ABSTRACT
                      A number of grammatical transformations are studied
which often, but not always, involve the movement of constituents.
Data from English, Japanese, Kannada, Korean, Mandarin Chinese and
Thai are investigated in an attempt to discover a principle (of
potentially universal scope) that governs certain constraints that
must be imposed on these transformations. The principle discovered
and defended is: A sentence, or part of a sentence, once subject to
subdivision, may not be further subdivided by a foregrounding
operation. The notion of foregrounding is discussed as well as a
specification of the notion subdivision. Several potential
counterexamples to the principle are discussed as well. (Author)

MOVEMENT CONSTRAINTS ON TRANSFORMATIONS
THAT DO NOT MOVE ELEMENTS

Robert Rodman

1.   In this paper[1] I will look at a number of grammatical transforma-
tions which often, but not always, involve the movement of elements.
Data from six unrelated languages[2] are brought to bear on the task of
discovering a principle which governs certain constraints that must be
imposed on these transformations in any adequate grammar of any of the
respective languages.

     The point of departure of this investigation will be Ross's two
well-known constraints, the Complex NP Constraint (CNPC), and the Co-
ordinate Structure Constraint (CSC). I will begin by briefly review-
ing those results of Ross (1967) that are relevant here. In section
2 I will show that Ross's constraints are inadequate for Thai, and I
will propose a semantically based principle that, in effect, replaces
and strengthens the CNPC and CSC insofar as they affect the syntactic
rules of Thai. The consequences of this change for English will be
scrutinized in section 3. In sections 4, 5, and 6, the Dravidian lan-
guage Kannada, Mandarin Chinese, and Korean are examined, and in sec-
tion 7 Japanese is considered from the point of view of providing coun-
terevidence to my hypothesis. Also in section 7 I will consider coun-
terevidence from the Ozark dialect of English.

1.1 Because of sentences like (1), the rule of WH-Preposing[3] in Eng-
lish must be formulated with a variable in its structural description.

     (1) a. Alex discovered he had no power to control his desire
              for sex and violence.

          b. What did Alex discover he had no power to control his
              desire for?

          c. The girl who Alex discovered he had no power to control
              his desire for went beserk in a clock factory.

But that being the case, what is to block the clearly ungrammatical
sentences (2bd)?

(2) a. Filbert promised to listen to the claim that the Vikings explored the moon.

　　 b. *What did Filbert promise to listen to the claim that the Vikings explored?

　　 c. Otis managed to convince his father that the man that hired his girl friend ran a pizza house for profit.

　　 d. *The girl friend who Otis managed to convince his father that the man that hired ran a pizza house for profit once turned down a movie contract.

Ross considered this problem and, observing similar behavior in other languages, he proposed that the following constraint be incorporated into the theory of grammar (making it a 'linguistic universal').

(3) COMPLEX NP CONSTRAINT (Ross 1967:70): No element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by a transformation.

In (2a), $_{NP}[_{NP}[$the claim$]_{NP}$ $_S[$that the Vikings explored the moon$]_S]_{NP}$ is a noun phrase with the lexical head noun <u>the claim</u>. The CNPC prevents <u>the moon</u> from being questioned by a preposing operation. Similarly, in (2c) <u>the man that hired his girl friend</u> is a relative construction, which is "a noun phrase with a lexical head noun" par excellence. The counterpart to the NP node that dominates the string <u>his girl friend</u> in (2c) cannot be moved out of the larger noun phrase <u>the man that hired WH-someone</u> to form a relative clause, as in (2d).

　　Still bearing in mind that WH-Preposing must be formulated to move elements over a variable, we must somehow account for the sentences in (4bd).

(4) a. Alex loved sex and violence.

　　 b. *What does Alex love sex and?

　　 c. Alex loved sex and Georgie loved violence.

　　 d. *What did Alex love and Georgie loved violence?

Ross has an answer for this case too. He proposed that (5) also belong to the theory of grammar.

(5) COORDINATE STRUCTURE CONSTRAINT (Ross 1967:89): In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

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It is clear how (5) acts to block the generation of the ungrammatical sentences of (4)

2. Since the CNPC and the CSC are supposed to be universal principles of language, we expect them to hold in Thai. We must try to find chopping rules in Thai, i.e. rules which permute elements over a variable, because those are the only kind of rules that are governed by the constraints (Ross 1967:236).

The process of Object Preposing in Thai moves elements to the head of the topmost S, as (6) illustrates:

(6) a. khru: dỳ ɯ nom kâe ːw nî:
    teacher drink milk glass of this

    The teacher drank this glass of milk.

  b. nom kâe ːw nî: khru: dỳ:m

    This glass of milk the teacher drank.

It is quite clear that (6b) is derived from (6a)—Thai is an SVO language. That an element can be preposed from indefinitely far away (hence chopped) is suggested by (7):

(7) a. khǎw chŷa wâ: khru ː dỳ:m nom
    he believe complementizer teacher drink milk
    kâe:w nî:
    glass of this

    He believes the teacher drank this glass of milk.

  b. nom kâe:w nî: khǎw chŷa wâ: khru: dỳ ɯ

    This glass of milk he believes the teacher drank.

To test the CNPC we try to prepose the direct object out of the complex NP shown in (8). The ungrammaticalness of (9) indicates that the constraint holds.

(8) phǒm chɔ̂:b $_{NP}$[$_{NP}$[khru:] $_{S}$[thî: dỳ ɯ nom kâe ːw nî:]]

    I like teacher COMP drink milk glass of this

    I like the teacher who drank this glass of milk.

(9) *nom kâe:w nî: phǒm chɔ̂:b khru: thî: dỳ ɯ

In a similar way the CSC can be shown to hold in Thai. It is impossible to prepose either direct object in (10), as the data in (11) show.

(10)   khru: dỳ:m nom kâe:w ní: laé cha: thûaj ní:
teacher drink milk glass of this and tea cup of this

The teacher drank this glass of milk and this cup of tea.

(11) a. *nom kâe:w ní: khru: dỳ:m laé cha: thûaj ní:
     b. *cha: thûaj ní: khru: dỳ:m nom kâe:w ní: (laé)

We might note in passing that movement <u>within</u> a conjunct can take place, a result consistent with the CSC.

(12)   khru: dỳ:m nom kâe:w ní: laé nágrian dỳ:m
teacher drink milk glass of this and student drink

cha: thûaj ní:
tea cup of this

The teacher drank this glass of milk and the student drank this cup of tea.

(13)   nom kâe:w ní: khru: dỳ:m laé nágrian dỳ:m
milk glass of this teacher drink and student drink

cha: thûaj ní:
tea cup of this

This glass of milk the teacher drank and the student drank this cup of tea.

Another chopping rule in Thai relates (14a) to (14b).

(14) a. khǎw khǎ:j phâ:
       he sell cloth

       He sells cloth.

     b. kɔ̂: phâ: nânlae thî: khǎw khǎ:j
       particle cloth FOCUS COMP he sell

       It's cloth that he sells.

The NP phâ: is chopped into focus position out of a constituent struc-ture that, except for a deep structure element of emphasis or focus, underlies (14a). Example (15) suggests that the focused element can originate indefinitely far down the tree.

(15)   kɔ̂: nǎngsy̌: nânlae thî: khǎw phí:sù:d wâ: thə: sý:
particle book FOCUS COMP he prove COMP she buy

It's a book that he proved that she bought.

The data in (16) show that the CNPC and the CSC are obeyed.

(16) a· *kɔ̂: phâ: nânlàe thî: phû:cha:j thî: khǎ:j sǔ:ng
　　　part. cloth FOCUS COMP　man　　COMP sell tall

　　　*It's cloth that the man who sells is tall.

(16) b· *kɔ̂: phâ: nânlàe thî: khǎw khǎ:j láe phǒnlámáaj
　　　part. cloth FOCUS COMP　he　sell and　　fruit

　　　*It's cloth that he sells and fruit.

As in so many of the world's languages, relative clause formation
in Thai is accomplished by deletion of the relativized nominal in the
embedded clause under identity with a nominal in the matrix clause. No
elements are pronominalized, and, significantly, no elements are re-
ordered. In (17), the circled NP is deleted from the underlying struc-
ture to give the surface utterance. The element thî: is a complement-
izer.

(17) phǒm chɔ̂:b dèg thî: kamlang khì: má: tua nán
　　　I　like boy COMP　PROG　ride horse classifier that

　　　I like the boy who is riding that horse.
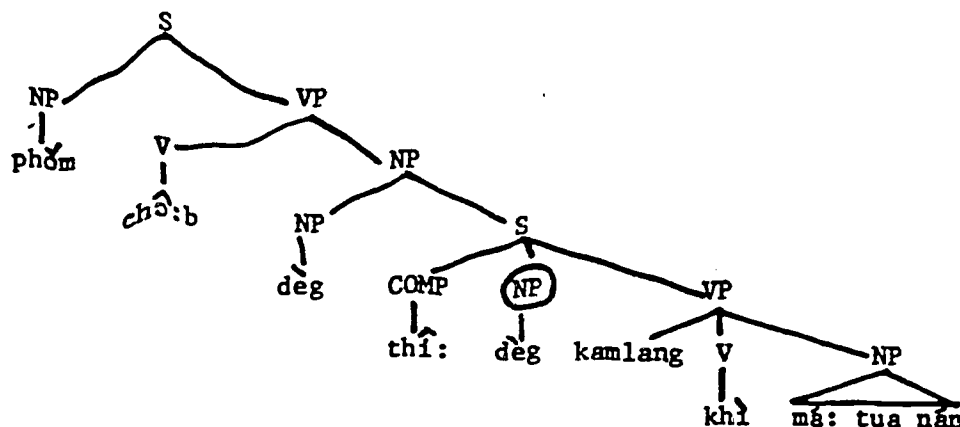
Relative Clause Formation must be formulated with a variable in its
structural description because elements indefinitely far down a tree
can be relativized, as suggested by (18).

(18) phû:cha:j thî: phǒm khíd wâ: khǎw chŷa wâ: khru:
　　　man　　COMP　I think COMP he　believe COMP teacher

　　　hěn paj thî: talà:d láe:w
　　　see go　to　market already

　　　The man whom I think he believes the teacher saw has al-
　　　ready gone to the market.

However, Thai does not permit elements which themselves belong to

relative clauses to be relativized, as we see in (19).

(19) a. phû:cha:j thî: mae:w hěn chɔ̌:b mǎ: tua   nân
man   COMP cat see like dog classifier that

The man who the cat sees likes that dog.

b. *mae:w thî: phû:cha:j thî: hěn chɔ̌:b mǎ: tua
cat COMP   man   COMP see like dog classifier

nân dæm
that black

*The cat that the man who saw likes that dog is black.

Nor can any element in a coordinate structure be relativized, as seen
in (20) and (21).

(20) a. mae:w laé mǎ: dỳ:m nom
cat   and dog drink milk

The cat and the dog drank milk.

b. *mae:w thî: laé mǎ: dỳ:m nom pen khɔ̌:ng chǎn
cat   COMP and dog drink milk be poss.   I

*The cat that and the dog drank milk is mine.

(21) a. mae:w dỳ:m nom laé phû:cha:j kin khâ:w
cat   drink milk and   man   eat rice

The cat drank milk and the man ate rice.

b. *khâ:w thî: mae:w dỳ:m nom laé phû:ch:j kin pen
rice COMP   cat drink milk and   man   eat be

khɔ̌:ng chǎn
poss.   I

The rice that the cat drank milk and the man ate is
mine.

   In addition to the CNPC and the CSC, an adequate grammar of Thai
will need a further constraint to the effect that elements in relative
clauses and coordinate structures may not be relativized. But we
would then find the grammar cluttered with constraints of relatively
low functional use. It is unlikely that such a grammar would reflect
the intrinsic knowledge the Thai speaker has about his language. It
would be desirable to eliminate one or more of these constraints in
favor of a broader, more general principle.

   A summary of the investigation to this point will prove useful.
We have noted that constraints in the grammar of Thai are needed to

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prevent the rules of Object Preposing, Focus, and Relative Clause
Formation from affecting elements that belong to relative clauses
or coordinate structures. We also noted that the latter instance does
not fall under the jurisdiction of the CNPC and the CSC, though the
former two do.

These three rules have something in common: they each foreground[4]
an element (or elements) of a sentence at the expense of other elements,
which then comprise the background. That this is true is self-evident
for Object Preposing and Focus. In the case of relativization, as Paul
Schachter (1972) has convincingly argued, the head nominal is fore-
grounded, whereas the clause modifying the head noun comprises the back-
ground. The fact that the relative construction is itself a nominal
supports the contention that the head noun is ascribed the relatively
high communicative importance expected of foregrounded elements. Thus
a first approximation to the unifying principle that is being sought
is the statement (22).

(22) No element may be foregrounded that belongs to a relative
clause or a coordinate structure.

Support for (22) is garnered by a consideration of the process of
constituent question formation in Thai. No reordering is involved. A
special word replaces the constituent to be questioned, and that is all.[5]
The sentences (23ab) illustrate.

(23) a. khǎw kin ʔaraj
        he   eat what

        What did he eat?

     b. khun   chǐa   wâː phǒm hěn khraj
        you   believe CCMP I   see who

        Whom do you believe I saw?

Though informant response wavers a little, it is of low acceptability,
if not entirely ungrammatical, to question elements in relative clauses
or coordinate structures, as shown in (24) and (25).

(24) a. phǒm   chɔ̂ːb huahɔ̌ːm láe tae:ngmo:
        I   like   onions   and watermelon

     b. *khun chɔ̂ːb ʔaraj láe tae:ngmo:
        *What do you like and watermelon?

     c. *khun chɔ̂ːb huahɔ̌ːm láe ʔaraj
        *What do you like onions and?

(25) a. phǒm chɔ̂ːb dèg thîː phûːchaːj hěn
        I   like   boy COMP man   see

        I like the boy whom the man saw.

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b. *khun chɔ̂:b dèg thî: khraj hĕn
    *Whom do you like the boy who(m) saw?

Since constituent questions put into the foreground of the sentence
one or more constituent slots (and impose the meaning "?" on that
slot), the restriction needed to prevent (24) and (25) from being
generated is just the statement in (22). Neither the CNPC nor the
CSC have any effect over the formation of constituent questions in
Thai since that process does not involve the reordering of elements.

We press the search for a more encompassing principle by noting
that it is ungrammatical to question elements in a sentence that has
undergone Object Preposing or Focus, as we see from (26) and (27).

(26) *nom kâe:w ní: khăw chŷa vâ: khraj dỳ:m (cf.(7b))

(27) *kɔ̂: phâ: nânlâe thî: khraj khă:j (cf.(14b))

And it is ungrammatical to relativize an element that belongs to a
sentence that has undergone Object Preposing or Focus.[6]

(28) *khru thî: nom kâe:w ní: khăw chŷa wâ:
       teacher COMP milk glass of this he believe COMP

      dỳ:m sŭ:ng (cf.(7b))
      drink tall

      *The teacher that this glass of milk he believes drank is
      tall.

(29) a. kɔ̂: khru: nânlâe thî: khă:j phâ:
          part. teacher FOCUS COMP sell cloth

          It's the teacher who sells cloth.

      b. *phâ: thî: (kɔ̂:) khru: nânlâe thî: khă:j phae:ng
          cloth COMP part. teacher FOCUS COMP sell expensive

          *The cloth that it's the teacher who sells is expensive.

Neither (26), (27), (28), nor (29b) are prevented by the CNPC.

Some of these ungrammatical sentences might be accounted for by
a judicious ordering of transformations, but such a solution rings
false, especially at this time when a number of linguists are question-
ing the correctness of extrinsically ordering grammatical rules. Be-
sides, there would still be a significant residue of ungrammatical sen-
tences that rule ordering would be helpless to block.

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We have already noted that the rules Relative Clause Formation, Constituent Question Formation, Focus, and Object Preposing all have the semantic effect of dividing a sentence (or some subpart thereof) into a foreground and a background. We note furthermore that a co-ordinate structure is a semantic division into equal parts. The constraint that appears to be in effect is that once material has been divided into foreground and background, it is no longer subject to further division in this respect.[7] Similarly, once a division is made into equal parts, no element of any conjunct, nor any conjunct itself may be foregrounded at the expense of an equal partner. (But as the data in (12) and (13) show, elements within a single conjunct may be foregrounded at the expense of other elements in the same conjunct.) To sum up the results so far, we give (30), which replaces (22), the CNPC and the CSC.

> (30) A sentence, or part of a sentence, once subject to sub-division, may not be further subdivided by a foreground-ing operation.

Since the four rules mentioned above are foregrounding operations, no one of them may apply to the output of any of the others, nor to a coordinate structure.

It appears that insofar as Thai is concerned, (30) is a necessary addition to the grammar, though I am not sure how to implement such a constraint formally. In Thai, as long as (30) is in effect, the CNPC and the CSC are not needed. It will be interesting to test the valid-ity of (30) as a universal principle of language, and with that goal in mind we extend the investigation to languages other than Thai.

3.   In this section I will examine a number of syntactic processes in English in light of the constraint (30). It is the nature of English to indicate syntactically the semantic operation of foregrounding by preposing, or promoting, the element(s) that is foregrounded. Thus constraints on foregrounding take the guise of constraints on reorder-ing transformations. The study of Thai has helped us to the deeper insight embodied in the statement of (30). A study of English, however, will show that (30) is not fully adequate as stated. The necessary repairs and explications will be made in this section.

3.1   I believe the following analysis of restrictive relative clause formation in English is essentially the correct one (cf. Emonds 1970: 129, and Rodman 1972a:158-9, note 32). The clausal part of the rela-tive clause is headed by the complementizer _that_. Relativization takes place in stages. The first stage pronominalizes the nominal in the embedded S under identity. The second stage may either delete that pro-nominal form, or prepose it to replace the _that_ complementizer. If deletion takes place then a relative clause in which the "relative

pronoun" is _that_ is formed. Otherwise a relative clause with a WH-
relative pronoun is formed. Finally, an optional rule of _that_ dele-
tion, needed independently by the grammar, gives relative-pronounless
forms when a non-subject nominal has been relativized.

If this analysis is correct, and there is evidence to verify it
in the references cited above, then relative clauses headed by _that_
are formed without any elements being reordered. But then such rela-
tive clauses should not obey the CNPC, and sentences like (31) ought
to be possible.

(31) *The man that I saw the woman and was Peter.

With (30) available as a constraint on the grammar of English, this
problem vanishes, as (31) is predictably ungrammatical.

Similarly, "such that" relative clauses, which behave semantical-
ly just like ordinary relative clauses, are formed without any reorder-
ing of elements.

(32) A man such that he dates a fish walks in the park.

(Cf., a man who dates a fish walks in the park.)

Nonetheless this construction reacts like an ordinary relative con-
struction with respect to the non-occurrence of sentences in which
elements are relativized out of a relative structure, a focus struc-
ture, a coordinate structure, etc.

(33) a. *John dates a woman such that a man such that he loves
          her walks in the park.

      b. *The fish such that it's a woman who dates it loves
          Mary.

      c. *John dates a woman such that a man and she seek a uni-
          corn.

The ungrammatical sentences in (31) and (33) are blocked by (30).

3.2 In this subsection a second front is opened in my war against
Ross's constraints. Up to now the form of the argument has been:
"Look, here are all these non-reordering rules that obey (as it were)
the CNPC and the CSC, but which are not governed by the two constraints.
Let's devise some kind of constraint to handle these cases, and while
we're at it, let's try to make the constraint encompass the CNPC and
the CSC." Principle (30) is an attempt to accomplish such a feat.

A second kind of inadequacy of Ross's constraints is that there
are structures which do not allow elements that belong to them to be

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chopped out, or, in terms of the work done here so far, to be fore-
grounded (with or without reordering), even though such structures
are neither complex NP's nor coordinate structures. Without (30),
the grammar, even with the presence of the CNPC and the CSC, would
have to be bolstered to account for these cases, just as it would have
had to be bolstered to account for the constraints on the non-reorder-
ing rules. Happily, (30), with no further modification, handles these
cases, providing intensive empirical support for this principle.

In the next three subsections (3.2.1, 3.3, and 3.4), then, I will
pursue this argument.

3.2.1 While the CNPC prevents elements from being chopped out of a
relative clause that is intact, if the clausal part of the relative
clause is extraposed by the rule Extraposition from NP, thus rendering
the "complex" NP no longer complex, it nonetheless remains true that
elements cannot be chopped out of the clause. The data in (34) illus-
trate:

(34) a. A man who belongs to SDS was arrested on campus.

      b. A man was arrested on campus who belongs to SDS.

      c. *What organization was a man arrested on campus who
          belongs to?

Ross got around this difficulty in his dissertation by arguing that
Extraposition from NP is last cyclic, and must follow all the chopping
rules (Ross 1967: 159-161). In Rodman (1972a:153, note 7) I showed
that Ross's solution is untenable, and in that same work offered an
alternative (section 4.3). Unfortunately, my solution, too, has ser-
ious drawbacks and a good explanation is still lacking.

If (30) is in the grammar of English (or if it belongs to the
theory of grammar), the problem vanishes. The clause who belongs to
WH-organization has been backgrounded by the rule of Relative Clause
Formation, and it remains backgrounded even though it is extraposed,
and so no element of that clause is subject to foregrounding. In
particular, organization cannot be brought into the foreground by be-
ing questioned.

3.3   In English, elements of subordinate clauses may not be questioned
or relativized.

(35)
                                        ⎧ after ⎫
      a. The cat scratched a frog   ⎨ while ⎬ that girl caressed
                                        ⎪ because ⎪   a chimp.
                                        ⎩ before ⎭

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b. *The chimp which the cat scratched a frog $\left\{\begin{array}{l}\text{after}\\\text{while}\\\text{because}\\\text{before}\end{array}\right\}$

that girl caressed poses nude for calendars.

c. *Which girl did the cat scratch a frog $\left\{\begin{array}{l}\text{after}\\\text{while}\\\text{because}\\\text{before}\end{array}\right\}$

caressed a chimp.

If subordinate clauses of this type are actually underlying relative clauses, as some linguists have suggested, then the impossibility of (35bc) is accounted for by the CNPC. Indeed, one argument in favor of such an analysis cites sentences like (35bc) together with the CNPC, noting that no further statement is needed in the grammar to account for the ungrammatical sentences. I reject that particular analysis in favor of one that derives subordinate clauses more direct- ly, and I believe many linguists would agree with me.[8] In doing so, I must be able to account for (35bc), and the like, but this is easy enough. I simply note that a subordinate clause comprises background material. Principle (30) prevents elements of background material from being foregrounded by rules like Relative Clause Formation, and so on.

The cases involving subordination are interesting for another reason. It appears that although the subordinate clause is backgrounded, there is no corresponding foregrounding, that is,· the main clause does not participate by becoming foregrounded material. Thus elements in the main clause remain subject to foregrounding operations. Elements in the subordinate clause may be "doubly backgrounded", but this ap- parently is allowed. The sentences in (36) are all grammatical.

(36)

a. Which cat scratched a frog $\left\{\begin{array}{l}\text{after}\\\text{while}\\\text{because}\\\text{before}\end{array}\right\}$ that girl caressed a chimp.

b. The frog that the cat scratched $\left\{\begin{array}{l}\text{after}\\\text{while}\\\text{because}\\\text{before}\end{array}\right\}$ that girl

caressed a chimp is not Governor Reagan in disguise.

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3.5 In part, the CNPC was designed to prevent elements from being chopped out of sentences which are in apposition to an abstract noun like fact, claim, etc. For example, the sentences (37bc) are ungrammatical.

> (37) a. The minister reported the fact that Alex had been cured of his violent tendencies.
>
> b. *Who did the minister report the fact that had been cured of his violent tendencies.
>
> c. *The violent tendencies that the minister reported the fact that Alex had been cured of were lurking just beneath the surface of his psyche.

Constructions of this form are made up of material divided into foreground and background. The abstract head noun serves as the foreground and indicates the kind of sentence which is about to follow, be it a fact, an assertion, a claim, a proposal, a denial, a suggestion, etc. The sentence in apposition is reduced in status to background material, and (30) accounts for the constraints that transformations suffer when they encounter such constructions.

A similar kind of constraint involves factives. Elements in a factive clause cannot be relativized, questioned, topicalized, clefted, etc. Compare the factives in (38) with the non-factives in (39).

> (38) a. It is odd that Guinevere likes that baby.
>
> b. *The baby that it is odd that Guinevere likes kicks and screams whenever he sees her.
>
> c. *It's John's baby that it is odd that Guinevere likes.
>
> (39) a. It is possible that Guinevere likes that baby.
>
> b. The baby that it is possible that Guinevere likes kicks and screams whenever he sees her.
>
> c. It's John's baby that it is possible that Guinevere likes.

Linguists, in noting the grammaticalness of (40), and and ungrammaticalness of (41), posited an underlying, abstract head noun the fact for factives, nd then utilized the CNPC to account for ungrammatical sentences like those in (38), just as it accounts for the ungrammatical sentences in (37).

> (40) The fact that Guinevere likes that baby is odd.
>
> (41) *The fact that Guinevere likes that baby is possible.

Late rules would replace the fact by it, as in (38a), or delete it altogether as in that Guinevere likes that baby is odd.

Factive sentences like (38a), or like Bill regrets that he's Jewish, have long been cited as illustrations of presupposition. In (38a) the Proposition that Guinevere likes that baby is presupposed by the speaker, just as the proposition that he's Jewish is presupposed by the speaker of Bill regrets that he's Jewish. I wish to propose that presupposed material is automatically backgrounded. Then (30) would account for (38bc), and the dubious underlying the fact will lose one of its strongest props.

Intuitively, it is certainly plausible, if not desirable, to state that presupposed material is backgrounded. After all, language is a system of communication, and in any such system the novel and unexpected take precedence over the old and the already known. One way for language to manifest this precedence is for the speaker to relegate what is already known to him, e.g. that which he presupposes, to a semantic status of reduced prominence, i.e. to the background.

We may also note that there is presupposed material in any sentence in which some constituent is being questioned. For example in who ate beans it is presupposed that someone ate beans, just like in who did Mary kick it is presupposed that Mary kicked someone. This fact, then, is responsible for the presence of a foreground-background division in constituent-questions, which in turn accounts for the totality of ensuing restrictions, which I documented in section 2 for Thai.

3.5 I noted in section 2 that in a coordinate structure division of semantic material into equal parts has taken place, and it is impossible to foreground any element of one conjunct, or the conjunct itself, at the expense of backgrounding elements in an equal partner. In English, this restriction is often described in terms of the CSC. Ross (1967: 96ff) noted a peculiar exception to the CSC. An element can be chopped out of a coordinate structure if it occurs in each conjunct of the coordinate structure, and if it is operated on by an "across-the-board" rule. Relative Clause Formation is such a rule, and its ability to operate "across-the-board" is exemplified in (42) (Ross's (4.122), p. 98).[9]

   (42) Students who fail the final exam or who do not do the
         reading will be executed.

It is significant that the principle (30) does not militate against across-the-board relativization. Since the same element is foregrounded out of each conjunct, the status of no conjunct is altered relative to an equal partner; the conjuncts all become background material together, and retain their equality. If a single conjunct fails to join its partners in background status, (30) will block the sentence, as it should.

(43) *Students who fail the final exam or who do not do the reading or professors avoid giving coherent lectures will be executed.

Thus (30) explains a puzzling counter-example to the CSC, which provides further motivation for adopting it in the place of the CNPC and the CSC.

3.6 Echo questions appear to be a counterexample to the hypothesis I am putting forth in this paper, for in English (as well as Thai)[10], you can question, hence foreground, an element that belongs to a relative clause, a cleft sentence, a coordinate structure, etc. by means of this syntactic device.

(44) a. John likes eggs and what?

 b. The man who recalls which party is coming?

 c. Beans who likes?

 d. kha̋w chő:b hủahő:m laé ʔáraj ná
 he like onion and what particle

 He likes onions and what?

Echo questions are a unique kind of sentence. They involve automatically repeating material just heard, making certain changes in pronouns to keep everything referentially constant, and substituting a question word(s) in the surface structure position of some element unheard, misunderstood, or about which one wishes to express surprise, shock or indignation. Not only do echo-questions run roughshod over principles like the CNPC, or like my (30), but they don't even have respect for the integrity of the word. The following sentences, I believe, are grammatical, though they appear strange in written form.

(45) a. Speaker A: Did you know that one million to the twentieth power is called a vigintillion?

 Speaker B: (It's called) a what-illion?

 b. Speaker A: A poltergeist is always devising tricks to play on my husband and me.

 Speaker B: A polter-who?

 c. Speaker A: I must hire a lawyer and attempt to gain a replevin.

 Speaker B: You want to get a re-what?

Hetzron (1972) puts echo questions in a class of "pregenerated structures", i.e. "constructions that, in order to be uttered, presuppose that a sentence with a more or less specific structure has been heard in the previous discourse" (p.99). He goes on to say that pregenerated structures do not necessarily obey the usual constraints in the language, and that "the copier can take more liberties with the string borrowed than its original emitter" (p. 101). He gives evidence in favor of this view.

Whatever the cause of this idiosyncratic behaviour[11] of echo questions, they appear to belong to a very narrow, well-defined class of exceptions to (30) and therfore do not provide damaging counterevidence.

3.7 A far more serious counterexample to (30) is found among the copying rules of English (Ross 1967:235ff). Copying rules reorder elements over variables, just like chopping rules, except that copying rules leave a pronominal trace behind of the element that is reordered.[12] Ross observed (1967:236) that copying rules are not subject to the CNPC or the CSC.

The rule of Left Dislocation is a copying rule. It relates the pairs of sentences in (46).

(46) a. Alex got sent up for 14 years.

Alex, he got sent up for 14 years.

b. I told you not to believe that Sue would keep her promise to Percy.

Percy, I told you not to believe that Sue would keep her promise to him.

This rule can remove elements from coordinate structures, relative clauses, cleft sentences, factives and so on.

(47) a. Peter, Ivan and he never got along very well.

b. Ralph Mintz, I know a girl who actually likes him.

c. Paris, it's there that Lucy lost her virginity.

c. Christians, it's odd that they condone violent acts.

Left Dislocation is clearly a foregrounding operation, and as such it should be subject to (30), yet the perfectly grammatical sentences of (47) belie the validity of (30). Apparently we need the following kind of statement:

(48) If a rule produces a foreground-background dichotomy, and
      if, in the syntactic structure of the derivation, a (pro-
      nominal) representation of the foregrounded constituent
      remains behind in the background, then (30) fails to take
      effect.[13]

Actually, it's possible that the determination of what comprises
foreground material and background material is the issue at stake here,
not the correctness of (30). For instance, perhaps a foregrounding
operation that leaves a pronominal trace has the effect of cancelling
previous foreground-background distinctions in favor of its own. This
solution, while observationally adequate, is totally ad hoc to the sit-
uation at hand, and is without independent basis. If Left Dislocation
were the only rule to violate (30) then a different kind of solution
might be sought. However rules in other dialects of English,[14] as
well as in other languages unrelated to English, behave the same way.
Thus I need to fall back on a statement like (48), or something equal-
ly miserable, and content myself with having observed how syntax en-
croaches on semantics in that the purely syntactic event of leaving a
pronominal trace vitiates a semantic constraint.

Ross claims the following sentences are grammatical in a dialect
of English (see note 14):

(49) a. All the students who the papers which they submitted
          were lousy I'm not going to allow to register next
          term.

      b. Didn't that guy who the Game Warden and him had seen
          a flying saucer crack up.

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

In these sentences the rule of Relative Clause Formation leaves behind
a pronominal representation of the foregrounded (i.e. relativized) con-
stituent, so the constraint given in (30) is, as predicted, violated.

4.1 The Dravidian language Kannada[15] has two modes of relative clause
formation. One of these modes (the native one), operates by deleting
an identical nominal in the embedded clause,[16] much as in That, while
changing the main verb in the embedded clause into a participle.

That relativization goes indefinitely far down into a tree can
be seen from (50).[17]

(50) a. prakāśakanu   patrikeya   jāhirātina
publisher (in the) journal (of) advertisement

putagaļa   ādāravannu   gottupaḍisuttāne
pages   size   fixes

The publisher fixes the size of the pages of advertise-
ment in the journal.

b. prakāśakanu   jāhirātina   putagaļa   akāravannu
publisher (of) advertisement   pages   size

gottupaḍisida   patrikeyu ...

The journal in which the publisher fixes the size of
the pages of advertisement...

Since relative clause formation in Kannada must be formulated with a
variable in its structural description, it is necessary to introduce
a constraint that will prevent elements that belong to relative clauses
from being relativized, for in Kannada you cannot embed (51a) in (51b)
to get (51c).

(51) a. sīteyu   citravannu   tegeda   kalāvidanannu   prītisuttāle
Sita   picture   drawn   artist   loves

Sita loves the artist who drew the picture.

b. gōpālanu   citravannu   konḍanu
Gopal   picture   bought

Gopal bought the picture.

c. *gōpālanu   sīteyu   tegeda   kalāvidanannu   prītisuva
Gopal   Sita   drawn   artist   picture

konḍanu
bought

*Gopal bought the picture which Sita loves the artist who
drew.

Nadkarni says that (51c) is "ungrammatical and even worse than its Eng-
lish rendering" (1970: ch. 3, p. 49).

Similarly, this mode of relative clause formation must be constrained
from relativizing elements that belong to coordinate structures.

(52) a. khurciya   mattu   sofāda   naduve   avaru   mējannu
of the chair and   of the sofa   between   they   table

ittiddāre
have please

They have placed the table between the chair and the sofa.

56

b. *khurciya mattu naduve avaru mējannu ittiruva
   of the chair and   between they table   having placed

   sōfāvu muridide
   sofa   is broken

   *The sofa which they have placed a table between a chair
   and is broken.

The rule of relative clause formation involved here is not governed by either the CNPC or the CSC. A statement like (30) appears to be needed in the grammar of Kannada. If (30) is a universal principle of language it will be in effect in Kannada and no special conditions on the rule of relative clause formation, nor any language specific constraint, will be needed to block sentences like (51c) and (52b).

Kannada has another mode of relative clause formation in which the embedded nominal to be relativized in neither deleted nor pronominalized, but left entirely intact with the appropriate form of a relative pronoun inserted on its left. From statement (48) we would predict the suspension of (30) and the permissability of relativizing elements in relative clauses and coordinate structures—the same type of exceptions that were illustrated in (49) for a dialect of English. Examples (53) and (54) bear this out.

(53) gōpālanu sīteyu yāva citravannu tegeda kalāvidanannu
     Gopa   Sita rel. pro. picture   drawn   artist

     pritisuttālō   ī   citravannu kondanu
     loves   definitivizer   picture   bought

     *Gopa bought the picture which Sita loves the artist who
     drew [that picture]. (cf. 51c)

(54) khurciya   mattu yāva sōfāda naduve avaru
     of the chair and   rel. pro. of the sofa between they

     mējannu   ittiddārō   ī   sōfā   muridide
     table   having placed definitivizer sofa   is broken

     *The sofa which they have placed a table between a chair and
     [that sofa] is broken.

5.1 In Mandarin Chinese we find a situation that mirrors what we observed in Thai. That is, there are chopping rules in Mandarin that obey Rosa's two constraints, but there are non-reordering rules that also "obey" them, necessitating the addition of some further constraints to the grammar. Since all the constraints of this type that are needed for Mandarin fall within the scope of (30), that principle receives further support for its candidacy as a linguistic universal.
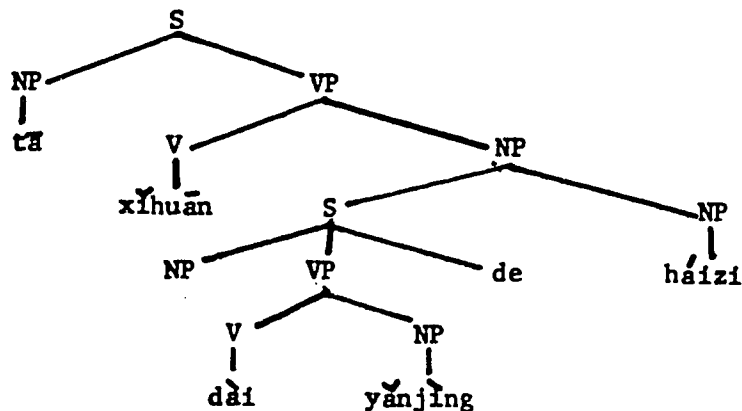

20

(55) a. wǒ xǐhuān kàn shū
      I   like   read book

    I like to read books.

    b. shū, wǒ xǐhuān kàn

    Books, I like to read.

    c. shū, wǒ xiǎng tā xǐhuān kàn
      book I think he like read

    Books, I think he likes to read.

The CNPC holds (as does (30)), for shū cannot be chopped out of (56a) to give (56b).

(56) a. wǒ rènshi yige xǐhuān kàn shū de rén
      I know   a   like   read book rel. man

    I know a man who likes to read books.

    b. *shū, wǒ rènshi yige xǐhuān kàn de rén

    Books, I know a man who likes to read.

Relative clause formation in Mandarin is accomplished by merely deleting the nominal in the embedded (left-branching) clause.

(57) tā xǐhuān dài yǎnjīng de háizi
      he like wear glasses rel. child

He likes the child who is wearing glasses.

Nonetheless, a Mandarin speaker cannot relativize a nominal that already belongs to a relative clause. Thus (58a) cannot be embedded in (58b) to give (58c).

58

(58) a. wǒ de lǎoshī xǐhuān rén mài de bù
          I poss. teacher like man sell rel. cloth

      My teacher likes the cloth that the man sells.

      b. zhèi bǎ jiǎndào shǔyu rén
          this particle scissors belong to man

      This scissors belongs to the man.

      c. *zhèi bǎ jiǎndào shǔyu wǒ de lǎoshī
          this particle scissors belong to I poss. teacher

          xǐhuān mài de bù de rén
          like sell rel. cloth rel. man

      *This scissors belongs to the man who my teacher likes
      the cloth that he sells.

In Mandarin, constituent question formation involves no reorder-
ing of elements, just as in Thai.

(59) háizi xǐhuān kàn shémma
      child like read what

      What does the child like to read?

Still, elements of relative clauses may not be questioned.

(60) *tā xǐhuān dài shémma de háizi
      he like wear what rel. child

      *What does he like the child who is wearing? (cf. (57))

All the arguments and considerations I took up in section 2.1 dur-
ing my discussion of Thai apply equally well here. Object preposing
is clearly a foregrounding operation in Mandarin, just as in Thai. It
is merely fortuitous that the CNPC constrains it. The situation vis-a-
vis relativization and constituent question formation reveals that (30)
is the principle at work in Mandarin, just as in Thai, English and Kan-
nada.

In section 3.6 I noted that echo questions were an exception to
(30), and I attempted to explain away the potential counterexamples
by noting that pregenerated structures in general are exempt from
certain constaints. In Mandarin there is no difference, morpheme for
morpheme, between ordinary constituent questions and echo questions.
However the intonation of the echo question is conspicuously unlike
that of ordinary questions and, to quote my informant, an utterance
like (60) with "echo" intonation is "alright only if you didn't hear
me correctly. "

22

Not unexpectedly, to the extent that it is grammatical in Mandarin to leave a pronoun in the place of the relativized nominal in the embedded clause, it is grammatical to do so even if the element being relativized is itself in a relative clause. That is, the exception statement (48) holds in Mandarin. Thus parallel to (58c) we have (61).

(61) zhèi bǎ jiǎndǎo shǔyu wǒ de lǎoshī xǐhuān
     this particle scissors belong to I poss. teacher like

     tā mǎi de bù de rén
     he sell rel. cloth rel. man

     *This scissors belongs to the man who my teacher likes the cloth that he sells.

Finally, I have been able to discover only one counterexample to (30) in Mandarin. It turns out that a constituent in a sentence that has undergone object preposing may nonetheless be questioned, so (62) is grammatical.

(62) shū, ni xiǎng shéi xǐhuān kàn
     book you think who like read

     *Books, who do you think likes to read?

6.1 In Korean the rule of relative clause formation behaves precisely as its counterpart in Thai, except the deletion goes from right to left because relative clauses in Korean, like those in Kannada and Mandarin, are left-branching. There do not appear to be any chopping rules whatsoever in Korean, so the CNPC and the CSC would be vacuous. Alternatively, one might attribute the absence of chopping rules to the existence in Korean of something stronger than the CNPC, for instance the "embedded sentence constraint" (Rodman 1972a:150), which states that no element may be moved over a complementizer. Or perhaps all rules in Korean are upward bounded (Ross 1967 :section 5.1). Whatever the case may be, one thing is certain: (30) is needed in Korean, for while the rule of relative clause formation can delete nominals an indefinitely large distance away from the head of the relative structure, it surely cannot affect elements in relative clauses or coordinate structures whatever the circumstances.

The sentences in (63) suggest that relative clause formation is unbounded.[18]

(63) a. kɨ sonyon-nɨn John-ka wɨyu-lɨl masi - ass - ta -
        the boy   John   milk   drink PAST ASSERTION

        ko mit - nɨn - ta
        COMP believe PRESENT ASSERTION

        The boy believes that John drank the milk.

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b. ikɔs-nɨn kɨ   sonyɔn-ka John-ka *** masi-ass-ta-ko
   this   the   boy   John   drank

   mit   -   nɨn   wɨyu - i - ta
   believe rel.(pres.) milk   be

   This is the milk which the boy believes that John drank.

The rule of relative clause formation deletes <u>wɨyu</u> from the position oc-
cupied by the asterisks.

It is impossible to embed (64a) into (64b) and get a relative
clause (64c).

(64) a. wɨyu-lɨl   masi   -   ɨn   sonyɔn-nɨn   khɨta
         milk   drink   rel.(past)   boy   tall

         The boy who drank the milk is tall.

      b. ikɔs-nɨn wɨyu - i - ta
         this   milk   be

         This is the milk.

      c. *ikɔs-nɨn masi-nɨn sonyɔn-nɨn khɨ-(ta) wɨyu - i - ta
         this   drank   boy   tall   milk   be

         *This is the milk that the boy who drank is tall.

Furthermore, it is impossible to embed (65a) in (65b) to get a relative
clause (65c).

(65) ɑ. kɨ sonyɔn-nɨn wɨyu - wa khɔphi-lɨl masi-ass-ta
         the boy   milk   and coffee   drank

         The boy drank the milk and the coffee

      b. ikɔs-nɨn wɨyu - i - ta
         this   milk   be

         This is the milk.

      c. *ikɔs-nɨn kɨ sonyɔn-nɨn wa khɔphi-lɨl masi-ɨn
         this   the boy   and coffee   drank

         wɨyu - i - ta
         milk   be

         *This is the milk that the boy drank and coffee.

Korean constituent question formation parallels Thai and Mandarin.
A question-word replaces the constituent to be questioned. There is no
change in word order.

(66) a. kɨ-nɨn muɔs-lɨl mɔk - ass - nya
      he   what   eat   PAST QUESTION

What did he eat?

b. nɔ-nɨn na-ka nuku-lɨl po-ass-ta-ko mit-nɨn-nya
     you   I   whom   saw   believe

Whom do you believe I saw? (cf. (63a))

Principle (30) predicts that it is not possible to question a constituent that belongs to a coordinate structure. In Korean you cannot question a constituent that belongs to one sentence of two or more conjoined sentences, nor can you question a non-rightmost NP of two or more conjoined NP's, but you can question the rightmost NP, counter to the prediction of (30).

(67) a. *nɔ-nɨn muɔs-wa kwaca-lɨl cohaha-nɨn-nya
       you   what-and cookies   like

*What do you like and cookies?

b. nɔ-nɨn sakwa - wa muɔs-lɨl cohaha-nɨn-nya
     you   apples and   what   like

What do you like apples and?

The sentences in (67) are not echo questions. Echo questions in Korean drop the question-marker _nya_, and have a markedly different intonation.

Korean persists in providing counterexamples to (30) when the possibility of questioning constituents inside relative clauses is considered. The question in (68b) is a well-formed Korean utterance.

(68) a. na-nɨn Bill-ka macna-ɨn sonyɔn-lɨl cohaha-nɨn-ta
      I   Bill   met   boy   like

I like the boy that Bill met.

b. nɔ-nɨn nu-ka macna-ɨn sonyɔn-lɨl cohaha-nɨn-nya
     you   who   met   boy   like
   *Whom do you like the boy who met?

7.0. Up to this point I have noted counterexamples to my hypothesis in Mandarin and Korean, although the evidence in those two languages, as well as in Thai, English and Kannada is overwhelmingly in support of it.

In the two sections that follow (7.1 and 7.2) I shall give evidence that appears to legislate against (30) as a universal principle of language, unless some alternative explanations are provided.

7.1. In Japanese, while some weighty support for (30) can be found, the evidence against (30) is also formidable. The processes of Topicalization and Thematization, which foreground elements by making them leftmost in a sentence, appear to violate constraint (30). Relative Clause Formation also violates the constraint, but it's not·clear that such violation is independent of the violation associated with Thematization.

7.1.1. The rule Topicalization in Japanese is given by Akatsuka (1969: 16) as (69).

(69)   X - NP - Y
      1 2   3   ⟶   OPTIONAL
  2#(1 ∅   3)

It relates sentences like (70a) to (70b).

(70) a. Alice-wa (Max-ga hon-o katta) to   iu
          Alice   Max   book bought that say

      Alice says that Max bought a book.

    b. hon-o, Alice-wa (Max-ga katta) tc   iu

      A book, Alice says that Max bought.

Since "the speaker must place an unusually heavy stress on the preposed NP, and a pause between it and the following constituent" (Akatsuka 1969:15), it seems safe to assume that Topicalization is a foregrounding operation and should be constrained by (30), as it is with respect to coordinate structures, but Akatsuka finds sentences like (71) grammatical.

(71) kono booshi-o Max-wa (Mary-ga kabutte ita to iu
      this   hat   Max   Mary   wearing was that

    uwasa) - o shinjite iru
    rumor   believing is

    *This hat, Max believes the rumor that Mary wore.

If, as I claimed for English, an ·NP like <u>the rumor that Mary wore this hat</u> manifests a division into a foreground (<u>the rumor</u>) and a background (<u>Mary wore this hat</u>), then (71) is a counterexample to (30). On-the other hand, a sentence in apposition to a noun may not be perceived semantically in this way by the speaker of Japanese. There is a dialect of English in which (71) is grammatical (see below section 7.2), and even an occasional speaker of the "standard" dialect finds (71) a

perfectly acceptable utterance. To deflect this counterexample to my hypothesis I am forced to make the circular argument that the applicability of (30) with respect to this case hinges on how the N-S constructions are perceived semantically.

7.1.2. Kuno (1970) observes that sentence (72a) is a thematization and is possibly related transformationally to (72b).

    (72) a. sono mura wa, oozei no hito ga kita
               the village   many   people   come

           As for that village, many people come [there].

        b. oozei no hito ga sono   mura ni kita
           many   people   the   village to come

           Many people come to the village.

Thematization is clearly a foregrounding operation. Yet it is not subject to (30), for in (73a) an element in a subordinate clause is thematized, and in (73b) an element that belongs to a relative clause is thematized.

    (73) a. sono hito wa, sinda   node, minna ga   kanasinda
               the person   died   because all   were-saddened

           *Speaking of that person, everyone was saddened because [he] died.

        b. sono   sinsi wa, kite-iru yoohuku ga yogorete-iru
           the gentleman   wearing-is   suit   dirty-is

           *Speaking of that gentleman, the suit that [he] is wearing is dirty.

    Kuno argues that thematized NP's are generated freely in the base. One of his arguments states that thematized sentence (74a), analogous to (72a), has no corresponding analogue like (72b); it must come from an underlying structure like (74b).

    (74) a. sakana wa   tai   ga   ii
              fish   red-snapper   is-good

           Speaking of fish, red-snapper is good.

        b.
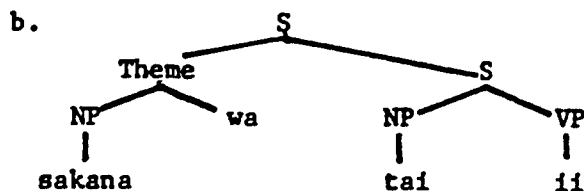
There is a deep structure constraint that states that the embedded S
cannot have "nothing to do with the theme" (Kuno 1970:XIX 12, note 9).
This constraint would block utterances like (75).

(75)   *sakana wa Mary ga byooki da
         fish   Mary   sick   is
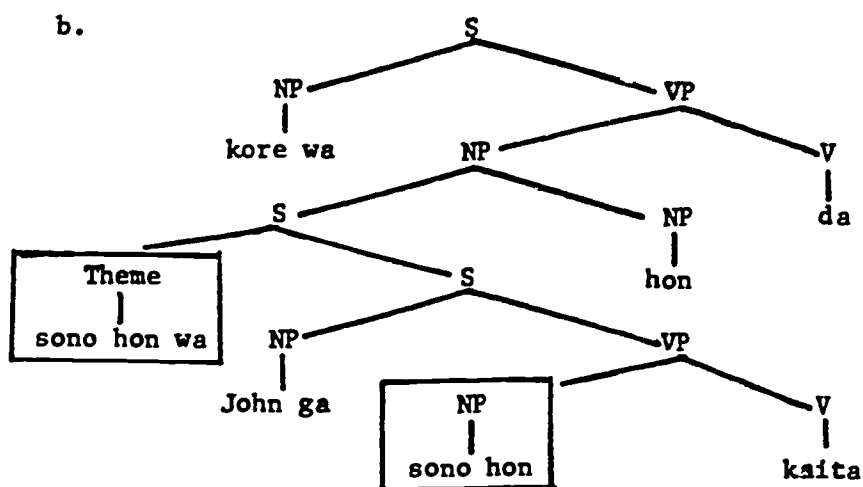
        *Speaking of fish, Mary is sick.

Perhaps the fact that the thematized element is generated in the base
accounts for the exceptional behavior with respect to (30), but excep-
tional behavior it is nonetheless, and this counterexample cannot be
avoided.

7.1.3.   The third exception to (30) to be found in Japanese is embodied
in the grammatical sentence (76), where the element sinsi 'gentleman',
already a member of a relative clause, is itself relativized.

(76)   kite-iru yoohuku ga yogorete-iru   sinsi ...
        wearing-is suit   dirty is   gentleman

   A gentleman who the suit that [he] is wearing is dirty ...

According to Kuno (1970), only elements that can be thematized relative
to some sentence can be relativized relative to that sentence. To ex-
press this fact in the grammar of Japanese, the rule of Relative Clause
Formation deletes an embedded Theme under identity with a head nominal.
For example (77a) comes from underlying (77b).

(77)   a. kore wa   John ga   kaita   hon   da
            this   John   wrote book   is

        This is the book that John wrote.

    b.

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The second <u>sono hon</u> 'the book' in the embedded clause is obligatorily deleted under identity with the theme relative to that clause. Since that theme is identical with the head noun of a relative clause structure, it is deleted by the rule of Relative Clause Formation, giving the surface utterance (77a).

Underlying (76), then, is something like (78), and the basis for this counterexample to (30) is the same one as in section 7.1.2, so I have at least traced two potential counterexamples to (30) to a single source.

(78)
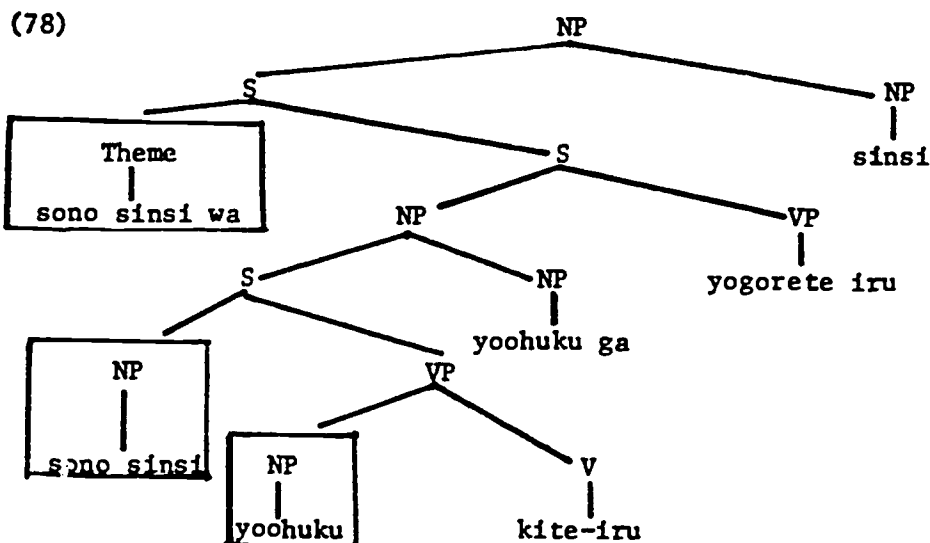
7.2. The Ozark dialect of English, the native speech of a large number of Americans, provides two counterexamples to my hypothesis.[19] The first of these I alluded to in the previous section.

(79) The hat which I believed the claim that Otto was wearing is red.

The second counterexample from Ozark English is reminiscent of the Korean counterexample I discussed toward the end of section 6.1. That is, the rightmost NP of two or more coordinate NP's may be questioned.

(80) a. Who did you see John and?

b. What did you eat peaches and?

The fact that precisely the same exception to (30) occurs in Korean and Ozark is suggestive of some property of language that I have overlooked. I noted in Rodman (1972b) that in English, rightmost elements are the most mobile. Perhaps there is a tendency in natural

languages for elements that are uttered most recently, hence freshest in short term memory, (and rightmost in our mode of representation), to be subject to foregrounding. This tendency and principle (30) come into conflict all the time, with the winner varying from language to language, dialect to dialect, and even from individual to individual.[20]

8.1. This paper has been devoted entirely to a discussion of principle (30). I showed that this principle is indispensable to a grammar of Thai. I cited evidence that this principle is also in effect in English, Kannada, Mandarin and Korean, suggesting that (30) may be a universal principle of language. To dampen this hypothesis, on the other hand, I noted a major class of exceptions that require an exception clause of the nature of (48). Furthermore, some isolated pockets of resistance persist in opposing the universality of (30), even granted (48). A counterexample was noted in Mandarin; two were discovered in Korean, two in Japanese, and two in the Ozark dialect of English, though it is quite clear that not all these counterexamples are independent of one another.[21]

NOTES

[1]I am indebted to Sandra Thompson for helping me obtain data in Mandarin Chinese, and to Georgette Silva for helping me obtain data in Korean.

[2]Thai, English, Kannada, Mandarin Chinese, Korean and Japanese are the six languages. In addition, the Ozark dialect of English is discussed.

[3]I am assuming that it is this rule that is responsible for the preposing of the WH-constituent in relative clauses.

[4]A definition and discussion of foregrounding is found in Schachter (1972:IV).

[5]It is not clear to me whether the question word(s) is freely generated in the base, or inserted by rule. In Thai, any number of NP's may be questioned in a single utterance (e.g. khraj kin ?araj 'who ate what?'). Since the constraint I will ultimately propose constrains semantic interpretation, this issue is not significantly relevant.

[6]It can also be shown that you cannot apply the rule of Focus to a sentence that has undergone Object Preposing or Focus, nor can you apply the rule of Object Preposing to a sentence that has undergone Focusing.

[7]Paul Schachter argues for this constraint in Schachter (1972).

[8]For example, Emonds (1970:137ff) has a phrase structure rule
PP ————> P S for strings like <u>before he erred</u>.

[9]Ross shows that this sentence must involve across-the-board rel-
ativization, and cannot result from an application of the rule Conjunc-
tion Reduction.

[10]One of the reasons, I think, that Thai speakers do not find vio-
lations of (30) too bad when constituent questions are involved is that
echo questions are structurally identical to ordinary constituent ques-
tions. Sometimes a particle ná is added, and there are intonational
differences.

[11]Very heuristically, I believe echo-questions are generated with
a reduced amount of semantic structure and that fact, at least in part,
accounts for the possiblity of violating certain semantically based
constraints like (30). Van Lancker (1972) has claimed that proposi-
tional modes of languages use are lateralized to the left cerebral hem-
isphere, while automatic modes (such as swearing, emotional expletives,
etc.) are bilaterally represented in the brain. Though she doesn't
mention echo-questions per se, there is no doubt that there is some
automaticity in producing echo questions. This suggests that the left
cerebral hemisphere, quite likely the source of semantic constraints
like (30), is not as involved in the production of echo questions, or
other kinds of pregenerated structure, as it is in normal propositional
speech, hence providing an explanation of why some constraints are re-
laxed.

[12]In a language like Kannada (cf. section 4.1), the 'pronominal
trace' may contain the entire element.

[13]If you like fantastical analogies, the situation can be viewed
as follows: a constituent has been doomed to live its life in a back-
ground ghetto, or in one of a number of coordinate ghettos. Suddenly
a chance for promotion presents itself. But the deprived constituent
cannot simply pack up and leave, for its envious colleagues in the
ghetto would raise such a clamor that the whole sentence would be in-
vaded by the National Guard and declared an unlawful (i.e. ungrammat-
ical) utterance. However the gesture of leaving behind a pronominal
trace of itself appeases the constituent's colleagues, and it is then
free to take advantage of the opportunity for advancement.

[14]According to Ross (1967:238-9).

[15]Nadkarni (1970) is my source of information about this language.

[16]Nadkarni argues convincingly that this mode of relative clause formation does not involve reordering (1970:Ch. 3, p. 59).

[17]Kannada is an SOV language and has the expected left-branching relative clause structure.

[18]I am systematically omitting the translation of a number of grammatical particles that are not directly relevant. All the Korean data are given in approximately their lexical form prior to the operation of the morphophonemic rules.

[19]These data were kindly made available to me by Suzette Elgin, a native speaker of the Ozark dialect.

[20]My Thai informants all find (24c) less unacceptable that (24b), a manifestation, no doubt, of the same tendency.

[21]Russ Schuh was kind enough to comment on an earlier version of this paper. He noted, first, that contrastive stress is a foregrounding operation that violates constraint (30). This is true, for (i) and (ii) are grammatical.

    (i)   Guinevere bit Bob and <u>Tobia</u>.
    (ii) Let's eat the brownies that <u>Mona</u> baked.

However, (i) and (ii) are pregenerated structures (cf. section 3.6); (i) presupposes previous discourse to the effect that Guinevere bit Bob and somebody, just as (ii) presupposes previous discourse to the effect that we should eat brownies that someone baked. This case falls into a well-defined category of counterexamples discussed in section 3.6.

Professor Schuh also informed me that in Ngizim, a Chadic language, constituent question formation does not involve movement, similar to Thai, Korean, etc. It is impossible to question elements of relative clauses in Ngizim, as (30) predicts, but it is possible to question the rightmost element in a series of conjoined NP's:

    (iii)   ka nci   albasar   naa   tam
            you like   onions and   what

However, Professor Schuh suggests that the meaning of (iii) is "you like onions and what else?" so this may be another instance of pregenerated structure. Otherwise, it is the same type of counterexample discussed in section 7.2 in connection with similar counterexamples that occur in Korean and the Ozark dialect of English.

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