Wilt is taller than Bill by as much as Big O is taller than the Cooz.

The objects of the preposition <u>by</u> can also be compared, as is the case in (6.98).

(6.98)   Wilt is taller than Bill by more than Big O

is taller than the Cooz.

Exactly what the rule is which is at work here is not my concern: for

my present purposes it is sufficient to point out that this apparent

rule of deletion has an unbounded scope (this is suggested by (6.99)),

(6.99)   Wilt is taller than Bill by as much as

everybody seems to expect me to admit to

having publicly proclaimed that I believed

Big O to be taller than the Cooz.

and that it is subject to the CNPC, the CSC, and the SSC (cf. (6.100),

(6.101), and (6.102), respectively).

(6.100) a. *Wilt is taller than Bill by as much as I

know a boy who thinks that Big O is taller

than the Cooz.

b. Wilt is taller than Bill by as much as

Peter believes (*the claim) that Big O is

taller than the Cooz.

(6.101)   *Wilt is taller than Bill by as much as I

watch all the games and I know Big O is

taller than the Cooz.

(6.102) a. *Wilt is taller than Bill by as much as that

Big O is taller than the Cooz is believed.

b. Wilt is taller than Bill by as much as it

is believed that Big O is taller than the

Cooz.

6.1.3.2.   The second deletion rule which obeys the constraints is the rule which converts (6.103a) into (6.103b), sometimes optionally, sometimes obligatorily.

(6.103) a. ?The rock was too heavy for me to pick it up.

b. The rock was too heavy for me to pick up.

I am not entirely sure of this, but I believe that this rule must be allowed to delete elements which are indefinitely far down in a tree (cf. (6.104)).

(6.104) a. This rock is too heavy for me to begin to decide about helping Bob to try to pick it up.   .

b. ??This rock is too heavy for me to begin to decide about helping Bob to try to pick up.

Even if it is possible to find indefinitely long examples of this construction, a restriction must apparently be stated so that elements of clauses containing finite verbs will not be deleted: no grammatical sentences like (6.105) appear to exist.

(6.105)   *This rock is too heavy for us to try to claim that we picked up.

If this rule is formulated with variables, it must be made subject to the CSC, the SSC, and the LBC, as (6.106), (6.107) (if grammatical sentences like (6.107b) exist), and (6.108) show.

(6.106) a. Sodium is a little too peppy for me to want to try mixing it and water in a teacup.

b. * Sodium is a little too peppy for me to want to try mixing and water in a teacup.

(6.107) a. *That piece of ice is too big for for him to be

able to pick up with a teaspoon to be likely.

b. ??That piece of ice is too big for it to be

likely for him to be able to pick up with

a teaspoon.

(6.108) a. Bob is too thin for me to be able to squeeze

into his jacket.

b. *Bob is too thin for me to be able to squeeze

into jacket.

The rule which is at work here can probably be collapsed

with the rule which converts (6.109a) into (6.109b),

(6.109) a. This rock is light enough for Marcia to

pick it up.

b. This rock is light enough for Marcia to

pick up.

for the grammaticality of sentences (6.103)-(6.108) is not affected

by the substitution of Adj+enough for too+Adj.

6.1.3.3. A rule possibly related to this last rule is the one

which converts (6.110a) into (6.110b):

(6.110) a. The socks are ready for you to put them on.

b. The socks are ready for you to put on.

Once again, although it is difficult to construct long examples, it

may be the case that this deletion rule can operate over indefinitely

long stretches of phrase markers (Cf. (6.111)).

(6.111) a. The socks are ready for you to go about

beginning to put them on.

b. ?The socks are ready for you to go about

beginning to put on.

As was the case with the previous rule, this rule seems not to be

able to delete elements of clauses containing finite verbs (cf. (6.112)).

(6.112) a. The socks are ready for you to announce

that you will put them on.

b. *The socks are ready for you to announce

that you will put on.

If this rule must be stated with variables, then it must also be

subject to the CSC and the LBC, as (6.113) and (6.114) show. Sentence

(6.115a) shows that it is not possible to delete elements of senten-

tial subject clauses, but I have not been able to find sentences like

(6.115b), where the deletion has become possible after the extra-

position of the clause, so it may be that this rule is subject to a

stronger constraint than the previously discussed rules in this

section.

(6.113) a. The socks are ready for you to try them

and the garters on.

b. *The socks are ready for you to try and the

garters on.

(6.114) a. Pfc. Golliwog is ready for you to inspect

his bunk.

b. *Pfc. Golliwog is ready for you to inspect

bunk.

(6.115) a. * The socks are ready for for you to put

on to be planned.

b. * The socks are ready for it to be planned

for you to put on.

The facts that I have brought out here in connection

with _ready_ hold true for a small class of similar adjectives, such

as _suitable_, _fit_, _convenient_, etc., none of which can be provided

with a plausible deep structure source at present.

They also hold true for adjectives like _easy_, _difficult_,

hard, etc., which occur in constructions like (6.116).

$$
(6.116) \qquad \text{It is } \left\{ \begin{array}{l} \text{easy} \\ \text{difficult} \\ \text{hard} \end{array} \right\} \text{to play sonatas on this violin.}
$$

It has been assumed in previous transformational studies

(cf., e.g., Rosenbaum (1965)) that sentences like those in (6.117)

are to be derived from the structure underlying (6.116) by a reordering

transformation which substitutes some NP in the extraposed clause

of (6.116) for the subject of (6.116), the pronoun _it_.

$$
(6.117) \qquad \text{Sonatas are } \left\{ \begin{array}{l} \text{easy} \\ \text{difficult} \\ \text{hard} \end{array} \right\} \text{to play on this violin.}
$$

Recently, however, several new facts have come to light which cast

doubt on the correctness of this analysis. Klima has pointed out to

me that both (6.117) and (6.118), which are not synonymous, would be

derivable from the structure underlying (6.116).

(6.118)   This violin is $\begin{Bmatrix} \text{easy} \\ \text{difficult} \\ \text{hard} \end{Bmatrix}$ to play sonatas on.

Similarly, Perlmutter has observed (cf. Perlmutter (op. cit.)) that the sentences of (6.119), which would have the same deep structure, are also not synonymous.

(6.119) a.   I made John easy to get along with.

b.   I made it easy to get along with John.

A more serious problem is posed by such sentences as (6.120).

(6.120)   John tries to be easy to get along with.

Perlmutter (op. cit.) argues that it is incorrect to analyze __try__ as being lexically marked in such a way that the ₌rule of __Equi NP Deletion__ must apply to delete the superficial subject of the next sentence down, as was proposed in Lakoff (1965). He presents a number of convincing arguments, all of which suggest that in the correct analysis of __try__, the fact that such sentences as (6.121) are ungrammatical

(6.121)   * John tried (for) Bill to play whist.

will be attributed to a deep structure restriction that the verb __try__ requires its deep subject to be the same as the __deep__ subject of the complement sentence.

If Perlmutter's hypothesis that the constraints on __try__ are to be stated in terms of deep structure, rather than in terms of derivations, then the fact that (6.120) is grammatical forces the conclusion that the deep subjects of __easy__ in (6.117) and (6.118) are

is correct

sonatas and violin, respectively. And the underlying structure of the constituent sentence in (6.120) would be roughly that shown in (6.122):

(6.122)
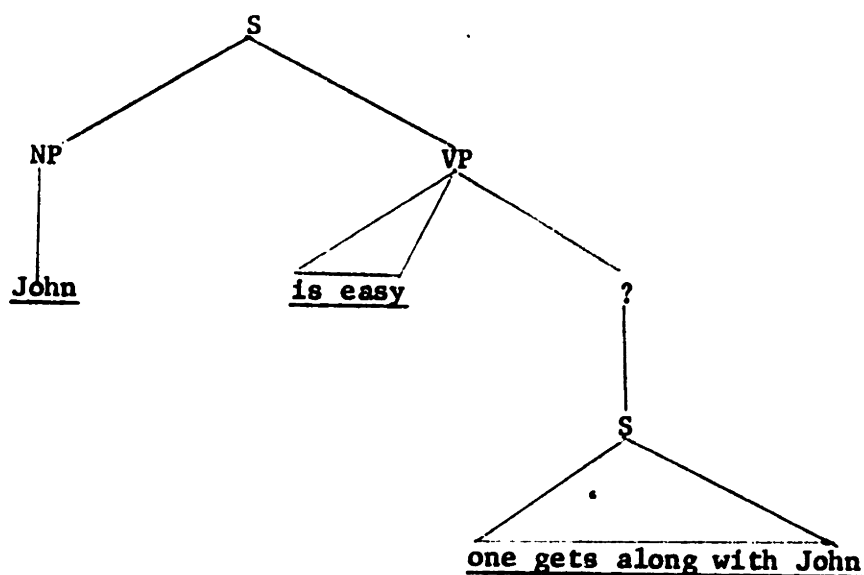
Thus the rule that forms such sentences as (6.117) and (6.118) is a deletion rule, like the other rules discussed in § 6.1.3, and not a reordering rule, like those discussed in §§ 6.1.1 - 6.1.2, unless the above arguments can be gotten around. This rule appears not to be able to delete elements of clauses containing finite verbs (cf. (6.123)),

(6.123)   ?* These flowers would be easy for you to
                     say that you had found.

and to be subject to the CSC (cf. (6.124)).

(6.124)   * My mother is easy to please my father and.

As is the case with adjectives like <u>ready</u>, a stronger constraint

than the SSC seems to be operative here, for neither (6.125a) nor

(6.125b) is grammatical.

>   (6.125)   a. * Bill would be easy for for you to chat
>
>   with in Moscow to become expensive.
>
>   b. * Bill would be easy for it to become
>
>   expensive for you to chat with in Moscow.

6.2.   Chopping Rules

6.2.0.   In §§ 6.1.1 - 6.1.2, I gave a large list of "reordering

transformations" -- rules whose structural change specifies that

some term of the structural index is to be moved around some other

term of it -- and showed that each was subject to the constraints

of Chapter 4. In this section, I will demonstrate that there

are rules which perform such an operation, but yet are not subject

to the constraints. It is possible, however, to find an important

formal difference between reordering rules which are subject to

the constraints, and reordering rules which are not: in rules of

the first type, if a term of the structural index is adjoined to, or

permuted around another term, the original term is deleted or

substituted for. But in rules of the second type, the original

term is not deleted, but remains behind in pronominal form, as a

kind of place-marker.

6.2.1.   A clear example of the contrast between these two

types of rules can be seen from a comparison of the rule of

Topicalization, (4.185), which I have repeated for ease of

reference, and the rule of Left Dislocation, (6.126).

(4.185) Topicalization

X - NP - Y

1   2   3 $\overset{OPT}{\Longrightarrow}$

2# $\begin{bmatrix} 1 & 0 & 3 \end{bmatrix}$

(6.126) Left Dislocation[19]

X - NP - Y

1   2   3 $\overset{OPT}{\Longrightarrow}$

2# $\begin{bmatrix} 1 & \begin{bmatrix} 2 \\ +Pro \end{bmatrix} & 3 \end{bmatrix}$

This latter rule converts the structure underlying

(6.127) into any of the structures underlying (6.128)

(6.127)   The man my father works with in Boston

is going to tell the police that that

traffic expert has set that traffic

light on the corner of Murk Street

far too slow.

(6.128) a. The man my father works with in Boston,

he's going to tell the police that ...

b.   My father, the man he works with in

Boston is going to tell the police that ...

c.   (In) Boston, the man my father works with $\left\{\begin{array}{l}\text{there}\\ \text{*in it}\end{array}\right\}$

is going to tell the police that ...

d.   The police, the man my father works with

in Boston is going to tell them that ...

e.   That traffic expert, the man my father

works with in Boston is going to tell the

police that he has set that traffic light

on the corner of Murk Street far too slow.

f.   That traffic light on the corner of Murk Street,

the man my father works with in Boston is

going to tell the police that that traffic

expert has set it far too slow.

g.   (?On) the corner of Murk Street, the man my

father works with in Boston is going to tell

the police that that traffic expert has set

that traffic light there far too slow.

h.   Murk Street, the man my father works with in

Boston is going to tell the police that that

traffic expert has set the traffic light

$\left\{\begin{array}{l}\text{on the corner there}\\ \text{on that corner}\\ \text{* on it}\end{array}\right\}$ far too slow.

The fact that the versions of (6.128c) and (6.128h) which contain the definite pronoun <u>it</u> is obviously the same as the fact that the sentences in (4.204) are ungrammatical, and both would be excluded by some restriction along the lines of that proposed in Kuroda (1964). Another restriction on this rule is that it only places constituents at the head of main clauses: while (6.129) is grammatical,

> (6.129) My father, he's Armenian, and my mother, she's Greek.

to my ear, the sentences in (6.130) sound unacceptable.

> (6.130) a. * That my father, he's lived here all
> his life is well known to those cops.
>
> b. * If my father, he comes home late, my mother always grills him.
>
> c. * It started to rain after Jackie and me, we had finally gotten to our seats.

This restriction is somewhat too strong, for sentences in which this rule has applied in certain object clauses seem to be acceptable (compare (6.131a) with (6.131b)), and, mysteriously, sentences like (6.130b) seem to be improved if the rule has applied in both clauses (cf. (6.132)).

> (6.131) a.?* I acknowledged that my father, he was tight as a hoot-owl.
>
> b. I said that my father, he was tight as a hoot-owl.

(6.132)   ? If my father, he comes home late, my

mother, she always grills him.

Note in passing that the same restriction about

subordinate clauses also obtains for <u>Topicalization</u>. Thus such

sentences as those in (6.133) are ungrammatical.

(6.133) a. * That beans he likes is now obvious.

b. * I'm going to write to the Game Warden

if more than one deer my neighbor brings

back.

c. * I don't know the boy $\begin{Bmatrix} \text{who the flowers Mary gave to} \\ \text{the flowers who Mary gave to} \end{Bmatrix}$.

Again, topicalization is sometimes possible in clauses

and object position, though not in clauses and subject position.

(6.134) a. ? The Revenooers claim that informers they

never use.

b. * That informers they never use is claimed

by the Revenooers.

As my purpose is not to present a maximally correct

formulation of each of these rules, I shall disregard these improvements

and pass on to the main business at hand: a comparison of the

constraints to which (4.185) and (6.126) are subject.

Notice that noun phrases can be dislocated out of

complex NP (cf. the <u>b</u>, <u>c</u>, <u>g</u>, and <u>h</u>-versions of (6.128)), out of

coordinate structures (cf. (6.135)), out of sentential subject clauses

(cf. (6.136)), and out of left branches of larger NP (cf. (6.137)).
And the distance that the dislocated NP has traveled in (6.128h)
suggests that the statement of the rule must make crucial use of
a variable.

(6.135) a. My father, I hardly ever see him and
my mother when they're not glaring at
each other.

b. This guitar, I've sung folksongs and
accompanied myself on it all my life.

c. Poor Jonesy, it had started to rain and
he had no umbrella.

(6.136) My father, that he's lived here all
his life is well-known to the cops.

(6.137) My wife, somebody stole her handbag
last night.

Thus Left Dislocation is not subject to the CNPC, the
CSC, the SSC, or the LBC. But I showed in § 6.1.1.5 and in § 4.3.2.1
that Topicalization is subject to all these constraints. Since both
rules reorder term 2 of their structural index, some formal
distinction between them must be found, if the generalization that
all reordering transformations obey the constraints is to be retained.

A distinction which appears to be adequate is that between
copying transformations and chopping transformations (cf. (6.138)).

(6.138)   If the structural index of a transformation

has n terms, a_1, a_2, ... a_n, it is a

reordering transformation if its structural

change has any a_i as its kth term, or if

a_i is adjoined to its kth term, where

$i \neq k$.

If a transformation reorders a_i, and its

structural change substitutes the identity

element or some a_k, $i \neq k$, for the ith

term of the structural index, the transforma-

tion is a chopping transformation. Other

reordering transformations are called

copying transformations.

For example, if the structural index of a transformation

were that shown in (6.139), it would be a chopping transformation (or

rule) if any of the lines in (6.140) were its structural change, but

it would be a copying rule if any of the lines in (6.141) were.

(6.139) a_1 - a_2 - a_3 - a_4

        1   2   3   4

(6.140) a.   1 3 2 4

       b.   1 2+3 0 4

       c.   1 0 3 4+2

       d.4#$\left[1 \quad 0 \quad 3\#2\, 0 \right]$

          ' etc.

(6.141) a. 2+1 2 3 4

b.   1+2 2 3 4

c.   1 2 3 4+2

etc.

The generalization for which this distinction is crucial
is that stated in (6.142).

(6.142)   Chopping rules are subject to the constraints

of Chapter 4; copying rules are not.

Since <u>Topicalization</u> is a chopping rule, it is subject to the constraints.
Since <u>Left Dislocation</u> is not, it is not subject to them.

The generalization in (6.142) is really a shorthand way
of rewording all the constraints of Chapter 4.' Thus the CSC, (4.84),
instead of stating "... no conjunct may be moved....", should state
"... no conjunct may be chopped ...", and similarly for the other
constraints of Chapter 4. Such a restatement will be postponed
until § 6.5 below.

6.2.2.   For another clear contrast between copying and chopping
rules, consider the rule of <u>Right Dislocation</u>:

(6.143)   <u>Right Dislocation</u>

$$X - \begin{bmatrix} NP \\ -Pro \end{bmatrix} - Y$$

$$1 \quad 2 \quad 3 \implies$$

$$\begin{bmatrix} 1 & \begin{bmatrix} 2 \\ +Pro \end{bmatrix} & 3 \end{bmatrix} \# 2$$

This rule converts the structure underlying (6.144) into

any one of the structures underlying (6.145).

(6.144)   The cops spoke to the janitor about

that robbery yesterday.

(6.145) a.   They spoke to the janitor about that

robbery yesterday, the cops.

b.   The cops spoke to him about that robbery

yesterday, the janitor.

c.   The cops spoke to the janitor about it

yesterday, that robbery.

This rule is, as (5.123) would predict, upward bounded.

This can be seen from the contrast in grammaticality between (6.146)

and (6.147):

(6.146) a.   That they spoke to the janitor about that

robbery yesterday, the cops, is terrible.

b.   That the cops spoke to the janitor about it

yesterday, that robbery, is terrible.

(6.147) a.?*   That they spoke to the janitor about that

robbery yesterday is terrible, the cops.

b.?*   That the cops spoke to the janitor about

it yesterday is terrible, that robbery.

Sentences like those in (6.146) show that this rule is unlike the

rule of Left Dislocation in that it can copy a constituent at the

end of a subordinate clause, while Left Dislocation must be restricted

to main clauses.

The specification in term 2 of (6.143) that the NP
to be right-dislocated not be a pronoun is necessary to exclude such
sentences as those in (6.148).

(6.148) a. * They let him go yesterday, $\begin{Bmatrix} \text{he} \\ \text{him} \end{Bmatrix}$.

      b. I like beer, $\begin{Bmatrix} \text{*I} \\ \text{?*me} \end{Bmatrix}$.

      c. * We'll go together, $\begin{Bmatrix} \text{we} \\ \text{us} \end{Bmatrix}$.

      d. * They can't stand each other, $\begin{Bmatrix} \text{they} \\ \text{them} \end{Bmatrix}$.

The restriction is stated somewhat too strongly, at
present, for it would not allow the generation of such sentences
as those in (6.149), unless a coordinate NP, all of whose conjuncts
have the feature $\begin{bmatrix} + \text{Pro} \end{bmatrix}$ can still be argued to have the feature
$\begin{bmatrix} - \text{Pro} \end{bmatrix}$, which seems unlikely to me.

(6.149) a. We'll do it together, you and $\begin{Bmatrix} \text{I} \\ \text{me} \end{Bmatrix}$.

      b. They can't stand each other, $\begin{Bmatrix} \text{he and she} \\ \text{him and her} \end{Bmatrix}$.

Note that the rule of <u>Left Dislocation</u> does not require
the NP to be dislocated not to be a pronoun -- the sentences in
(6.150), which correspond to those in (6.148), are grammatical.[20]

(6.150) a. $\begin{Bmatrix} \text{*He} \\ \text{Him} \end{Bmatrix}$, they let him go yesterday.

      b. $\begin{Bmatrix} \text{*I} \\ \text{Me} \end{Bmatrix}$, I like beer.

c. $\left\{\begin{array}{c} \text{*We} \\ \text{Us} \end{array}\right\}$, we'll go together.

d. $\left\{\begin{array}{c} \text{*They} \\ \text{Them} \end{array}\right\}$, they can't stand each other.

Once again, however, I am not concerned with fine points in the formulation of <u>Right Dislocation</u> -- my main purpose here is to show how the constraints on this copying rule differ from those on the rule of <u>NP Shift</u>, (5.57), for except for the various minor conditions stated on each rule, their only difference is that the former is a copying rule, while the latter is a chopping rule.

Since both rules are upward bounded, they will of course both be subject to the CNPC and the SSC. The sentences in (6.151) are a syntactic minimal pair: the ungrammaticality of (6.151a) and grammaticality of (6.151b) shows that the CSC restricts the operation of only the rule of <u>NP Shift</u>. And the sentences in (6.152) show the same to be true of the LBC.

(6.151) a. * I saw Mary and downtown yesterday your

        friend from Keokuk.

    b.   I saw Mary and him downtown yesterday,

        your friend from Keokuk.

(6.152) a. * I noticed car in the driveway last night

        your friend from Keokuk.

    b.   I noticed his car in the driveway last

        night, your friend from Keokuk.

In § 4.3.2.3. above, I presented evidence showing that a constraint is necessary, to the effect that no NP can move rightwards out of a prepositional phrase, thereby stranding the preposition (cf. (4.231)). In connection with my remark that the generalization in (6.142) is a shorthand way of rewording the constraints of Chapter 4, condition (4.231) should be reinterpreted as a constraint not on all reordering transformations, but only on chopping transformations. The sentences in (6.153) constitute another minimal pair which shows the need for this distinction: that (6.153a) is ungrammatical, but not (6.153b), shows that only NP Shift, and not Right Dislocation, is subject to (4.231).

> (6.153) a. * I spoke to about the war yesterday
>
> that guy who's always following us.
>
> b. I spoke to him about the war yesterday,
>
> that guy who's always following us.

6.2.3.   Distinguishing between copying and chopping rules will also provide an explanation of the following fact, which is otherwise puzzling. There is a dialect of English in which all the sentences in (6.154) are perfectly grammatical.

> (6.154) a. I just saw that girl who Long John's claim
>
> that she was a Venusian made all the
>
> headlines.

b. All the students who the papers which [they] submitted were lousy I'm not going to allow to register next term.

c. Didn't that guy who the Game Warden and [him] had seen a flying saucer crack up?

d. Palmer is a guy who for [him] to stay in school would be stupid.

e. The only kind of car which I can never seem to get [its] carburetor adjusted right is them Stanley Steamers.

f. King Kong is a movie which you'll laugh yourself sick if you see [it.]

The rule that forms this type of relative clauses would appear to differ from (4.135), the more usual rule, only in that the structural change of (4.135) specifies that term 4, the relativized element, is to be deleted, whereas this rule would only pronominalize term 4. Thus this rule is a copying rule, while (4.135) is a chopping rule. And, as (6.142) predicts, this rule is subject to none of the constraints: in (6.154a) and (6.154b), elements of complex NP's have been relativized; in (6.154c), a conjunct has been, and in (6.154d), a constituent of a sentential subject clause. In (6.154e), an NP on the left branch of a larger NP has been relativized, and in (6.154f), an element of a subordinate clause has been. If any of the boxed pronouns

in (6.154), which this rule leaves behind, are deleted, as would

be the case if (4.135) had applied, none of the resulting sentences

is grammatical.

Such sentences as those in (6.154), while common in

almost everyone's speech, are regarded as substandard by normative

grammarians. But there are languages whose relative clauses are normally

formed by a copying rule like the one responsible for the sentences of

(6.154), and in these languages, such sentences are regarded as fully

grammatical. Michael Brame has informed me[21] that this is the case in

several dialects of Arabic.

6.2.4.

6.2.4.1.   If the correct analysis of appositive clauses is that

implied in § 4.2.3. above, where I stated that the second conjoined S

of (4.115) could be inserted into the first, in apposition to the NP

<u>Pietro</u>, then the rule which forms these clauses is a chopping rule,

and it violates the CSC. This rule would be one of the two chopping

rules I know of which seem not subject to all the constraints of

Chapter 4. It therefore merits very careful scrutiny.

There are two arguments for deriving appositive clauses

from coordinate structures. The first is that there are cases where

such clauses can begin with <u>and</u>, as in (6.155).

(6.155)   Enrico, $\begin{Bmatrix} \text{who} \\ \text{and he} \end{Bmatrix}$ is the smartest of us all,

got the answer in seven seconds.

The second argument is that after NP's whose determiners

are <u>any</u>, <u>no</u>, <u>every</u>, etc., appositive clauses cannot appear (cf. (6.156)),

(6.156) $*\begin{Bmatrix} \text{Any} \\ \text{No} \\ \text{Every} \end{Bmatrix}$ student, $\begin{Bmatrix} \text{who} \\ \text{and he} \end{Bmatrix}$ wears socks, is

a swinger.

and that in these cases are the corresponding conjoined sentences also

impossible:

(6.157) $*\begin{Bmatrix} \text{Any} \\ \text{No} \\ \text{Every} \end{Bmatrix}$ student is a swinger and he wears

socks.

These arguments are valid, and the facts they are based

on must be explained somehow.

But there is a problem here: how are sentences like

(6.158) to be generated?

(6.158)   Is even Clarence, who is wearing mauve

socks, a swinger?

This sentence cannot be derived from the structure shown in (6.159),

(6.159)
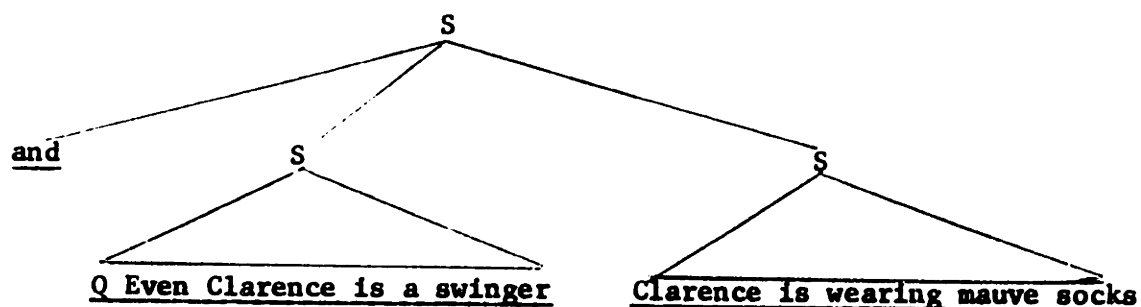
for the arguments in § 4.2.4.3 showed that such deep structures must be rejected on the basis of some constraint stated in terms of deep structure, not in terms of transformational operations.

The gravity of the two problems connected with deriving sentences like (6.158) from structures like (6.159) -- namely the fact that if it is a chopping rule that is involved in the conversion it is not subject to the constraints, and the fact that such sentences as those in (4.149) seem only to be excludable if structures like (6.159) are also excluded as deep structures -- suggests that this derivation must be wrong, and that another source must be found for appositive clauses.

At present, the only solution that comes to my mind is a very radical one. Since it appears that there must be rules of some kind which convert one sentence into two (how else can the second sentence in (4.90a) be derived than from a conjunct?), it may be that there are also some rules which reverse the process. That is, it may be that the source for (6.158) is the sequence of structures underlying the sentences in (6.160).

(6.160)   Is even Clarence a swinger? Clarence

is wearing mauve socks.

If this analysis is adopted, it will still be possible

to account for the fact that the sentences of (4.156) are ungrammatical,

for the corresponding sentences sequences are also.

(6.161) $*\begin{Bmatrix} \text{Any} \\ \text{No} \\ \text{Every} \end{Bmatrix}$ student is a swinger. He wears

socks.

However, the first argument that appositive clauses come from conjoined

structures (i.e., the fact that appositives can be introduced by and)

cannot be gotten around in this reanalysis, at least, not in any way

I can see at present. I am, therefore, very diffident in proposing

this reanalysis. It looks like the best analysis of appositives that

is presently available, but one which is none too good.

6.2.4.2.   There is only one other chopping rule that I know of

which in any way provides counterevidence to (6.142). This is the

rule of There Replacement. It seems reasonable to assume that after

the rule of There Insertion has converted (6.162a) into (6.162b),

some rule should operate on the structure underlying this latter

sentence to convert it into the structure which underlies (6.162c),

by substituting some NP for the derived subject, there.

(6.162) a. Seven pine trees are behind that barn.

b. There are seven pine trees behind that barn.

c. That barn has seven pine trees behind it.[22]

There are two arguments which support this analysis. The first is that just as the rule of There Insertion requires an indefinite subject NP to apply (cf. the strangeness of (6.162b) if the is inserted before seven, and the ungrammaticality of (6.163b)),

(6.163) a. There will be a hole in Jack's pocket.

b.* There will be the hole in Jack's pocket.

so sentences like (6.162c) require the object of have to be indefinite. Thus if the precedes seven, (6.162c) is as odd as (6.162b), and the sentences in (6.164) parallel exactly those in (6.163), from which they are derived.

(6.164) a. Jack will have a hole in his pocket.

b.* Jack will have the hole in his pocket.

The second argument has to do with the fact that such sentences as (6.162c), while they cannot contain reflexives (cf. (6.165a)), must contain a pro-form of the subject NP as the object of the preposition (cf. the ungrammaticality of (6.165b) and (6.165c)).

(6.165) a.* That barn has seven pine trees behind itself.

b.* That barn has seven pine trees behind the cow.

c.* Jack will have a hole in my pocket.[23]

That the rule of <u>There Replacement</u> must have a variable in its structural index was pointed out to me by Mary Bremer: not only can the structure underlying (6.163a) be converted into that underlying (6.164a), but also into the one underlying (6.166).

(6.166)   Jack's pocket will have a hole in it.

And the structure underlying (6.167) can eventually become any one of the sentences of (6.168), all of which I believe to be fully grammatical, but some of which are rendered unacceptable by an output condition.

(6.167)   ?? There is a hole in John's quilt's upper

right-hand corner.

(6.168)   a.?? John's quilt's upper right-hand corner

has a hole in it.

b.   John's quilt has a hole in its upper

right-hand corner.

c.?? John has a hole in his quilt's upper right-

hand corner.

d.   John has a hole in the upper right-hand

corner of his quilt.

Notice that since the rule of <u>There Replacement</u> substitutes some NP for the derived subject <u>there</u>, it is a chopping rule, by definition (6.138). We would therefore expect it to obey the CNPC, the CSC, and the LBC (I have as yet not been able to construct examples

to show it to be subject to the SSC). The fact that (6.169a) cannot be converted into (6.169b) or (6.169c) shows it to be subject to the CSC,

> (6.169) a. There are seven holes in the door and window.
>
> b. * The door has seven holes in it and the window.
>
> c. * The window has seven holes in the door and it.

but the fact that (6.163a) can be converted into (6.164a), and that (6.167) can be converted into (6.168c) and (6.168d) shows this rule not to obey the LBC. To complicate things, however, if the possessive NP is an inalienable possessor, the rule apparently _is_ subject to the LBC: (6.170a) cannot be transformed into (6.170b), though it may be transformed into (6.170c).

> (6.170) a. There is a blemish on the end of Jerry's sister's nose.
>
> b. * Jerry has a blemish on the end of his sister's nose.
>
> c. Jerry's sister has a blemish on the end of her nose.

It seems to be the case that only animate NP can be copied out of complex NP's. Thus while the sentences in (6.171) can be transformed into those in (6.172), those in (6.173) cannot be

transformed into those in (6.174).

(6.171) a. There is a hole in the rug which Toby bought in Butte.

b. There was an error in the proof Prof. Hiatus presented.

c. There was a snake behind the car Fred was sitting in.

(6.172) a. ? Toby has a hole in the rug which $\left\{\begin{matrix} he \\ *Mike \end{matrix}\right\}$ bought in Butte.

b. Prof. Hiatus had an error in the proof $\left\{\begin{matrix} he \\ *Sarah \end{matrix}\right\}$ presented.

c. Fred had a snake behind the car $\left\{\begin{matrix} he \\ Joe \end{matrix}\right\}$ was sitting in.[24]

(6.173) a. There was a yellow collar on the dog which the car injured.

b. There's a hole in the tarpaulin which that stone is holding down.

c. There was a snake behind the car the time bomb was sitting in.

(6.174) a. * The car had a yellow collar on the dog which it injured.

b. * That stone has a hole in the tarpaulin which it is holding down.

c. * The time bomb had a snake behind the car which it was sitting in.[25]

Not only does this rule unexpectedly fail to obey the

CNPC and the LBC under certain conditions, it also appears to obey

stronger constraints. Thus while the boxed NP in (6.175a) can be

relativized (cf. (6.175c)), it cannot be substituted for <u>there</u>, as

(6.175c) shows.

(6.175) a. There were several hundred people yelling

for me to put the hot potato down gently.

b. The hot potato which there were several

hundred people yelling for me to put down

gently turned out to have been filled with

TNT.

c. * The hot potato had several hundred people

yelling for me to put it down gently.

6.2.5. Except for the two rules discussed in § 6.2.4 I know

of no chopping rule that does not obey all the constraints of Chapter 4.

And I know of no copying rule which does obey them. Thus the distinction

made in (6.138) appears to have a basis in linguistic fact, as long as

there are so many unresolved problems in the analysis of the two

constructions discussed in § 6.2.4. I will provisionally assume,

therefore, that the generalization stated in (6.142) is correct.

6.3. <u>Reordering over Variables</u>

6.3.1. In § 4.2.3 above, I discussed the rule proposed in

Lakoff and Peters (1966) which I will refer to as <u>Conjunct Movement</u>.
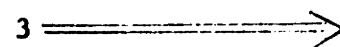It is stated approximately as in (6.176).

(6.176)   <u>Conjunct Movement</u>[26]

$$[NP - [and \quad NP]_{NP} -]_{NP} \quad VP$$

$$1 \qquad 2 \qquad\qquad 3 \Longrightarrow$$
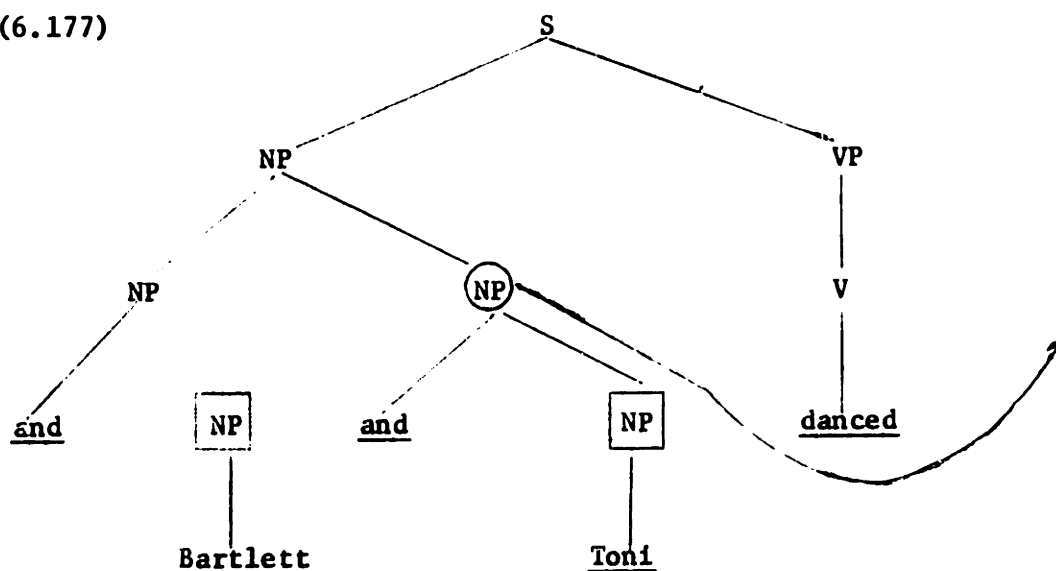
$$1 \qquad 0 \qquad\qquad 3\#2$$

This rule must apply to (6.177), which underlies (6.178a),
to move the circled NP along the path shown by the arrow, eventually
producing (6.178b).

(6.177)

(6.178)   a.   Bartlett and Toni danced.

b.   Bartlett danced with Toni.

But as I pointed out in footnote 13 of Chapter 4, as
the CSC is presently stated, such an operation is impossible, for

<u>Conjunct Movement</u> is a chopping rule, and the subject NP of
(6.178a) is a coordinate node.

It is not possible to claim that somehow this
particular subject NP is not affected by the CSC, for it is
impossible to move either boxed NP to the end of (6.177) by
the rule of <u>NP Shift</u>, (5.57), as is shown by the ungrammaticality
of (6.179).

     (6.179) a. * Bartlett and danced Toni.

              b. * (And (and)) Toni danced Bartlett.

Since it is not this particular construction that is
exempt from the CSC, it must be some feature of the rule. The
operation of the two rules of <u>Conjunct Movement</u> and <u>NP Shift</u>
is virtually the same -- in each, some NP gets moved to the
end of a sentence. But there is a significant difference in the statement
of the rules; while the latter rule permutes to the end of the first
sentence up <u>any NP</u> (because term 2 of (5.57) is surrounded by variables),
the former rule specifies that the second conjunct of the conjoined
subject NP may be moved to the end of its VP.

In other words, the first rule makes crucial use of
variables, while the second does not. At present, I believe it
to be the case that the constraints of Chapter 4 never affect any rule
unless that rule reorders one of its terms around a variable. This
generalization is stated in (6.180).

(6.180)   Only rules in which terms are reordered around variables are subject to the constraints of Chapter 4.

In the case just discussed, it is possible to imagine an alternative solution involving rule ordering. Thus it could be argued that if either the first _and_ of (6.177) has been deleted, or if the second has been converted into a preposition, the subject node of (6.178a) would no longer be coordinate, so the CSC would not be in effect any longer. But if this is the correct explanation, it must be possible to order the rule of _NP Shift_ early, so that it precedes all these changes, and I do not know whether such an ordering can be maintained.

However, even if such an analysis can be carried through for English, there are languages, like Japanese, where the conjunction is not rewritten as a preposition by the rule which corresponds to (6.176), so such an explanation will not be possible in general. And there are two additional cases, from English, which seem to require the generalization stated in (6.180). These will be presented immediately below.

6.3.2.   In sentence (6.181), the NP _her_ cannot be relativized, as (6.182) shows.

(6.181)   It bothers me for her to wear that old fedora.

(6.182) a. * The only girl for whom it bothers me to

wear that old fedora is Annabelle.

b. * The only girl who it bothers me (for) to

wear that old fedora is Annabelle.

It is not the case that no element of an extraposed _for_ -
_to_ phrase can be chopped, as (4.273) shows. It therefore seems to be
necessary to add (6.183) to the conditions box for English.

(6.183)   No element in the environment [for — VP]

can be chopped.

But now consider the rule of It Replacement, which was
discussed in § 5.1.1.1. The formal statement of this rule, which
raises interesting theoretical problems which I will not take up here
(they are discussed briefly in Lakoff (1966)), contains as a subpart
the rule shown in (6.184).

$$(6.184) \qquad X - \left[\underline{it} \ \left[_S \begin{Bmatrix} \underline{for} \\ Poss \end{Bmatrix} \right. - NP - VP \left. \right]_S \right]_{NP} Y$$

$$\begin{array}{ccccc} 1 & 2 & 3 & 4 & 5 \implies \\ 1 & 4 & 3 & 0 & 5 \end{array}$$

This rule will convert the structure underlying (6.185a)
into the one underlying (6.185b).

(6.185) a.   I would prefer it for $\boxed{\text{there}}$ to be no

talking.

   b.   I would prefer there to be no talking.

Notice that the boxed NP of (6.185a), even though it

is in the environment which is specified in (6.183), has been chopped

by rule (6.184). Once again, however, there is a contrast in the

formal statement of the rules in question. The rule of _Relative Clause_

Formation, which is subject to (6.183), as the ungrammaticality of

(6.182) shows, permutes the relativized NP around a variable, while

in (6.184), the chopped term merely moves over the constants in term 3.

Thus the fact that (6.185b) is grammatical, and (6.182) ungrammatical,

provides further evidence for the correctness of (6.180).

6.3.3.   In § 3.1.1.3.1. above, I pointed out that it was necessary

to constrain the rule of _NP Shift_ somehow, so that sentences like

(3.20b), (3.35b), and (3.36b) would not be generated. But the condition

I stated there, (3.34), can be generalized, for while the underlined

NP in (6.186a) can be questioned (cf. (6.187a)), if the indirect object

precedes the direct object, as in (6.186b), the indirect object cannot

be questioned (cf. (6.187b)).

   (6.186) a.   He gave my binoculars to that girl.

      b.   He gave that girl my binoculars.

(6.187)   a.   Which girl did he give my binoculars to?

b. * Which girl did he give my binoculars?[27]

Since it is not universally the case that indirect

objects cannot be chopped (for instance, in German the sentence

Welchem Mädchen gab er meinen Feldstecher?, which translates (6.187b),

is grammatical), it would appear that some condition like that stated

in (6.188) must appear in the conditions box for English.

(6.188)   No element may be chopped out of the

environment [NP V __ NP]$_S$, unless the

following NP begins with a preposition.

However, if this condition is correct, how can both

versions of (6.186) be passivized, as the grammaticality of the

sentences in (6.189) indicates is necessary?

(6.189)   a.   My binoculars were given to that girl by

him.

b.   That girl was given my binoculars by him.

The answer is obvious: since all reordering rules which

are subject to (6.188) make crucial use of variables, while the

Passive Rule, however it is to be stated, need not do so, if the

generalization expressed in (6.180) is added to the theory of grammar,

the contrast between (6.187) and (6.189) can be naturally accounted

for. Therefore, on the basis of these facts, and the evidence

presented in §§ 6.3.1 - 6.3.2, I tentatively propose the addition of

(6.180) to the theory of grammar.

6.4.   Islands

6.4.0.   The fundamental insight of this section is due to Paul Kiparsky. In connection with some extremely important, but still unpublished, research on complement constructions which he is conducting, he pointed out that the that-clause in (6.190a) has a factive meaning, while this is not the case in (6.190b).

(6.190) a.   Bill confirmed that Roger has eaten

the cake.

b.   Bill alleged that Roger $\left\{\begin{matrix} \text{had} \\ \text{??has} \end{matrix}\right\}$ eaten

the cake

One who utters (6.190a) is not only reporting an action of Bill's, he is himself asserting that the content of the that-clause is true. This is not the case with (6.190b) -- there the speaker merely comments on Bill's action, without himself taking any stand on the truth of the embedded sentence. One of the many ways that Kiparsky has discovered this semantic difference to be paralleled by syntactic differences is in the behavior of elements of the two kinds of that-clauses under chopping rules. Thus while the boxed NP in (6.190b) can be questioned (cf. (6.191b)), the boxed NP of (6.190a) can only be questioned with difficulty, if at all, (cf. (6.191a)).

(6.191)   a.?? What did Bill confirm that Roger had

eaten?

b.   What did Bill allege that Roger had

eaten?

For the purposes of the present discussion, Kiparsky's most important

observation was that the restrictions on a feature-changing rule like

__Indefinite Attraction__, (5.71), exactly parallel those on the rule of

__Question__, a chopping rule.

(6.192)   a.?* Bill didn't confirm that Roger had eaten

anything.

b.   Bill didn't allege that Roger had eaten

anything.

These facts can be generalized trivially, to yield the

hypothesis in (6.193).

(6.193)   All feature-changing rules obey the same

constraints as   chopping rules.

The rest of § 6.4 is devoted to exploring the consequences

of this hypothesis. In § 6.4.1, I will discuss a few of the many

pieces of confirming evidence that I know of, and in § 6.4.2, I

will discuss all the disconfirming evidence that has come to light

thus far. Finally, in § 6.4.3, I will examine the converse of (6.193)

and define the concept __island__.

6.4.1.

6.4.1.0.   This section is divided into four parts. In the first

three, I will show how various feature-changing rules are subject to

the CNPC, the CSC, and the SSC, respectively, and in the fourth, I will show how various restrictions on chopping rules which appear in the conditions boxes of a number of languages also affect the operations of feature-changing rules.

6.4.1.1.   If the rule of <u>Indefinite Incorporation</u>, (5.71), is subject to the CNPC, the contrast between the sentences of (6.194) is accounted for (cf. also (5.73e)).

(6.194)   Waldo didn't report (* the possibility)

               that anyone had left.

The CNPC also correctly predicts that sentences like (5.73f), where rule (5.71) has gone down into a relative clause, are ungrammatical.

There are, however, relative clauses which can contain words like <u>any</u>, <u>ever</u>, and <u>at all</u>, which typically occur in environments where rule (5.71) operates. The sentences in (6.195) are a representative sample of such clauses.

(6.195) a. Nobody who hates to eat anything should work in a delicatessen.

         b. Anybody who ever swears at me better watch his step.

         c. Everybody around here who ever buys anything on credit talks in his sleep.

         d. I want all the students who have ever tried to pat Macavity to show me their scars.

$$\text{a.} \quad \left\{ \begin{array}{l} \text{The only} \\ \text{*Only the} \end{array} \right\} \text{ travelers who anybody has}$$

ever robbed don't carry machetes.

What seems to be going on here is that indeterminates

can become indefinites in a relative clause which modifies an NP

whose determiner belongs to the set <u>no</u>, <u>any</u>, <u>a</u>, <u>every</u>, <u>all</u>, <u>the first</u>

(but not <u>the second</u>, <u>third</u>, etc.) <u>the last</u>, <u>the Adj. & est</u> (cf. <u>the</u>

<u>best steak I ever ate</u>) <u>the only</u> (but not <u>only the</u>), etc., whether or

not the sentence containing the clause is negated. That this rule

cannot be the same as (5.71) is indicated by the following facts.

The word <u>any</u> cannot appear in the relative clause of

(6.196), because the determiner <u>some</u> of the NP this clause modifies

is not one of the set mentioned above.

(6.196)   * I can't remember the name of somebody who

had (*any) misgivings.

But if the boxed $\lfloor + \text{Affective} \rfloor$ element of (6.196) has triggered the

change of the boxed <u>some</u> to <u>any</u>, then the environment for the rule

which allows indefinites to appear in relative clau. s will be met,

and this rule can go down into the relative clause, as has happened

in (6.197).

(6.197)   I can't remember the name of anybody

who had any misgivings.

It is therefore evident, since the rule in question

must follow (5.71), that the two rules cannot be collapsed into one.

Incidentally, sentence (6.198) shows that this rule must be able to apply to its own output, in a rather interesting way.

(6.198) $\boxed{\text{Every}}$body who has $ever_1$ worked in any_1

office which contained any_2 typewriter

which had $ever_3$ been used to type any_3

letters which had to be signed by any_4

administrator who $ever_5$ worked in any_5

department like mine will know what I

mean.

The element which allows the presence of all the any's and ever's in this sentence is the boxed determiner every. The first time the rule in question applies to the structure underlying (6.198), it will produce $ever_1$ and any_1. But now, the result of this first application, the determiner any_1, provides a new environment for the rule to reapply in (recall that this rule could not have gone down into a relative clause on an NP whose determiner was some (cf. (6.196))). The rule must then be able to produce any_2 on its second application, and this any will provide yet a third environment for the rule to reapply in, and so on down the tree. This is the only rule I know of which applies in this "anti-cyclic" way, eating its way from higher sentences into lower ones, in sequence, so to speak, instead of the normal type of rules, which process embedded sentences first, and then the sentences that contain them. This rule is therefore eminently worthy of very detailed investigation, which would be

beyond the scope of this section, so that it can be determined whether this apparently necessary anti-cyclic ordering is in fact necessary.

The second fact which demonstrates the impossibility of collapsing this rule and (5.71) can be seen from a comparison of the sentences in (6.199).

(6.199) $\left\{\begin{array}{l} \text{No} \\ \text{*Every} \end{array}\right\}$ student who $\boxed{\text{ever}}$ goes to Europe $\widehat{\text{ever}}$ has enough money.

As sentences (6.195a) and (6.195c) demonstrate, both no and every belong to the set of determiners which can cause indeterminates in relative clauses to be converted into indefinites (cf. the boxed ever). However, the fact that only the negative determiner no can cause the indeterminate sometimes in the main clause to change to the circled ever shows once again that the rule which produces the sentences in (6.195) must be a different rule from (5.71).

But, it might be asked, even granting that the two rules are different, why are not both subject to the CNPC, since both are feature-changing rules? The answer to this question is that both are: the CNPC is stated in (4.20) in such a way that it prevents a constituent from being chopped out of a sentence dominated by a complex NP and from then being moved out of the NP.

For it is possible, as George Lakoff has pointed out to me, for elements to be moved out of the complex NP's sentence, as long as they stay within the NP itself (cf., e.g., rule (4.135)). To say that a feature-changing rule obeys the CNPC is to say that no element not dominated by a complex NP can effect changes in the sentence dominated by that NP. Thus the determiners under discussion, since they are dominated by the NP, can cause the introduction of the feature [+ Indefinite] into a relative clause, as is the case in (6.195), while [+ Affective] elements which are outside the NP cannot.

There are two other sets of facts which can be accounted for readily if the hypothesis stated in (6.193) is correct. In § 3.1.3 above, I pointed out that the Case Marking Rule must be restricted so that no elements of relative clauses are assigned the case of the head NP, and I stated an ad hoc condition (in which subscripts had to be used) to this effect on rule (3.58). However, once it has been stated in (6.193) that all feature-changing rules like (3.58) are subject to the CNPC, no restriction need be stated on rule (3.58).

Similarly, in § 4.1.6, I claimed that it was universally true that reflexives do not go down into relative clauses. I know of only one language, Japanese, which contradicts this generalization (the Japanese rule of Reflexivization will be investigated briefly in § 6.4.2 below), so though the generalization must be reformulated in a weaker way, it appears to contain an important truth, a truth

which can be explained if _Reflexivization_ is subject to the CNPC. I hope that it will turn out to be the case that if there are other languages whose rules of reflexivization can go down into complex NP, it will be possible to point to some formal property shared by all such languages, on which this unusual behavior can be made to depend. At present, however, this is no more than a hope, so the Japanese facts constitute clear counterevidence for (6.193).

6.4.1.2.   To see that rule (5.71) is subject to the CSC, it is sufficient to observe that the boxed _some_ of (6.200) cannot be converted into _any_ if (6.200) is negated: while (6.201a) is possible, (6.201b) is not.

(6.200)   I ate the ice cream and $\boxed{\text{some}}$ cake.

(6.201)   a. ? I didn't eat the ice cream and some cake.

b. * I didn't eat the ice cream and any cake.

Similar facts obtain for sentence (6.202): if negated, as in (6.203a), the boxed _some_ of the second conjunct cannot be converted into _any_.

(6.202)   I realized that it had rained and $\boxed{\text{some}}$ crops had been destroyed.

(6.203)   a.   I didn't realize that it had rained and

some crops had been destroyed.

b. * I didn't realize that it had rained and

any crops had been destroyed.

Interestingly, there appears to be a phenomenon here which is reminiscent of the "across-the-board" rules that were discussed in § 4.2.4.1 above. Thus indefinites can appear in conjuncts if they are conjoined with <u>or</u>, instead of <u>and</u>, as in (6.204).

(6.204)   I didn't eat any ice cream $\left\{\begin{array}{c}\text{or}\\ \text{*and}\end{array}\right\}$ any cake.

It seems to me that such sentences as those in (6.205), where indefinites appear only in one conjunct, are all ungrammatical in varying degrees, but I am not sure of this intuition.

(6.205)   I didn't eat $\left\{\begin{array}{l}\text{* any ice cream or } \left\{\begin{array}{l}\text{Mary's}\\ \text{the}\end{array}\right\} \text{cake}\\ \text{?* the cake or any ice cream}\\ \text{? Mary's cake or any ice cream}\end{array}\right\}$.

Even if it should prove to be correct that some kind of across-the-board constraint is operative here, I can see no way of accounting for the differences between the sentences of (6.205), or for the fact that only <u>or</u> can appear in such sentences as (6.204) and (6.205). Clearly a great deal of further research is needed here.

The CSC appears to restrict feature-changing rules not only in that the feature $[+ \text{Indefinite}]$ cannot go down into a conjunct, but also in that the $[+ \text{Affective}]$ element which broadcasts the $[+ \text{Indefinite}]$ features cannot be in a conjunct. In Lakoff and Peters (op. cit.), (6.206a) and (6.206b) are derived from the same underlying structure, the only difference being that in the derivation of (6.206b), two rules have applied which do not apply in the derivation of the more basic (6.206a) -- the rule of Conjunct Movement,(6.176), and a rule which deletes the preposition with which was originally in front of the superficial object Maxime.

> (6.206) a. Gottlob and Maxime met in Vienna.
>
> b. Gottlob met Maxime in Vienna.

Now note that if the determiner few appears in a conjunct of such a conjoined NP subject, rule (5.71) cannot introduce the feature $[+\text{Indefinite}]$ into the second conjunct (cf. the ungrammaticality of (6.207a)), but that if the rule of Conjunct Movement has applied, to break up the coordinate structure, the moved conjunct can be converted into an indefinite (cf. (6.207b)).

> (6.207) a. * Few writers and any playwrights meet
>
> in Vienna.
>
> b. Few writers meet any playwrights in
>
> Vienna.

The situation seems to be a great deal more complicated than the above facts would indicate, however. So note that (6.207a) is not improved by replacing any with some, as might be expected. And while (6.208a) is ungrammatical, (6.208b) is grammatical.

(6.208)   a. * My brother and few Americans meet in

Vienna.

b.   My brother meets few Americans in

Vienna.

Also, while (6.209a) is grammatical, (6.209b) is not.

(6.209)   a.   No writer, $\begin{Bmatrix} \text{and no} \\ \text{nor any} \end{Bmatrix}$ playwright, speaks clearly.

b. * No writer, $\begin{matrix} \text{and no} \\ \text{nor any} \end{matrix}$ playwright, meets in Vienna.

These sentences raise so many problems that I can only call attention to them here -- I have no idea what processes are at work.

That the Reflexivization Rule is subject to the CSC is immediately apparent from the sentences in (6.210).

(6.210)   a.   Bill understands $\begin{Bmatrix} * \text{ Mary and himself} \\ ?* \text{ himself and Mary} \end{Bmatrix}$.

b. * Bill and Mary washed himself.

c. * Andy pinched Sarah and tickled herself.

d. * The gun and a description of itself

lay on the bureau.

A particularly clear example is provided by (6.211),
whose underlying structure is that shown in (6.212).

(6.211)   Bill believes that Anna and he are

similar.

(6.212)
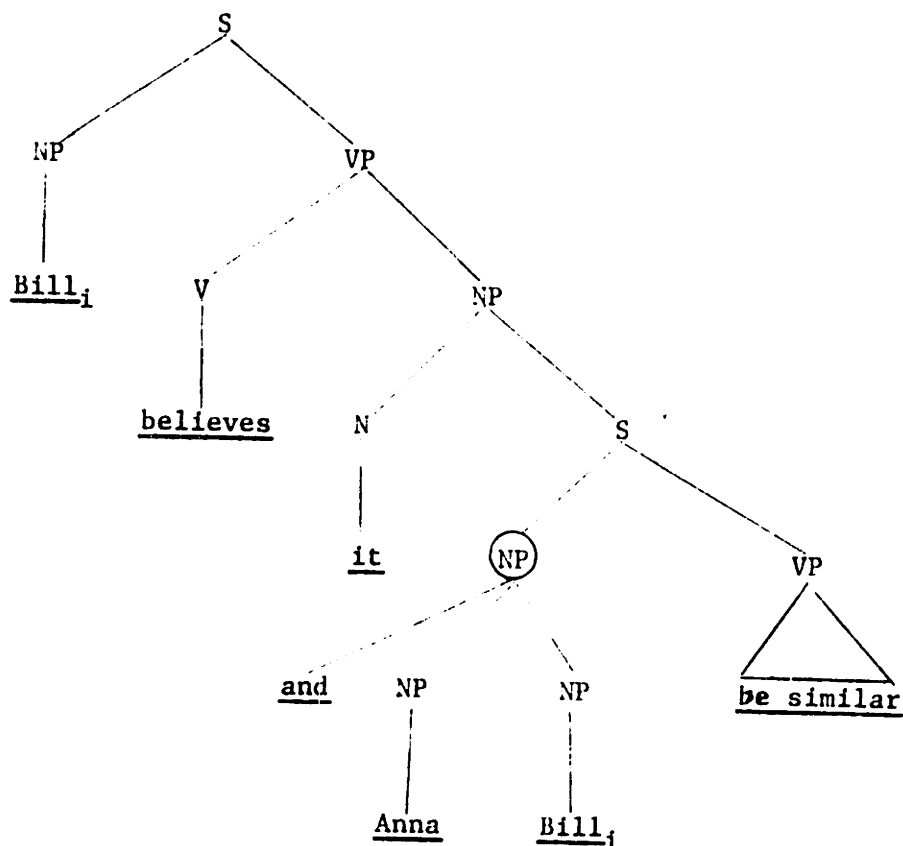
If the rule of It Replacement does not apply, this
structure will undergo various rules, and will finally emerge as
the grammatical (6.211). If It Replacement does apply, however,
and the circled NP has been substituted for it in (6.212), it would

be expected that the leftmost occurrence of $\underline{Bill}_i$ would be able

to reflexivize the right-most occurrence, for each commands the

other. That this does not happen (cf. the ungrammatical version

of (6.213)) is explained if the CSC also constrains feature-changing

rules.

(6.213)　　　Bill believes Anna and $\left\{\begin{array}{c} \text{him} \\ \text{*himself} \end{array}\right\}$ to be

similar.

6.4.1.3.　　I believe it to be the case that feature-changing

rules are also subject to the SSC, but the pieces of evidence I

have been able to find to support this claim are based on very

delicate intuitions, and these may not be shared. For instance,

I believe it to be true that while Indefinite Incorporation

can go down into that-clauses, it cannot go down into them if

they are in subject position. Thus (6.214a) is ungrammatical,

and (6.214b), where the embedded subject clause has been extraposed,

is grammatical.

(6.214)　a.　* I deny that that McIntyre has any

money is certain.

b.　I deny that it is certain that McIntyre

has any money.

The problem is this:　since the underlined phrase in

(6.214a) is a sentence which is dominated exhaustively by NP,

output condition (3.27) will lower the acceptability of (6.214a).
Does, therefore, the fact that rule (5.71) has applied to produce the
boxed any in this sentence contribute to its unacceptability? The
answer to this question will lie in a comparison of (6.214a) and
(6.215), which is identical to the former sentence except for the
fact that any has been replaced by some.

(6.215)   ?? I deny that that McIntyre has some

money is certain.

I myself find a clear, if small, difference between (6.214a) and
(6.215): while both are unacceptable, I would judge the former to
be ungrammatical in addition. If these are the correct facts, it
is to the SSC that the difference between (6.214a) and (6.215)
must be attributed.

The second set of facts that seem to indicate that
a feature-changing rule is subject to the SSC has to do with
Klima's rule of Negative Incorporation (cf. Klima (op. cit.)),
which can optionally convert the structure underlying (6.216a) into
the one which underlies (6.216b),

(6.216) a.   Tom will not force you to marry any

student.

b.   Tom will force you to marry no student.

and which obligatorily converts the structure underlying (6.217a)
into the one underlying (6.217b).

(6.217) a. * The writers of any of the reports

didn't know the answer.

b. The writers of none of the reports

knew the answer.

Klima supports his claim that (6.216b) and (6.217b) are instances

of sentence negation by showing that both may be followed by

neither-tags, as in (6.218),

(6.218) a. Tom will force you to marry no student,

and neither will I.

b. The writers of none of the reports

knew the answer, and neither did the
.
writers of any of the chronicles.

a property which he demonstrates elsewhere in the article to be

restricted to sentences whose main verb is negated.

Since both (6.216b) and (6.217b) are grammatical, the

rule of Negative Incorporation must be able to operate forward and

backward. And since it can operate forward into an extraposed

clause, changing (6.219a) into (6.219b),

(6.219) a. It is not certain that you'll marry any

(particular) student.

b. It is certain that you'll marry no

student.

the fact that it cannot, if my intuitions are correct, operate

backwards into a subject clause ((6.220a) cannot become (6.220b)),

requires explanation.

(6.220) a. That you will marry any (particular)

student is not certain.

b. * That you will marry no student is

certain.[28]

The fact that the SSC can block (6.220b), if the rule of <u>Negative</u> <u>Incorporation</u> is formulated as a feature-changing rule,[29] thus provides further support for the hypothesis that all feature-changing rules obey the same constraints as chopping rules.

6.4.1.4. In § 5.1.3.2.3, in connection with the sentences in (5.103), I pointed out that the Russian rule of <u>Reflexivization</u>, (5.98), could not go down into clauses headed by the word <u>što</u> 'that'. But it is necessary in any case to state in the Russian conditions box that no elements of <u>što</u>-clauses can be chopped out of these clauses. For instance, the NP ženščinu 'woman' in (6.221) cannot be relativized, as the ungrammaticality of (6.222) shows.

(6.221)   ja znal što on ljubil ženščinu.

           'I knew that he loved   the woman.'

(6.222)   * vot   ženščina   kotoruju ja znal

           here is the woman   who   I knew

           što on ljubil.

           that he loved.

Since some condition must be stated in the grammar of Russian in
any case, so that (6.122) will not be generated, if the hypothesis
in (6.193) is adopted as a principle of the theory of language,
the ungrammaticality of (5.103b) can be explained. The fact that
the rule of <u>Russian Genitive Introduction</u>, (5.92), also does not go
down into što-clauses (cf. the sentences in (6.223)),

> (6.223) a. ja ne znal što on eto   sdelal.
>
>   I not know that he this (acc.) did
>
>   'I didn't know that he did this.'
>
>   b. * ja ne znal što on etovo   sdelal.
>
>   I not know that he this (gen.) did

is of course to be explained on exactly the same basis. Similarly,
it can be shown that the two Finnish rules which were discussed in
§ 5.1.3.2. -- the rules of <u>Finnish Partitive Introduction</u>, (5.85),
and <u>Finnish Nominative Introduction</u>, (5.108), also do not go down
into clauses headed by <u>että</u> 'that', a fact that can be explained
on the basis of hypothesis (6.193) and the restriction in the
Finnish conditions box that no elements can be chopped out of
<u>että</u>-clauses (cf. the ungrammaticality of (4.249b)).

Finally, if (6.193) is in the theory of grammar, the
fact, noted in § 4.1.6 above, that there is a parallelism between
the relativizability of elements after picture nouns and their

reflexivizability (cf., e.g., the parallelism between (6.224) and (6.225)),

(6.224)   The man who I gave John $\left\{\begin{array}{l} a \\ ??this \\ *Ed's \end{array}\right\}$ picture of was bald.

(6.225)   I gave Jack $\left\{\begin{array}{l} a \\ ?this \\ *Ed's \end{array}\right\}$ picture of myself.

can be explained, and the correct prediction can be made that other feature-changing rules will be subject to the same curious constraints involving the determiners of picture nouns (cf. (6.226)).

(6.226)   I didn't give Jack $\left\{\begin{array}{l} a \\ *this \\ *Ed's \end{array}\right\}$ picture of anybody.[30]

6.4.2.   While the facts presented in § 6.4.1 provide very strong evidence that (6.193) is correct, there are still some puzzling countercases. Thus while (6.193) would predict that no features of NP's which are on the left branch of larger NP's could be changed, this in fact can happen, as (6.227) indicates.

(6.227)   I hope I'm not treading on anyone's toes.

Secondly, while sentences like (6.210a) show that the normal rule of <u>Reflexivization</u> cannot go down into conjuncts, there is an interesting rule which produces emphatic reflexives, in free variation with non-reflexive pronouns, which can do so. (cf. (6.228)).[31]

(6.228)   Abernathy admitted that the poison pen

letter had been written by my sister

and $\begin{Bmatrix} \text{him} \\ \text{himself} \end{Bmatrix}$.

Thirdly, while the facts presented in § 6.4.1.3 show that there are environments in which features cannot be changed in subject clauses, as the SSC and (6.193) would predict, it is obvious that there are circumstances in which features can be changed. Thus the rule of <u>Sequence of Tenses</u>, (5.115), must operate backwards in (6.229) to change the ungrammatical <u>is</u> of the subject clause to <u>was</u>.

(6.229)   That the sun $\begin{Bmatrix} \text{*is} \\ \text{was} \end{Bmatrix}$ out was obvious.

A particularly puzzling fact, in light of the contrast between (6.214a) and (6.215), is the fact that <u>Indefinite Incorporation</u> can go backwards into the subject clauses of negated verbs and adjectives, or $\begin{bmatrix} + \text{Affective} \end{bmatrix}$ verbs and adjectives, as (6.230) shows.

(6.230)   That anybody ever left at all $\begin{Bmatrix} \text{in not known} \\ \text{is not certain} \\ \text{is impossible} \\ \text{surprises me} \\ \text{is odd} \end{Bmatrix}$.

In Japanese, it appears to be possible to violate at least the CNPC, with respect to the rule of <u>Reflexivization</u>. Thus the boxed NP of tree (6.231), which underlies (6.232), can be reflexivized, yielding (6.233).

(6.231)
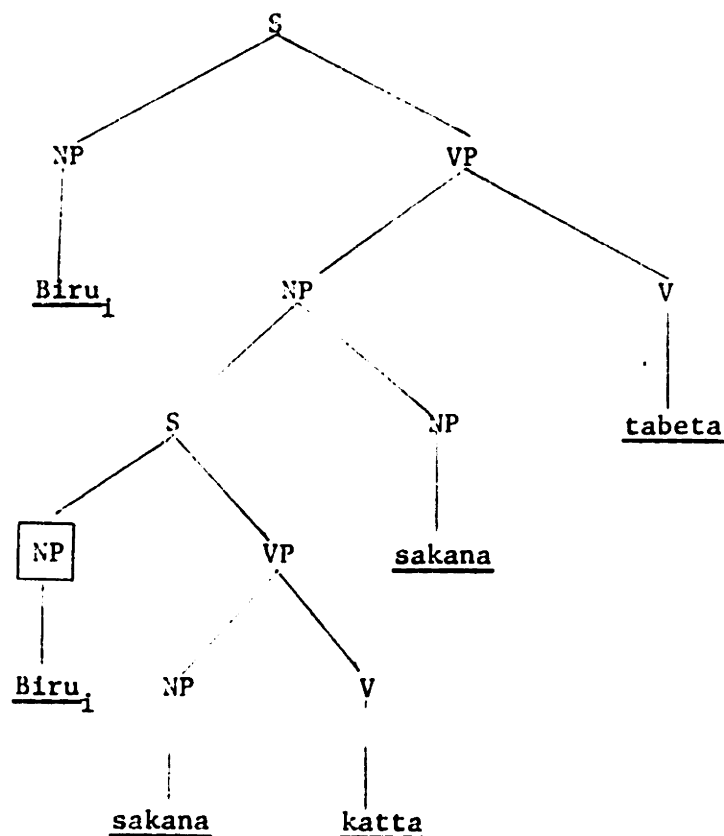
(6.232)   Biru$_i$ wa kare$_i$ ga katta   sakana o tabeta.

Bill   he   bought fish   ate

'Bill ate the fish he bought.'

(6.233)   Biru$_i$ wa zibun$_i$ ga katta   sakana o tabeta.

'Bill   self   bought fish   ate.

The same situation appears to obtain with respect to

sentences in apposition to sentential nouns like <u>syutyoo</u> 'claim'.

Thus in (6.234), either the reflexive pronoun <u>zibun</u> 'self' or

the third person non-reflexive pronoun <u>kare</u> 'he, she, it' can

be used to refer back to the subject of the sentence, <u>Biru</u> 'Bill'.

(6.234) $Biru_i$ wa $\begin{Bmatrix} kare_i \\ zibun_i \end{Bmatrix}$ ga kono sakana o

             Bill $\begin{Bmatrix} he \\ self \end{Bmatrix}$ this fish

katta   to   iu   syutyoo o   sinzita.

bought   that say   claim   believed.

'Bill believed the claim that he had

bought the fish.'

I do not know what the facts are in Japanese with

respect to whether <u>Reflexivization</u> can violate the CSC, but if it

can, the obvious conclusion is that (6.193) cannot be universal, and

that particular grammars must designate in their conditions boxes

whether (6.193) is operative in the language or not. That is, (6.193)

would be a language-particular "option".

Whatever the outcome of the investigation of the question

as to whether (6.193) is a universal condition (which now seems unlikely),

or an option, it seems reasonably clear that it is operative in English.

In the next section, I will investigate the consequences of assuming the converse of (6.193) also to be operative in English.

6.4.3.

6.4.3.1.   The converse of (6.193) is stated in (6.235):

(6.235)   All chopping rules obey the same constraints as feature-changing rules.

The only constraint that I know to hold for all feature-changing rules is the one which was stated in (5.77), and then restated in (5.122) in terms of command: if an element A in a phrase marker is to have the feature $\begin{bmatrix} + F \end{bmatrix}$ added to it, the element(s) which triggers this change must command A.

Graphically, then, (5.122) says that if A, at the bottom of the schematic phrase marker shown in (6.236), is to be changed, then the triggering element must lie within the shaded "strip" of (6.236), for it is only elements of this strip that command A.

(6.236)
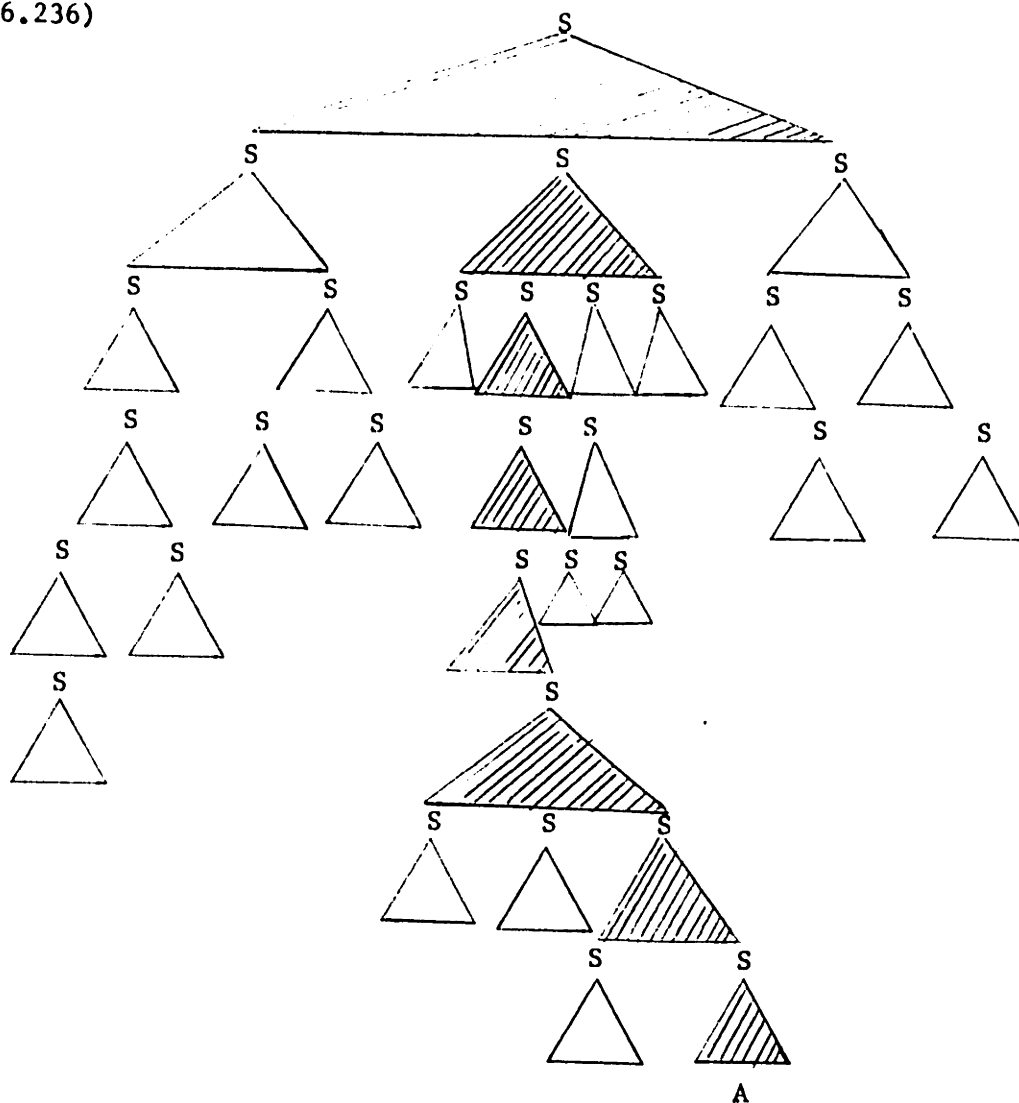
    There is an independently motivated principle of derived
constituent structure, which restricts reordering transformations
in a way highly reminiscent of (5.122): this principle is stated in
(6.237).

(6.237)   If the structural change of a transformation

specifies that one term of the structural

index is to be adjoined to a variable,

pick the highest proper analysis which the
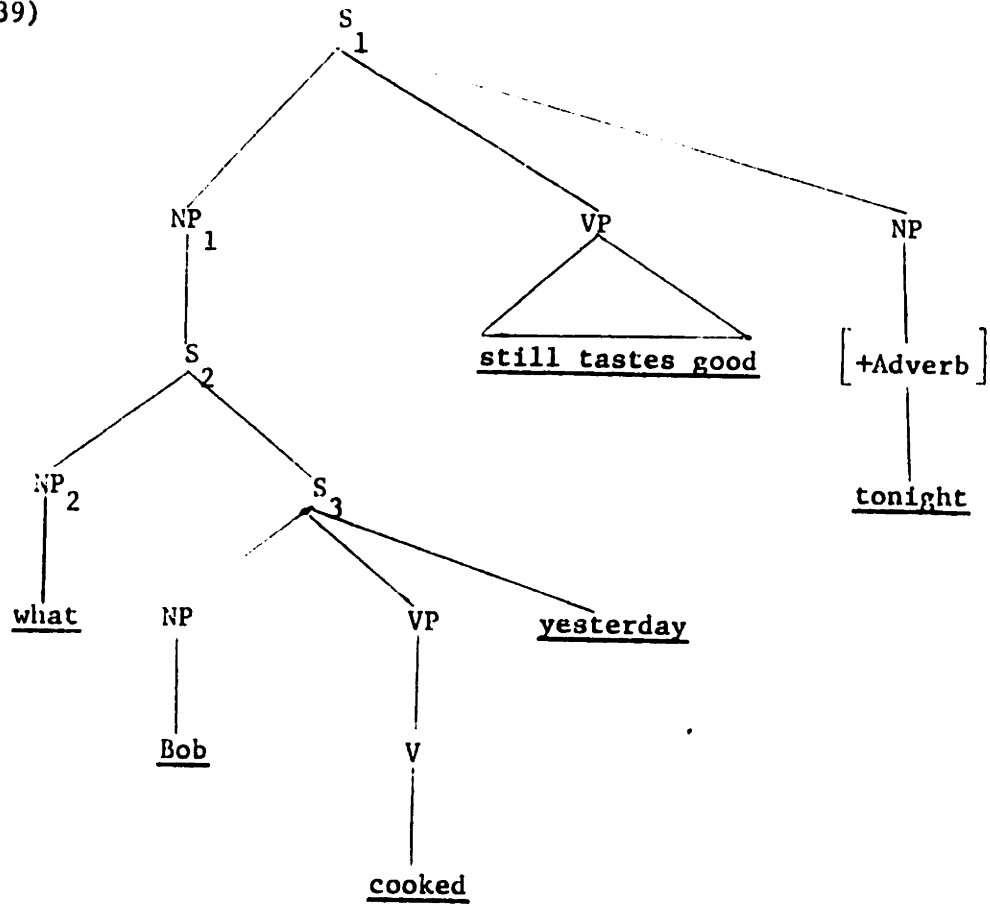
variable allows, and adjoin the term to

this string.[32]

Instead of attempting a formal definition of the term

"highest proper analysis", which would be straightforward, if

difficult, I will illustrate the effect this principle has with an

example.

Supposing that (6.238a) is converted to (6.238b) by the

rule of Adverb Preposing, (5.67).

(6.238) a.   What Bob cooked yesterday still tastes

good tonight.

b.   Tonight, what Bob cooked yesterday still

tastes good.

If (6.238a) is assumed to have the structure shown in (6.239) (whether

(6.239) is correct in all details -- in particular whether the adverb

tonight should be dominated by VP, S_1, or by some other node, is

not important), then which of the possible derived constituent structures

shown in (6.240) should be assigned to (6.238b)?

(6.239)

S₁

NP₁

VP — still tastes good

NP

[+Adverb]

tonight

S₂

NP₂ — what

S₃

NP — Bob

VP — V — cooked

yesterday

(6.240)

S₁

NP₁

VP — still tastes good

S₂

NP₂ — what

S₃

NP — Bob

VP — V — cooked

yesterday

NP

[+Adverb]
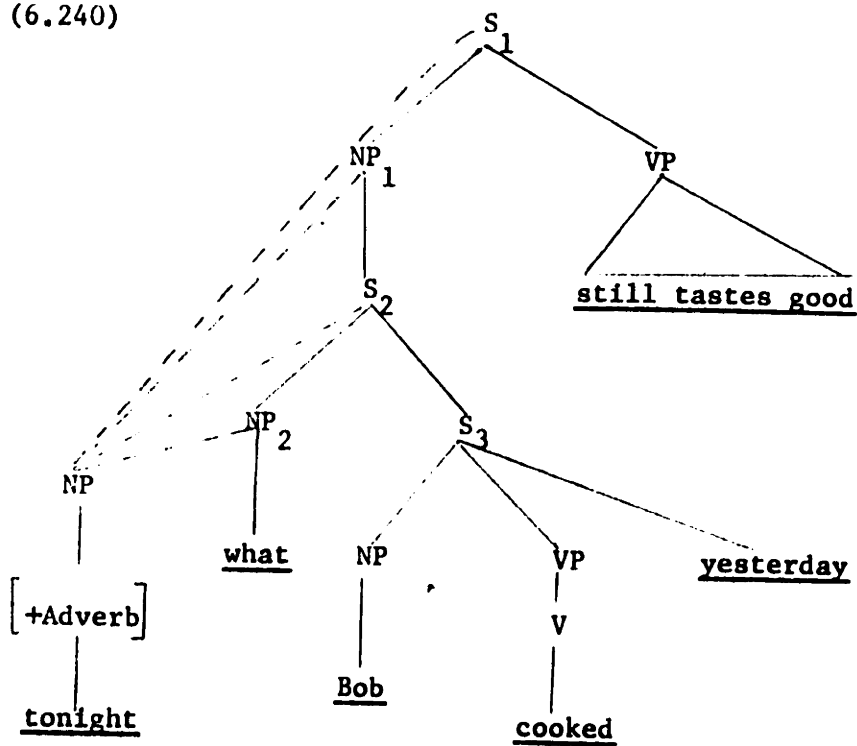
tonight

Intuitively, of course, it is clear that the preposed
tonight can only be the daughter of S_1; if it were dominated by
NP_1 or S_2, the counterintuitive claim would be made that the
string _tonight what Bob cooked yesterday_ is a constituent, and if
it were dominated by NP_2, that _tonight what_ is a constituent.

Syntactic evidence is available to show that _tonight_
cannot be immediately dominated by NP_1, S_2, or NP_2. Since
Adverb Preposing must precede all rules of pronominalization (cf.,
e.g., the paradigm in (5.151), where the subject of _will go_ can only
be pronominalized if the adverbial _if_-clause has been preposed by
(5.67)), (6.241b) will only be derivable from (6.241a) if the string
what Bob cooked yesterday is a constituent, for it is clear that
this string is what the _it_ of (6.241b) refers to, and pronominalization
is restricted to delete _constituents_ under identity.

(6.241)   a.   Tonight, what Bob cooked yesterday

        still tastes good, so tonight, what Bob

        cooked yesterday will be eaten up.

      b.   Tonight, what Bob cooked yesterday still

        tastes good, so tonight it will be

        eaten up.

If _tonight_ were dominated by S_2 or NP_2, the string _what Bob
cooked yesterday_ would not be a constituent, and if NP_1 dominated
_tonight_, while this string would be a constituent, it would not be

an NP. Since it seems most reasonable to analyze the _it_ of

(6.241b) as being a pro-NP, the only place the adverb _tonight_

can be attached is as a sister to NP_1, connected by the highest

dotted line in (6.240) to S_1. Since principle (6.237) would

ensure that this d.c.s., and none of the other counterintuitive

possibilities indicated by the other dotted lines of (6.240)

would result, there is good reason to believe that (6.237), or

its equivalent, must appear in any adequate theory of grammar.

But now note that (6.237) will also ensure that if

element A of phrase marker (6.236) is permuted around a variable,

it will not move out of its strip. It is of course theoretically

possible to state a reordering rule which makes crucial use of

variables and which can move an element out of its strip; one
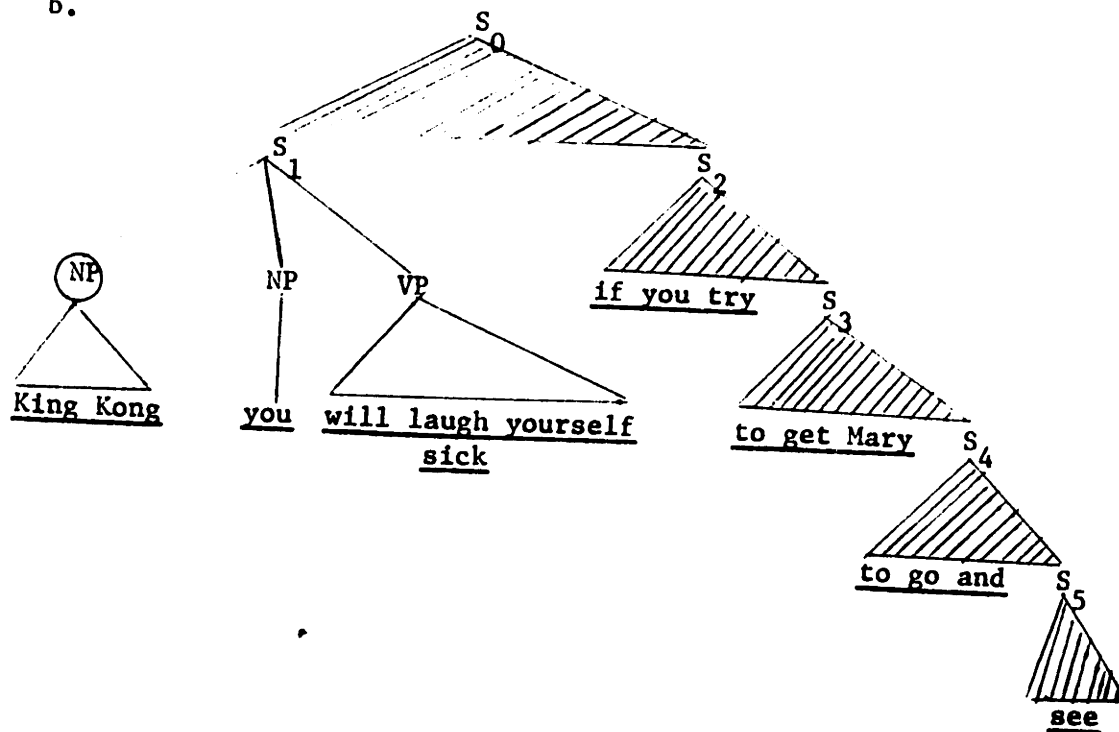
such rule is stated in (6.242).

$$(6.242) \qquad [_S \text{ NP } - \text{ VP }]_S - X - \text{NP} - Y$$

$$\quad 1 \qquad 2 \qquad 3 \qquad 4 \qquad 5 \quad \Longrightarrow$$

$$4 + 1 \quad 2 \qquad 3 \qquad 0 \qquad 5$$

This rule could apply to a structure like (6.243a) and convert it

to (6.243b), moving the circled NP off its shaded strip in (6.243a).

(6.243) a.
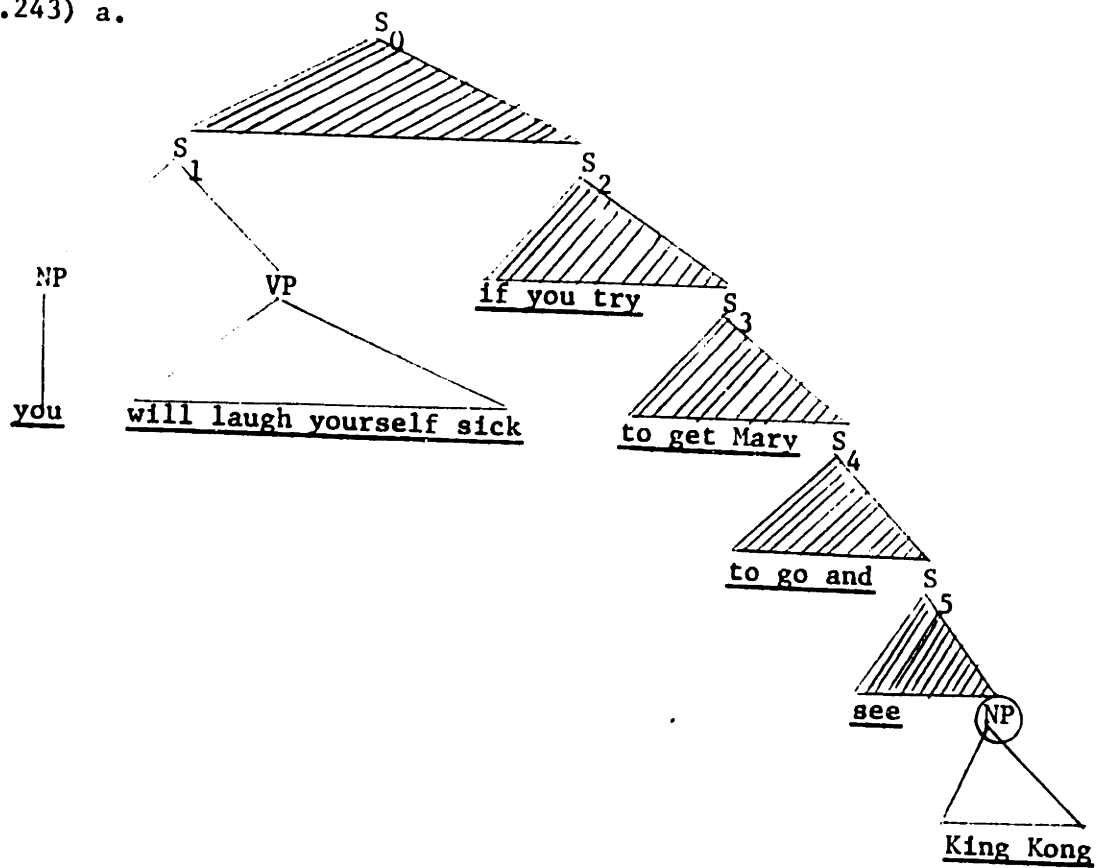
b.

The question is, will the grammar of any natural language ever have to contain such a rule? My present answer to such a question, an answer based on all the rules I know of, is an unequivocal "no". Not only must the "highest proper analysis" principle of (6.237) be stated in the theory of grammar, but some formal constraint must be stated so that rules like (6.242) can never be stated in any grammar. So little is known at present, however, that it is pointless to propose a formal constraint to this effect at the present juncture.

To point up the close conceptual parallels between (5.122) and (6.237), a paraphrase which makes use of command may prove helpful. (5.122) asserts that if the feature $\begin{bmatrix} + & F \end{bmatrix}$ is added to an element A, the cause of the change commands A (is in the strip above A). (6.237) asserts that if A moves, it will move to a position which commands (is in the strip above) its original position.

Actually, this last paraphrase of (6.237) is inaccurate, for if it is only required that a preposed adverb command its place of departure, the adverb _tonight_ could be attached as the daughter of S_1 or NP_1 in tree (6.240): only if it were to become a daughter of S_2 or NP_2 in (6.240) would it no longer command its point of departure. Thus (6.237) is a stronger condition, for reordering transformations, than (5.122) is for feature-changing transformations.

If we accept both (6.193) and (6.235) as working hypotheses, then,

since (6.237) is necessary in any event, as the discussion of

(6.238) and (6.241) showed, it should be possible to logically

<u>deduce</u> (5.122) from the stronger (6.237). In other words, if

the conditions on feature-changing rules are all and only the

conditions on reordering rules (but cf. the discussion on

Japanese in § 6.4.2), then the asymmetry mentioned at the end

of § 5.1.4 above, that while there are upward bounded rules

which are downward unbounded, there are no downward bounded,

upward unbounded rules, should follow from the "highest analysis"

principle of (6.237). Intuitively, (5.122) "feels" the same as

(6.237), although I have as yet been unable to construct a

rigorous proof, along the lines sketched above, that the former

is a consequence of the latter.

6.4.3.2.   As I showed in phrase marker (6.236), the converse of

the relation command selects for each element A of phrase marker

P <u>the maximal strip of A in P</u>. Element A cannot be moved

off its maximal strip, nor can any element of P which is not on

this strip cause any feature to be added to A. In other words,

the maximal strip of A is the maximal domain of application for

all chopping or feature-changing rules.

But how do the constraints of Chapter 4 affect the
maximal strips of a phrase marker? The answer is easy to see: if
the <u>main branch</u> of the maximal strip of A (that is, the branch
consisting of all and only those nodes of P that dominate A)
contains one of the types of nodes which is specified in the
statement of the CNPC, the CSC, the LBC or the SSC as not permitting
the chopping of one of its subconstituents, then the maximal strip
is cut into a smaller strip at that node. That is, if the main
branch contains a complex NP with a lexical head, a coordinate
node, an NP on the left branch of a larger NP, or a sentence in
subject position, the main   branch (and the strip it is a part of)
is cut at the node. The resulting substrips I call <u>islands</u>, and it
is these islands that the feature-changing and chopping rules are
constrained to operate within.

6.5.   <u>Summary</u>

The rules of pronominalization which were discussed in
§ 5.3 above, and copying rules, like <u>Left Dislocation</u>, (6.126), or
the rule which forms relative clauses with a "returning pronoun",
like those in (6.154), are the rules which can cross island
boundaries. But what of the deletion rules of § 6.1.3, which were
shown not to be able to cross island boundaries? Under the
extremely broad definition of pronominalization that was given in
(5.148) of § 5.3.1, the rules of § 6.1.3 would be characterized

as pronominalizations, and would not obey the constraints on chopping

and feature-changing rules which were developed in Chapters 4 and 5,

but instead would be subject to the less restrictive condition which

is stated in (5.152).

There is, however, one formal difference between the

rules of § 5.3 and the rules in § 6.1.3: while the former rules

can delete under identity in either direction, the latter rules

are stated to delete only in one direction. The English rules

mentioned in § 6.1.3 all deleted from the left to right (that

is, the element on the right was deleted), while the Japanese

rule of <u>Relative Clause Formation</u> deleted only from right to left.

And the rule of <u>Reflexivization</u>, (5.98), can, in every language I

know of, be formulated unidirectionally so the puzzling fact noted

in footnote 24 of Chapter 5, that <u>Reflexivization</u> obeys the constraints

on feature-changing rules, rather than the normal constraint on

pronominalization, can also be accounted for. It is at present a

total mystery as to why unidirectional pronominalizations should

obey the constraints of Chapters 4 and 5, but it does seem to be

the case in the few languages I have studied.

Summing up, then, the results of the investigation of

formal properties exhibited by rules which are subject to the constraints

of Chapters 4 and 5 can be expressed as in (6.244) below, where I

have used the term "cross" in an undefined, but I think intuitively

clear, sense:

(6.244)   Variables in chopping rules, feature-

changing rules, and unidirectional rules

of deletion cannot cross island boundaries;

variables in other rules can.

Chapter 6

FOOTNOTES

1. It has been assumed since the inception of transformational

    grammar (cf., e.g., Harris (1957), section 11.2) that these two

    rules are the same, an assumption that I find extremely dubious.

    The arguments that have been used are that the relative pronouns

    (except for _that_) are a subset of the _wh_-words used in questions,

    and that both rules are subject to the same constraints. But

    if the main argument of this chapter is correct, that all chopping

    transformations which move constituents over variables are

    subject to the same constraints, then the second argument for

    assuming the existence of a "WH-Rule", such as Chomsky's rule

    (6), which I quoted in § 2.4.0 above, can be disregarded. And

    the first argument for such a rule, which is essentially a
                                      is weak.
    morphological one,/ Although there are many parallels between

    the uses of _wh_-words in questions and in relative clauses, there

    are also puzzling differences. So while it is desirable to

    relate the fact that _who_ replaces human nouns in questions, and

    the fact that it also does so in relatives, the fact that _whose_

    can be used for both human nouns (_the boy whose body was lithe_

    snored on) and non-human nouns (_the car whose body was dented_

    still runs) in relatives, but only for human nouns in questions

    (_Whose body was lithe?_ *_Whose body was dented?_) causes problems

for those who assume that the two rules are the same. A more important argument against identifying these rules can be derived from the following considerations.

In sentences introduced by the expletive <u>there</u>, the subject NP cannot be relativized (*<u>The two men who there were guarding the door wore shoulder holsters</u>). It cannot be argued that sentences beginning with <u>there</u> are frozen to relativization, for such strings as <u>This is a problem which there are a lot of people working on</u> are grammatical. Nor can it be argued that there is a restriction in the English conditions box which prohibits any reordering transformation from moving the subject of a <u>there</u>-sentence, for such subjects can be questioned (<u>How many men were there guarding the door?</u>). To me, it seems most likely that the reason that such subjects behave differently under <u>Relative Clause Formation</u> and <u>Question</u> will be connected with the fact that subjects of <u>there</u>-sentences are always **indefinite**, and a restriction on the former rule that the identical NP in the constituent sentence always be definite. But whether or not this analysis proves to be correct, unless the facts just presented can be explained even on the assumption that the rules of <u>Question</u> and <u>Relative Clause Formation</u> are the same, it seems to me that the only arguments I know of which argue for this are far too weak to be regarded as having established such an identity.

2. This sentence is of course perfectly grammatical as an expression of surprise, but on such a reading, the _wh_-word _why_ does not replace a purpose adverb, as it usually does in questions (witness the grammaticality of _Why, he left for that reason after all!_), and can be followed by a pause, unlike the word _how_ in (6.4a) and (6.4b). These facts are indicative of the clear intuitive difference between this reading of (6.5b) and the exclamatory sentences of (6.4).

3. The six-pointed star which I have prefixed to these examples, one of McCawley's many _bahnbrechenden Erfindungen_ (cf. McCawley (1964), fn. 2), indicates that these sentences are only grammatical if Yiddish. A particularly clear example of such a sentence, for which I am indebted to David. M. Perlmutter, is ✡ _Egg creams you want, bananas you'll get_.

4. In sentence (4.18) above, I showed that while elements of clauses which follow _believe_ can be relativized, elements of clauses which follow _believe the claim_ cannot. Since such sentences provide such a clear case of the operation of the CNPC, I will use them as a paradigm example of this constraint throughout § 6.1.

5.   For some reason I cannot explain, elements cannot be extracted by the rule which makes exclamatory sentences from most extraposed clauses, although elements can be relativized here. Compare, e.g., *<u>How brave it is certain that Tom is!</u> with <u>Here is a house which it is certain that Tom lived in</u>.

6.   This sentence is acceptable with the meaning "I don't see how he is so brave", if prefixed by the six-pointed star discussed in fn. 3.   It cannot, however, have the intended meaning of (6.4a).

7.   Personal communication.

8.   Of course, since (6.15a) contains an internal sentence which is exhaustively dominated by NP, the output condition stated in (3.27) will lower its acceptability. But it should not be considered to be merely unacceptable, for the following sentence, where <u>when</u> modifies <u>had been established</u>, while awkward, is still far better than (6.15a): <u>Bill left when that noone else was awake had been established</u>.

9.   These facts were first pointed out by Katharine Gilbert, in Gilbert (1967).

10. This fact was pointed out to me by Morris Halle.

11. A rough estimate of the perils that await the unwary grammarian who stumbles into this quagmire can be obtained from a quick perusal of the myriad confusions and inconsistencies in Ross (1964).

12. This sentence cannot be blocked by any ordering of the rules of NP Shift and Conjunction Reduction if the analysis presented in Peters (in preparation) is correct. Peters argues that on the reading of (6.57a) where the meaning is that the playing of the guitar and the singing **are** simultaneous, the conjoined VP node should derive from a conjoined node in deep structure.

13. If both versions of (6.76b) are felt to be ungrammatical, this rule must have the general constraint imposed upon it that no element of a clause containing a finite verb can be preposed.

14. These facts were brought to my attention by Maurice Gross.

15. That is, the morpheme en 'of it' must command the verb to which it is to be prefixed as a clitic. For a detailed treatment of the grammar of clitics in several Romance languages, cf. Perlmutter (in preparation).

16. In fact, if <u>la maison</u> is pronominalized fully, not merely to

some form such as <u>celle-là</u> 'that one there', nothing can save

(6.81a) from ungrammaticality. The CSC will not allow the

clitic to be moved, but the rule which moves clitics to preverbal

position will not let it stay where it is. In such an impasse,

no matter which rule wins out, an ungrammatical sentence will

result.

17. As a rough indicator of the superficiality with which I have

discussed this construction (indeed, all the constructions in

§ 6.1), consider the following facts, which were pointed out

to me by Sylvain Bromberger. In the sentence below,

> Je vois les fenêtres <u>de la maison</u> et la porte <u>du garage</u>.

> 'I see the windows of the house and the door of the garage.'

while it is not possible to pronominalize and convert into <u>en</u>

either of the underlined phrases in isolation, if <u>both</u> are pro-

nominalized, a grammatical sentence results:

> J'en vois les fenêtres et la porte.

> I of it see the windows and the door.

> 'I see the windows and the door $\left\{\begin{array}{l}\text{of it}\\\text{thereof}\end{array}\right\}$.'

What is particularly interesting is that the <u>en</u> here seems to

refer neither to <u>de la maison</u> 'of the house', nor to <u>du garage</u>

'of the garage', but rather to the set, or gestalt, or individual

(to use Nelson Goodman's term) consisting of them both, a

concept only roughly translatable into English by such locutions

as <u>the house-garage</u>. Notice that the reason that the CSC can be "violated" here is, in a strange new way, the same reason that across-the-board rules (cf. § 4.2.4.2) can "violate" it. I cannot deal further with this extremely interesting problem here.

18. The grammar of comparatives in general, and of these <u>by</u>-phrases in particular, has been intensively examined by Austin Hale. Cf. Hale (1965), Hale (to appear).

19. This term is due to Maurice Gross.

20. The ungrammatical versions of the sentences of (6.150), where the pronouns are in the nominative case, can be blocked by imposing the condition on <u>Left Dislocation</u> that the dislocated NP be marked with the feature $\begin{bmatrix} + \text{ objective} \end{bmatrix}$. This feature will only produce a phonetic difference if the NP to which it is attached is one of the pronouns <u>I</u>, <u>he</u>, <u>she</u>, <u>we</u>, <u>they</u>.

21. Personal communication. Classical Arabic grammarians refer to pronouns like the boxed ones in (6.154) as "returning pronouns."

22. That the rule which converts (6.162b) to (6.162c) changes <u>be</u>
    to <u>have</u> should occasion no surprise. There are a number of
    deep ways in which these two verbs behave the same under
    transformational rules, but a discussion of these facts would
    be out of place here. One interesting rule of Italian, which
    changes <u>have</u> to <u>be</u> in certain circumstances, will be discussed
    in Perlmutter (op. cit.)

23. That this sentence may be acceptable to some, with the meaning
    "Jack will cause a hole to appear in my pocket", need not
    concern us here.

24. This sentence is grammatical if <u>Joe</u> appears in the relative
    clause, but I am not sure it is an instance of the same
    construction.

25. I am not sure that the contrast in acceptability between
    (6.172c) and (6.174c) is great.

26. I have greatly oversimplified the statement of this rule.
    Lakoff and Peters (op. cit.) argue, e.g., that the <u>and</u> in
    term 2 of (6.176) should have been converted into some preposi-
    tion (cf. <u>He left with her</u>, <u>She is similar to him</u>, <u>I am</u>
    <u>different from her</u>) before this rule applies. Also it is an open

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question as to whether term 2 should be Chomsky-adjoined or
daughter-adjoined to term 3.

27. There are some speakers who appear to find no difference in
acceptability between the sentences in (6.187), but I know
of no one for whom sentences like (3.20b), (3.35b), and
(3.36b) are grammatical. I cannot explain this asymmetry.

28. Of course, (6.220b) is not ungrammatical on all readings. It
can mean 'That your spouse won't be a student is certain', but
this meaning is not related to the structure underlying (6.220a).

29. Klima postulates a negative constituent, neg, so his rule of
Negative Incorporation is not a feature-changing rule but rather
a chopping rule which inserts the chopped neg into some other
part of a phrase marker. But I know of no valid argument for
treating negation as being anything but a feature; Klima's
main argument that negation is a constituent has to do with his
notion in construction with, which I have already argued
(cf. § 5.2.2 above) is not adequate to the task of accounting
for the facts of Indefinite Incorporation, to say nothing of
restrictions on the other members of the class of feature-
changing rules. Even if Klima's analysis is right, however, so
that Negative Incorporation has to be considered to be a rule

which chops and inserts, it would still be possible to account for the difference between (6.219b) and (6.220b) by broadening the hypothesis stated in (6.193) so that it covered all kinds of chopping rules.

Note also that the contrast between (6.220b) and (6.217b) provides an additional argument for pruning. Thus if the NP **the writers of some of the reports** is sententially derived, which I believe is inescapable, then by the time the rule of **Negative Incorporation** applies, the sentence must have been pruned, for otherwise the SSC will not allow (6.217a) to be converted into (6.217b).

30. I have no explanation at present for the differential behavior of the sentences in (6.224), (6.225) and (6.226), if the determiner of **picture** is **this**.

31. In Ross (1967c), I show how this rule provides evidence that all declarative sentences are embedded as the direct object of a verb like **say**, whose subject is **I**, in deep structure. Note, by the way, that this rule is unlike the normal rule of **Reflexivization** in that it can go down into clauses.

32. For a definition of the term 'proper analysis', cf. Chomsky (1955), Fraser (1963).