

THE SAME SIDE FILTER

John Robert Ross
M.I.T.

0. It is a well-known fact that Extrapolation, the rule that converts sentences like (1a) into sentences like (1b),

- (1) a. That Maude is heliotropic is odd.
b. It is odd that Maude is heliotropic.

behaves exceptionally with respect to the subject complements of all bisentential verbs: verbs like prove, show, indicate, suggest, mean, imply, entail, etc. That is, we'd expect to be able to find (2b), given (2a), but we aren't.

- (2) a. That his fingerprints were on my throat
- | | | | | |
|---|---|---|---|--|
| <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">proves</div> <div style="display: inline-block; vertical-align: middle;">shows</div> <div style="display: inline-block; vertical-align: middle;">indicates</div> <div style="display: inline-block; vertical-align: middle;">suggests</div> <div style="display: inline-block; vertical-align: middle;">means</div> <div style="display: inline-block; vertical-align: middle;">implies</div> <div style="display: inline-block; vertical-align: middle;">entails</div> </div> </div> | } | <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">proves</div> <div style="display: inline-block; vertical-align: middle;">shows</div> <div style="display: inline-block; vertical-align: middle;">indicates</div> <div style="display: inline-block; vertical-align: middle;">suggests</div> <div style="display: inline-block; vertical-align: middle;">means</div> <div style="display: inline-block; vertical-align: middle;">implies</div> <div style="display: inline-block; vertical-align: middle;">entails</div> </div> | } | <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">that</div> <div style="display: inline-block; vertical-align: middle;">he is</div> <div style="display: inline-block; vertical-align: middle;">unfond</div> <div style="display: inline-block; vertical-align: middle;">of me.</div> </div> |
|---|---|---|---|--|
- b. *It
- | |
|---|
| <div style="display: inline-block; vertical-align: middle;"> <div style="display: inline-block; vertical-align: middle;">proves</div> <div style="display: inline-block; vertical-align: middle;">shows</div> <div style="display: inline-block; vertical-align: middle;">indicates</div> <div style="display: inline-block; vertical-align: middle;">suggests</div> <div style="display: inline-block; vertical-align: middle;">means</div> <div style="display: inline-block; vertical-align: middle;">implies</div> <div style="display: inline-block; vertical-align: middle;">entails</div> </div> |
|---|

fingerprints were on my throat.¹

There are a number of indications that *(2b) should be excluded not by marking prove/show/etc. with some rule feature like [-Extrapolation], but rather by stating some structural condition. Some of them are listed in (3).

- (3) a. Whatever stars *(2b) is not a lexical quirk about just those verbs that appear in (2) - no verb that could appear in place of the main verb of (2a) will allow its subject to extrapose.
- b. Extrapolation seems not to be a governed rule.² That is, aside from the bisentential cases under discussion, all that - clauses that can appear as the subject of some predicate can be extraposed. Thus [-Extrapolation] should be ruled out as a possible rule feature.³
- c. In any case, no feature like [-Extrapolation] should be assigned to bisentential verbs, because the rule does work as long as there is no sentential object (as is noted in Bresnan (1972): cf. It proves nothing that you don't like

catsup).

So it would seem that we need a structural condition of some sort to rule out *(2b). But of what sort, exactly? It is the purpose of this paper to bring evidence of a new kind to bear on this problem.

1. Consider first the rule of Right Dislocation, which, for some speakers, can convert such structures as (4) into any of the sentences in (5).

- (4) My boss sent those mangoes to your sister yesterday.
- (5) a. He sent those mangoes to your sister yesterday, my boss._j
 b. My boss sent them, to your sister yesterday, those mangoes_j.
 c. ?My boss₄ sent those mangoes to her_k yesterday, your sister_k.

That sentential complements can be dislocated is apparent from (6).

- (6) a. That they pick your nose is too bad.
 b. It's too bad, that they pick your nose.

Note that the comma in (6b), which signals falling intonation after bad, distinguishes (6b) from the otherwise identical (7), which results from applying Extraposition to (6a).

- (7) It's too bad that they pick your nose.

There is evidence to show that these two processes cannot be identified. Note that while Poss Ing complements cannot, for many speakers, be extraposed, there is no parallel restriction on Right Dislocation. Thus many speakers will allow (8a) to be reworded only as (8c), but not as (8b).

- (8) a. His getting mono was a tough break for you.
 b. *It was a tough break for you his getting mono.
 c. It was a tough break for you, his getting mono.

Turning our attention to bisentential verbs, we find that while objects can undergo Right Dislocation, subjects can't. Cf. (9).

- (9) a. ?*That he was dripping proved [that it had been raining] to me.⁵
 b. That he was dripping proved it_j to me, [that it had been raining]_{NP_j}
 c. *It_i proved to me that it had been raining, [that he was dripping]_{NP_i}⁶

My claim is that (9c) is to be excluded for the same reason as (2b). I will, however, defer a formal statement of the relevant constraint until all cases which it handles have been presented.

The next rule to be discussed is the rule of NP Shift, which was mentioned above in footnote 6. This rule moves to the end of a sentence any NP which is heavy enough to make awkward a version of the sentence in which this NP would occur medially. Thus NP Shift would convert such sentences as those in (10) to the corresponding ones in (11).

- (10) a. Prof. Botswill placed a cactus of the genus Kankaris Tubulae Foracius Botswillae Botswillarum Magnificat Botswillus Rex in the pot.
 b. We consider his having concealed his tarantula fetish for so long rather disturbing.
- (11) a. Prof. Botswill placed in the pot a cactus of the genus Kankaris Tubulae Foracius Botswillae Botswillarum Magnificat Botswillus Rex.
 b. We consider rather disturbing his having concealed his tarantula fetish for so long.

The conversion of (10b) to (11b) shows that in general, complement NP's can shift. Why then is (12a) not convertible to (12b)?

- (12) a. We find $\left\{ \begin{array}{l} \text{the fact} \\ * \text{---} 7 \end{array} \right\}$ that he always travels
 with live tarantulas in his briefcase indicative of the fact that some therapy would be helpful.
- b. *We find indicative of the fact that some therapy would be helpful (the fact) that he always travels with live tarantulas in his briefcase.

Note that whatever is wrong with (12b) cannot be attributed to either find or indicative, for NP shift can apply to (13a), which is just like (12a), except for the fact that indicative in (13a) does not have a sentential subject, as (12a) does. The resulting sentence is (13b).

- (13) a. We find the letter to the Times proposing the establishing of a National Tarantula Foundation indicative of the fact that some therapy would be helpful.
- b. We find indicative of the fact that some therapy would be helpful the letter to the Times proposing the establishing of a National Tarantula Foundation.

Even more important is the fact that if the of-phrase object of (13a) is made non-sentential, as in (14a), NP Shift is possible. Cf. (14b).

- (14) a. We find { the fact
* ——— } that he always travels
with live tarantulas in his briefcase indicative of something unusual.
- b. We find indicative of something unusual
{ the fact
* ——— 8 } that he always travels with live tarantulas in his briefcase.

Thus, comparing (12b) with (13b) and (14b), we see that NP Shift is only ruled out for the subject of indicative in sentences in which this adjective is a predicate linking two complements. The parallels between NP Shift and the two previously discussed rules are obvious.

So far, I have only shown cases which seemed to suggest that whatever rules out *(2b) should be extended to block the application of other rules which, like Extraposition, move elements to the right. That this is insufficient - that leftward - moving rules must also be caught by the same net - becomes apparent when the rules of Left Dislocation, Topicalization, and Tough Movement are considered.

Left Dislocation works almost exactly like Right Dislocation.⁹ It would apply to (4) to convert it into any of the sentences in (15).

- (15) a. My boss_i, he_i sent those mangoes to your sister yesterday.
b. Those mangoes_j, my boss sent them_j to your sister yesterday.
c. Your sister_k, my boss sent those mangoes to her_k yesterday.

Now consider what happens when Left Dislocation applies to the objects of verbs which can be used bisententially. In (16), we see a minimal pair, which I will use for a source in showing how the restriction in question limits the application of Left Dislocation.

- (16) a. The DA demonstrated conclusively that she was guilty.
b. (The fact) that her knife was bent demonstrated conclusively that she was guilty.

When the object clauses of the sentences in (16) are left-dislocated, as in (17),¹⁰

- (17) a. That she was guilty, the DA demonstrated it conclusively.
 b. That she was guilty, { ?? the fact } that her knife was bent demonstrated it conclusively.¹¹

we find that only when used bisententially, as in (16b), can the effects of some constraint be noticed.

The case is the same with regard to the rule of Topicalization, a process which is formally almost identical to Left Dislocation, with the exception that while the latter rule leaves behind a pronoun to mark the position in the sentence that the fronted NP used to occupy, the rule of Topicalization does not. Thus the Topicalized equivalents of (15b) and (15c) are the sentences in (18).¹²

- (18) a. Those mangoes my boss sent to your sister yesterday.
 b. Your sister my boss sent those mangoes to yesterday.

When Topicalization applies to front the that-clause objects of the sentences in (16), (19) is produced.

- (19) a. That she was guilty the DA demonstrated conclusively.
 b. *That she was guilty, (the fact) that her knife was bent demonstrated conclusively.

Again, we see facts parallel to those in (17): it is only when demonstrate links two sentences that Topicalization must be blocked.

And for the final rule I will consider here, Tough Movement, the facts are again parallel. This rule would convert (20), which contains as a subpart a structure similar in all relevant aspects to that underlying (4) into any one of the sentences in (21).¹³

- (20) It is tough for me to imagine my boss sending those mangoes to your sister.
 (21) a. My boss is tough for me to imagine sending those mangoes to your sister.
 b. Those mangoes are tough for me to imagine my boss sending to your sister.
 c. Your sister is tough for me to imagine my boss sending those mangoes to.

If the structures underlying the sentences in (16) appear as the object of imagine in (20), we find such sentences as (22).

- (22) a. It is tough for me to imagine the DA demonstrating conclusively that she was guilty.
 b. It is tough for me to imagine the fact that her knife was bent demonstrating conclusively that she was guilty.¹⁴

When Tough Movement applies to the object clauses of demonstrate in (22), (23) is produced.

- (23) a. That she was guilty is tough for me to imagine the DA demonstrating conclusively.
 b. *That she was guilty is tough for me to imagine the fact that her knife was bent demonstrating conclusively.

With this rule too, the generalization noted above, stands: only when demonstrate is used bisententially is it impossible to tough-move its object to the left of its subject.

2. By now, even the sloppy reader has probably noticed a glaringly obvious pattern behind the ungrammaticalities of sentences involving bisentential verbs: there is probably no cat to let out of the bag for anyone. Sentences (2b), (9c), and (12b), where the rightward-moving rules of Extraposition, Right Dislocation, and NP Shift, respectively, have moved a sentential subject of a bisentential verb to the right of its sentential object, are all bad for the same reason. And sentences (17b), (19b), and (23b), which were produced by (mis)using the leftward-moving rules of Left Dislocation, Topicalization, and Tough Movement, respectively, to place the sentential objects to the left of the sentential subject of sentences containing bisentential verbs are bad for the same reason.

The generalization is stated in (24).

(24) The Same Side Filter (SSF)

No surface structure can have both complements of a bisentential verb on the same side of that verb.

A number of additions to and clarifications of (24) must be made.

- A. The complements mentioned in a more adequate formula of the SSF, would have to appear in surface structure as complements, not as pro-forms. Thus note that (25a) can be converted into (25b), by the regular rules for forming appositive clauses.

- (25) a. They suspect [that she was in on it]_{NP_j}, and I feel that [the fact that she doped the hot fudge]_{NP₁} proves beyond the shadow of any doubt [that she was in on it]_{NP_j}



Swooping and
Relative Clause Formation¹⁵

- b. They suspect[[that she was in on it]_{NP_j}, which_j I feel that [the fact that she doped the hot fudge]_{NP₁} proves beyond the shadow of any doubt]_{NP}.

For me, despite the fact that in (25b), both the subject of proves, NP₁, and a pro-form, which_j, corresponding to the deep object of proves, NP_j, precede this bisentential verb, the sentence is fine. This indicates that in a revised formulation of (24), a filter

which is obviously global in nature,¹⁶ it would be necessary to specify that only complements that are actually audible in surface structure, and not nodes which correspond to (= are the surface descendants of) remote complements can produce the ungrammaticality in question.

- B. An important fact about bisentential clauses which has not been incorporated into (24) is the fact that the strength of the violations it produces depends in part on the type of complements linked by the bisentential verb. Compare the a- and b- sentences in (26) to (29) below.

- (26) a. *It proves that he's insincere that he doesn't grip your hand hard.
b. ??It proves his insincerity that he doesn't grip your hand hard.
- (27) a. *That he was blasted { (the fact) that he attempted } to drive across the Bering Strait suggests strongly.

- (28) a. { *If he were not to grip your hand hard¹⁷ } would prove that
 b. { For him not to grip your hand hard } he's insincere.
 It would prove that he's insincere if he were not to grip your hand hard.

As (26) shows, the SSF doesn't mind having both complements of prove to the right of the verb, as long

as one of them is clearly nounier than the other.¹⁸ The sentences in (27) show the same thing for cases when both complements are to the left of prove. The generalization that emerges is that the SSF only seems to react adversely when the two complements involved are of roughly equal nouniness.

Finally, the sentences in (28) suggest that (24) must be corrected to take mood into account. In this preliminary account, I have omitted the necessary refinements.

C. The SSF seems to pay attention to superficial markings of case differences. Thus note that all the sentences of (29) are well-formed.

- (29) I { see
infer
conclude
deduce
etc. } [from { the fact that you are gagging }
your gagging]_{NP₁}

[That you've never had Ortlieb's beer before]_{NP_j}

My hunch is that the reason that the presence of both of the complements of the verbs in (29) to their right does not touch off the SSF is because the first one is marked with from. Some support for this hunch can be derived from the contrast in (30).

- (30) a. (The fact) that he is guilty follows directly from the fact that he doesn't love Big Brother.
 b. ?*The fact that he doesn't love Big Brother (the fact) that he is guilty follows directly from.
 c. From the fact that he doesn't love Big Brother, (the fact) that he is guilty follows directly.

As can be seen, only in (30b), where two unmarked complements precede follow, does the SSF intercede. (30c) would thus appear to parallel the sentences in (29).

D. A final codicil to (24). The sentences in (31) suggest that while it is correct that violations of the SSF are most

severe when the bi-sentential item is a true verb, some degree of deviance is produced when it is adjectival, and possibly, for some speakers, even if it is a noun.

- (31) a. *It indicates that Joe is coming unhinged that he now drinks before breakfast.
 b. ?It is indicative of the fact that Joe is coming unhinged that he now drinks before breakfast.
 c. It is an indication of the fact that Joe is coming unhinged that he now drinks before breakfast.

I have no idea why the verbiness¹⁹ of the affected bisentential predicate should interact with the seriousness of SSF violations, but it does seem to, in my speech, at least.

4. Assuming that a version of (24) which incorporated all the amendments suggested in A - D above would be approximately right, what consequences could be drawn from such a filter for the theory of grammar?

The first thing to note is that the SSF is the only presently-known instance of an order-independent filter. Unless other cases can be found of phenomena which require this increase in descriptive power, the SSF must be regarded with a jaundiced eye. As matters now stand, the use of an order-independent filter to account for the data in §1 can only be termed an adhocity, to use a term given to the scholarly community by David Perlmutter.

What of universal grammar? Is the SSF universal? Unfortunately, though we can find other languages, like French and German, which exhibit ungrammaticalities paralleling those unearthed in §1 (cf. (32)),²⁰

- (32) a. *Il/Cela me prouvait que j' etais soule
 It/that to me proved that I was very drunk

que je ne pouvais voir que la main droite.
 that I not could see but the hand right

"It proved to me that I was lopped up that I could only see my left hand."

- b. *Dass ich blau war, die Tatsache, dass
 that I blue was. the fact that

ich nur meine rechte Hand sehen konnte. bewies.
 I only my right hand see could proved

"That I was lopped up the fact that I could only see my right hand proved."

There are at least some languages, like Korean, where no cognate of the SSF shows up. Thus (33) is grammatical in Korean, despite the fact that both of the bracketed complements of the verb chingmyanhætta 'proved' precede it.

- (33) [[Anne i Sam il chowa hanin] _s kas-i]
 _s nom acc like fact nom

[[Mike i Alice ril anin] kas-il]
 _s nom acc know _s fact acc

chingmyanhætta.
 proved

"The fact that Anne likes Sam proved that Mike knows Alice."

- In Japanese, such bisentential sentences as
 (34) are only acceptable in "translation style".²¹

- (34) *[[John ga nihon ni itte simatta] _s koto wa]
 nom. japan to going ended up fact nom

[[kare ga Mary o misuteta] _s koto o]
 _s he nom acc abandoned fact acc

imisita/simesite ita.
 meant showed

"That John ended up going to Japan proved
 that he had abandoned Mary."

However, we cannot infer from the unacceptability of (34) in normal style that the SSF is operative in Japanese, because there is a general restriction requiring the subjects of transitive verbs to be animate. Thus (35b), if acceptable at all, is again felt to be in translation style.²²

- (35) a. neko wa sakana o korosita.
 cat nom fish occ killed
 "The cat killed the fish"
- b. *zidoosya wa sakana o korosita.
 car nom
 "The car killed the fish."

Since the ungrammaticality of *(34) could be attributed to the same restriction that stars (35b), we cannot tell whether Japanese really has the SSF or not.

The upshot of the rather inconclusive discussion above is the following:

- A. The SSF is not a universal feature of all languages (cf. Korean, and those dialects of English that accept (2b)[I have not checked out the other examples of ungrammatical sentences in §1 with any speakers of such dialects]).
- B. Cognates of the SSF do appear in other languages (e.g., French and German [pace fn. 20]).
- C. At present, the SSF in English and its cognates in other languages are the only known instances of order-independent filters, and are therefore to be shaken well before using.

FOOTNOTES

This research was supported in part by a grant from the National Institute of Mental Health (5-P01-13390-07), whose help is gratefully acknowledged. I also wish to thank Wha-Chun Kim and Susumu Kuno for information about Korean and Japanese.

1. Some speakers get such sentences, but most don't. It is about how to characterize the restriction that exists in the speech of those that have it that this paper is.
2. For some discussion of the crucial but often neglected problem of rule government, cf. Lakoff (1970a).
3. The same is probably true of [+Extrapolation], despite the oft-noted ungrammaticality of *(1), which, given (11), we would like to posit as a possible remote structure.

- (1) * That Jeff likes peanut pizza after all
- { seems
appears
happens
turns out
etc. }
- (11) It { seems
appears
happens
turns out
etc. } that Jeff likes peanut pizza after all.

Paul Postal has suggested (personal communication) that the correct restriction to posit to rule out (11) is a global one which would forbid the complements of all non-factive true verbs like those in (1) from appearing as cyclic subjects of these verbs. This suggestion, if correct (to argue for it now is beyond the scope of this paper), would mean that Extrapolation is not a governed rule, a very desirable conclusion from the standpoint of the theory of exceptions, for by and large, rules which make crucial use of a variable (cf. Ross (1967) Ch. 6 for some discussion of this term) cannot have lexical exceptions. If the verbs of (1) were marked [+Extrapolation], this generalization would have to be abandoned.

4. For me, (5c) is slightly worse than the other sentences in (5). I have no idea why.
5. (9a) is bad for most speakers, but for an irrelevant reason - namely, the that-clause which functions as the object of prove is internal to its own clause, thus violating a constraint I will refer to as the Sentence-in-the-Middle Constraint (SMC), an output condition which says, roughly, that no surface clause can have the form,

X [S]_{NP} Y

with non-null X and Y. For some discussion, cf. Ross (1967), Ch. 3, and Ross (in preparation).

Footnotes

6. Note that (9c) does not result from applying only Right Dislocation to (9a), for that would yield (i), which might be thought to be bad by virtue of violating the SMC: the that-clause object is between prove and to me.

(i) * It₁ proved [that it had been raining] to me, [that he was dripping]_{NP₁}

Rather, (9c) is derived from (11), which results from (9a) when the that-clause object of prove, offensive to the SMC, has been moved past to me by the rule I refer to as NP Shift. Cf. Ross (1967) and Postal (on press) for more discussion, and also, keep reading.

(11) That he was dripping proved to me that it had been raining.

But, it might be objected, why doesn't the string in (9c) still violate the SMC? After all, even though the that-clause object has been NP shifted, it's still clause-internal, isn't it?

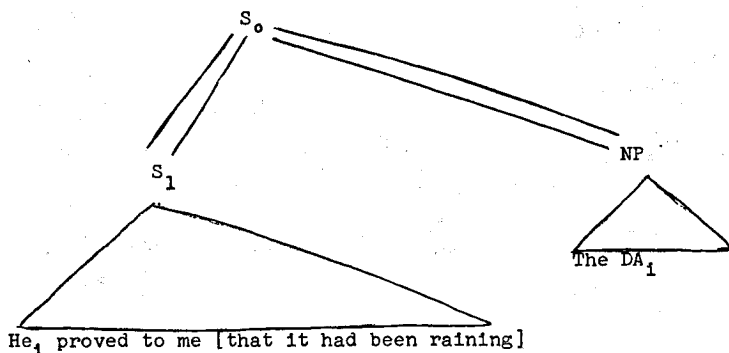
To this I would answer that such internality doesn't seem to get to the SMC. Note that there's nothing wrong with dislocating (11i) into (iv), despite the SMC.

(11i) The DA proved to me that it had been raining.

(iv) He₁ proved to me that it had been raining, the DA₁.

What I suspect is going on here is the following. The output structure of (iv) that I would propose is shown in (v).

(v)



Footnotes

Though NP is internal with respect to S_0 , it is not internal with respect to S_1 , the first S-node above it. It is apparently only this latter type of internality which the SMC prohibits. Cf. (vi), which I would argue escapes the stigma of the SMC for precisely the same structural reason as (iv), despite being a seeming counter-example to the SMC.

(vi) I think [that Jack's wrong], though I like his bicycle.

All this suggests the need for incorporating into the SMC the restriction that the internal clause must command X and Y, and for specifying that the adjunction operation involved in Right Dislocation be an instance of Chomsky-adjunction.

Assuming that this has been done, we see that the badness of (9c) must be due to some other cause than the SMC.

7. The ungrammaticality of (12a) without the fact is attributable to the SMC.

8. I do not at present understand the reason for the star in the version of (14b) without the fact. I do not see any way of accounting for it by some extension of the SMC. Possibly it is that NP Shift will only apply to NP's of sufficient noun-phrasiness (cf. Ross 1973)), and that that-clauses without heads do not reach this level of noun-phrasiness. If this is true, however, some other rule must be involved in the production of (ii) in footnote 6.

Possibly it requires less noun-phrasiness to shift a clause over to me than to shift it over a full adjective phrase. This hypothesis is supported by the existence of (i) and (ii), which indicate that not only that clauses, but also infinitival complements and embedded questions must be prevented from being shifted over adjective phrases.

(i) I consider difficult for most students { *to read Papini cold
 ??reading Papini cold }

(ii) *I consider mysterious where he bought eggs this rotten.

For a detailed discussion of similar problems, cf. Ross (in preparation).

9. Some minor differences are noted in Ross (1967), Ch. 6.

10. Note that conclusively has been moved to follow the pronoun it in converting (16) to (17), for otherwise the sentence corresponding to (16a) would be *(i),

(i) *That she was guilty, the DA demonstrated conclusively it.

Footnotes

which is bad, but for the reason, irrelevant for the present discussion, that a direct object pronoun does not immediately follow its verb. For some discussion of this constraint, cf. Ross (1967), §3.1.1.3.

11. To my ear, the version of (17b) which includes the fact sounds slightly better than the one without, a difference which I have no explanation for. It does not seem possible to claim that left-dislocated sentences must not have that-clauses as subjects, because (i) converts to (11), for me, without loss of grammaticality.

(i) That you had no clothes on shocked my cousin from Topeka.

(11) My cousin from Topeka₁, that you had no clothes on shocked him₁.

12. Topicalizing the subject of (4a), my boss, would yield the same string as output, and, depending on how the rule was formulated, possibly even the same structure. For that reason, (18) contains no sentence corresponding to this kind of topicalization.

13. Whether or not the claim that the rule involved in the formation of the sentences in (21) is a movement rule, as I am claiming, or a deletion rule, is of no consequence for my present purposes.

14. Note that I have not given a version of (22b) without the fact, for such a sentence would be ungrammatical because it would violate the SMC.

Footnotes

15. For some examples of these rules at work, forming other sentential appositives like the one in (25b), cf. Ross (1972a).

16. Because it must know, when inspecting various complements it finds in surface structure, what relationship they bore in semantic representation, if any, to the various bisentential verbs it may find in other parts of the surface structure. Thus (24) links semantics and surface structure, a popular kind of globality. For more information on global rules, cf. Lakoff (1970b) and Postal (1972).

17. Though it is not of direct relevance here, I assume that rules involving irrealis mood and negation convert that to if, as in (i)-(ii).

(i) I have determined that we were seen.

(ii) I { $\left. \begin{array}{l} \text{have not determined} \\ \text{will} \\ \text{want to} \end{array} \right\}$ determine } if we were seen.

When this rule applies in subject position, as it does obligatorily in the case of (iii)-(iv), the resulting if-clause must either be converted to one of the non-finite forms in (v), or be extraposed, as in (vi).

(iii) That they were biting surprised us.

(iv) { $\left. \begin{array}{l} *That \\ *If \end{array} \right\}$ they had been biting would have surprised us.

(v) { $\left. \begin{array}{l} \text{For them to have been biting} \\ \text{Their having been biting} \end{array} \right\}$ would have surprised us.

(vi) It would have surprised us if they had been biting.

If such if-complements appear sentence-initially, an output condition will garbage the result. An output condition seems the most likely mechanism to reject such strings as (vii) and (viii), along with (27a) and the if-version of (iv).

(vii) *If we were seen I have not determined.

(viii) *If we were seen will be hard to determine.

Footnotes

18. In the sense of Ross (to appear), where I argue that the complements shown in (1) increase in nouniness from left to right.

- (1) That S > for NP to V X > embedded questions >
Acc Ing (him proving it) > Poss Ing (his proving it) >
Action Nominalization (his proving of it) > Derived
nominal (his proof of it).

19. Cf. Ross (1972b) for some discussion of other syntactic processes which dance to the drum of verbiness.

20. German provides a disturbing case for the statement of the SSF. The ungrammaticality of (32b) would seem to prove that this filter is operative in this language too, so we might expect that in subordinate clauses, where German exhibits SOV order, no bisentential clauses would be found. This expectation, however, German manages to thwart. To be sure, (1) is bad, but this is because of the SMC (as the bracketing indicates).

- (1) *[Weil die Tatsache, dass ich nur meine rechte Hand
 because the fact that I only my right hand
 sehen konnte, [dass ich blau war]_{NP} bewies], beschloss ich,
 see could that I very drunk was proved decided I
 doch mit der Bahn zu fahren.
 after all with the train to go
 ("Because the fact that I could only see my right hand
 proved that I was lopped up, I decided to take the train
 after all.")

German has a way of expressing what (1) is trying to: the object clause of bewies can be NP-shifted to the right of this verb, producing (11), which is grammatical.

- (11) Weil die Tatsache, dass ich nur meine rechte
 Hand sehen konnte, bewies, dass ich blau war,
 beschloss ich, doch mit der Bahn zu fahren.

Interestingly however, while we would expect help from the rule of Extraposition, which can work with such verbs as beweisen (thus (111) can convert to (1v)),

- (111)(*) Dr. Bimbim hat [dass Steine denken können] bewiesen.
 has that stones think can proved.

Footnotes

"Dr. Bimbim has proven that stones can think."

[This S is ungrammatical as it stands, because of the SMC.]

- (iv) Dr. Bimbim hat es bewiesen, dass Steine denken können.
has it proved that stones think can

in fact, we find that when such verbs as beweisen are used bisententially, as in (i) Extrapolation does not save the day. Such sentences as (v), which is the result of applying this rule to (i), are still bad.

- (v) *Weil die Tatsache, dass ich nur meine rechte Hand sehen konnte, es bewies, dass ich blau war, beschloss ich doch mit der Bahn zu fahren.

The problem, however, does not lie in some extension of the SSF, but rather, apparently, in the rule of Extrapolation itself. This rule, though it will apply to beweisen with a non-sentential subject, as in (iv), will not apply when beweisen is used bisententially, even when it is not the case that the es of Extrapolation and the sentential subject appear on the same side of the verb, as they do in *(v). Thus in main clauses, like (vi), where objects follow verbs, the es of Extrapolation still cannot appear.

- (vi) { Dr. Bimbim
*Die Tatsache, dass sie schwer sind, } bewies es schliesslich,
the fact that they heavy are proved it finally
dass Steine denken können.
that stones can think

Thus, though the ungrammaticality of the bisentential version of (vi) and the cases covered by the SSF feel intuitively identical, my theory forces me to treat them differently. Something seems very wrong here.

21. This style, which sounds to Japanese ears as if sentences from other languages have been forced into Japanese, is not normally used colloquially - it appears only in formal contexts. Susumu Kuno informs me that it is formally characterizable, for instance, on the basis of the fact that translation style sentences do not naturally cooccur with certain informal sentence-final particles.

22. The content of (35b) would thus ordinarily be conveyed by a passive sentence whose subject was sakana.

References

- Bresnan, Joan W. (1972) Theory of Complementation in English Syntax, unpublished M.I.T. doctoral dissertation, Cambridge, Mass.
- Lakoff, George (1970a) Irregularity in Syntax, Holt Rinehart, and Winston, New York.
- (1970b) "Global rules", Language 46.3, 627-639.
- Postal, Paul M. (1972) "A global constraint on pronominalization," Linguistic Inquiry 3.1, 35-59.
- (in press) On Raising M.I.T. Press, Cambridge, Mass.
- Ross, John Robert (1967) Constraints on Variables in Syntax, unpublished M.I.T. doctoral dissertation, Cambridge, Mass.
- (1972a) "Act" in Donald Davidson and Gilbert Harman (eds.), Semantics of Natural Language, 70-126, D. Reidel, Dordrecht, Holland.
- (1972b) "The category squish: Endstation Hauptwort" in Paul M. Peranteau, Judith N. Levi, and Gloria C. Phares (eds.) Papers from the Eighth Regional Meeting of the Chicago Linguistic Society, 316-328 Chicago Linguistic Society, Chicago, Illinois.
- 1973) "A fake NP squish" in Charles-James N. Bailey and Roger Shuy (eds.) New Ways of Analyzing Variation in English, Georgetown University Press, Washington, D.C.
- (in preparation) "Nouniness"