

1 Letter to Noam Chomsky and Howard Lasnik on "Filters and Control," April 17, 1977

Jean-Roger Vergnaud

Dear Howard, Dear Noam,

I got your paper, three weeks ago. It is quite exciting. I believe I have some ideas to communicate to you now. They may not be that well organized, but they bear on what you discuss. I shall use the following notation: (FC,x), where x is a number, will refer to your paper; for example, (FC,3) refers to the examples of (3) in your paper; on the other hand, such formulae as (V, x), where x is a number, will refer to this letter. Let's begin. First, I shall discuss your filter (FC,93) (or (FC,93'), or (FC,107), or (FC,[155])).¹

Concerning Filter (FC,93)

I believe that this filter could be replaced by a filter that governs the distribution of certain kinds of NPs. Here is what I have in mind. Let's assume that English has three Cases: the Subject Case, which is the Case of subjects in tensed clauses; the Genitive Case (cf. *Mary's book, hers, yours, mine*, etc.); the Governed Case, which is the case of complements of verbs and of prepositions, among others (cf. *Mary saw him, Mary gave him a book, Mary talked to him, a book by him*, etc.). Case inflectional morphology is quite poor, of course. Often, oppositions are neutralized. With full NPs, only the Genitive Case is marked; the Subject Case and the Governed Case are morphologically identical. It is in the system of pronouns that case morphology is the richest (cf. *I, me, mine; you, yours; he, him, his*; etc.). But, even with pronouns, forms are often morphologically ambiguous: for example, *which* stands for the Subject Case as well as for the Governed Case; *whom* may be realized as *who* when it is not adjacent to a preposition (with dialectal variations); etc. Now, a characteristic property of infinitival construction is that, in such constructions, the subject is in the Governed Case:

- (1) a. We'd prefer for *him* to leave.
- b. It is illegal for *him* to leave.

- c. We found a man for *him* to speak to.
- d. For *him* to leave would be unfortunate.

Well, I shall hypothesize that the distribution of infinitival constructions of the form *NP to VP* follows from the distribution of NPs in the Governed Case. Specifically, let's posit the following filter:

- (2) A structure of the form ... [_{*a*} ... NP ...] ..., where NP is in the Governed Case and *a* is the first branching node above NP, is ungrammatical unless (i) *a* is the domain of [-N] or (ii) *a* is adjacent to and in the domain of [-N].

Note that the forms in your note 97 are OK by filter (V,2) if we assume that the grammar contains the following PS-rules:

$V' \rightarrow V (NP)(NP)$

$V' \rightarrow V (NP) (\text{Predicate})$

Filter (V,2) looks very much like a principle of UG. Now, there are two alternative theories that are compatible with (V,2), which we will examine in turn.

Theory AI

Within AI, only NPs that are phonologically realized are marked for Case: Case marking does not apply to traces (and, in general, to phonologically empty NPs; this situation is not to be confused with the one in which Case marking applies to traces, but the Case marker for a phonologically empty NP is the zero morpheme \emptyset ; the latter situation characterizes theory AII, which we will discuss below). Now, if we assume that in a structure of the form *V adjunct NP*, *V* and *NP* are not sisters, then, within AI, we can dispense with filter (FC,[154])² [because] the latter filter follows from (V,2) (we will not go into any detail here, but it is easy to see that there exists a natural set of assumptions under which this is true). Thus, your paradigm (FC,150, 152, {153}, [153])³ follows from (V,2) because a trace is not marked for Case and this is not subject to filter (V,2). Note that within AI, case b of (FC,[133]) (*John_i is certain (\emptyset) NP_i to win*) does not raise any particular problem. Thus, we can dispense with rule (FC,135)⁴ (or, correspondingly, with subcondition (FC,[155b])). We turn now to infinitival relative clauses. From filter (V,2), it follows that a structure of the form ... [_{COMP} *wh*-phrase] NP *to* VP ..., where the *wh*-phrase and the NP are phonologically nonempty, is out (note that the exceptions in (V,2) mention [-N] and not [-N]^{*i*}, where *i* refers to the number of bars; that is, they require the presence of *terminal* [-N] nodes in the neighborhood of the NP under consideration). In that way, we account for the ungrammaticality of (FC,100c, 101c).⁵ From filter (V,2), it follows that a structure of the form [_{NP} NP [_{S'} [_{COMP} *e*] [_S NP *to* VP]]], where the two NPs are phonologically nonempty, is out. In that way we account for the ungramma-

ticality of (FC,101d).⁶ From filter (V,2), it follows that a structure of the form $[_{NP} NP [_{S'} [_{COMP} wh-NP] \dots]]$, where the head of the relative construction and the *wh*-phrase are phonologically nonempty and the *wh*-phrase is in the Governed Case, is out. In that way, we account for the ungrammaticality of (FC,101c, 105c, 121c).⁷ Note that (FC,101b, 105d, 121d, 122c)⁸ are permitted by the filter (V,2). In particular, (FC,105d) does not raise any special problem for AI. There is a problem, though. Filter (V,2) stars the following constructions:

- (3) a. A woman who(m) you should see
 b. A woman who(m) you should talk to

These forms are perfectly grammatical, though. Thus, they contrast with the constructions below:

- (4) a. A woman who(m) to see
 b. A woman who(m) to talk to

In order to accommodate (3), I shall add the additional exception (iii) to (V,5), which is the “unless” condition of (V,2):

- (5) Unless (i) α is the domain of $[-N]$.
 (ii) α is adjacent to and in the domain of $[-N]$.
 (iii) α is the domain of $-WH$.

Consider now, for example, (V,3a). Since the rule $-WH \rightarrow that$ (your rule (FC,84b) is optional, one of the surface structures corresponding to the relative clause in (V,3a) is

- (6) $[_{S'} [_{COMP} who(m) -WH] [_S you\ should\ see]]$

Now, I shall modify your filter (FC,53)⁹ as follows:

- (7) $*[_{COMP} wh\text{-phrase } K]$ where K is a nonnull terminal string (that is, K has a nonnull phonological representation)

I shall assume that $\pm WH$ is a nonterminal. Then, (V,6) is permitted by (V,7) as well as by (V,5). QED. Idem for (V,3b). Of course, we may wonder what (V,5iii) means. Well, suppose we define *branching node* as follows:

- (8) A node f is branching iff it immediately dominates $\dots g \dots h \dots$, where g and h dominate terminal strings.

By definition (V,8), *COMP* in (V,6) is not a branching node. Then, the first branching node above *who(m)* in (V,6) is S' . And a in (V,5) is S' . Similarly, the domain of $-WH$ in (V,6) is S' . Thus, it seems that (V,5iii) is an “effect” of the Propositional Island condition. Maybe we could factor it out. I don’t see how. Actually, the following forms are highly relevant:

- (9) a. The question who to talk to
 b. The question who we should talk to

If the forms in (V,9) are both ungrammatical, then we do not have to change the above analysis. Suppose now that (V,9a,b) are both grammatical. Then, we should add the additional exception (V,10) to (V,5)

- (10) α is the domain of +WH

The fact that the subject of an infinitival interrogative can (actually must) be controlled shows that positions in the domain of a +WH COMP are not in general “opaque” to anaphoric connections outside S' . And we are left with no interpretation for (V,10). Suppose now that (V,9a) is out and (V,9b) is OK. Then it is the tensed-S condition (strictly speaking) that is relevant, and we have to modify (V,5) accordingly. I don't know how to do it. Note that if we want (V,8) and the considerations that follow (V,8) to apply to Middle English, we might have to modify (V,8) (depending on what the facts are): we might simply replace (V,8) with a statement that stipulates that COMP is not branching, period.

Note that, within the preceding analysis, we do not have any account of the ungrammaticality of (FC,129c) (**who is it illegal (for) t to leave (t the trace of who)*). Well, I shall assume that the ungrammaticality of (FC,129c) has to do with the nondeletability of *for*. In the paragraph that follows (FC,128), you say that you “will overlook these special properties [namely, the properties of lexical items that require, allow, or preclude the presence of *for*—JRV], which are, so far as we know, of no particular interest.” Well, it is not obvious that you are right. Suppose we distinguish two complementizers *for*: *for*₁ which bears the feature [−N], and *for*₂, which is a “pure” complementizer and which does not bear the feature [−N]. *for*₂ can delete freely by (FC,52),¹⁰ but *for*₁ cannot: recoverability of deletion prevents the deletion of *for*₁ in that case, because *for*₁ contains some lexical material, namely the feature [−N]. We will say that adjectives are subcategorized for *for*₁, that *prefer* in certain idiolects is subcategorized for *for*₁, that *want* takes freely *for*₁ or *for*₂ (there is a filter that is specific to *want*, namely **want for*), etc. I shall assume that *EQUI* is the following rule:

- (11) *for* PRO_{self} → \emptyset , where the domain of *for* is S'

Note that, with this formulation of *EQUI*, *for*₁ can be deleted by *EQUI* (because the rule explicitly mentions *for*). Which is very good because the following is grammatical:

- (12) It would be illegal to leave now.

Of course, there are consequences for Ozark English, which I shall not pursue here. I turn now to a discussion of an alternative theory.

Theory AII

Within AII, Case marking applies to the traces that are left by *wh*-movement as well as to the NPs that are phonologically realized. Of course, the Case marker of a trace is phonologically empty. Now, in order to account for (FC,150b, 152b, 152d, 153),¹¹ we have to add the additional exception (V,13) to (V,5):

(13) α is adjacent to and in the domain of verb + adjunct.

We can no longer dispense with filter (FC,[154]) (because of the paradigm (FC,150, 152, 153)¹²). Within AII, as within AI, case b of (FC,127) does not raise any particular problem: we can dispense with rule (FC,135) (or, correspondingly, with sub-condition (FC,[155b])).¹³ Within AII, (FC,129c)¹⁴ is perfectly straightforward; we do not have to distinguish two complementizers *for*. The discussion of (V,3, 9) remains unchanged. Similarly, the discussion of infinitival relative clauses remains unchanged, except for case (FC,103–105)¹⁵ (relativization of the subject of the infinitival): the base phrase marker

A man [_{COMP} for] [_S who to fix the sink]

is not a deep structure within AII, because (FC,105d) is out by filter (V,2) (since the subject of the relative clause is a trace left by *wh*-movement in surface structure, and, thus, is marked for case in surface structure). Well, what is the source for *a man to fix the sink*, then? I shall assume that the latter construction is derived from

(14) A man [_{COMP} for] [_S PRO-self to fix the sink]

In (V,14), a rule of control will relate the reflexive and the head of the relative construction. Thus, the structure of *a man to fix the sink* is analogous to the structure of *a man fixing the sink* (with a relative clause participle).

That ends my discussion of filter (FC,93). Myself, I would choose theory AI over theory AII. I am willing to agree that what I propose is very close to being a notational variant of what you propose. However, I think that filter (V,2) (revised to (V,5)) is likely to be a principle of UG. I turn now to filter (FC,85).

Concerning Filter (FC,85)

I repeat this filter below:

*[\pm WH t . . .], except in the context: [_{NP} NP ____]

Here, I would like to show that (FC,85) can be replaced by a more “natural” filter. Basically, I will develop and “amplify” some remarks of yours in the third paragraph of p. 39 in your paper.¹⁶ There you write: “Jointly, these two provisos guarantee that in simple one-clause structures the subject of a verb is indicated ‘locally’—either by the verbal inflection, the head of a relative, or the actual subject in place (perhaps

separated from the verb by an adverb or parenthetical). Note that this observation does not extend to multiclause structures, because of (68)¹⁷ [= (FC,85)] itself.” Well, I think it would be nice if “this observation could extend to multiclause structures,” and if the constraint formalized as (FC,85) could be made to follow from it. I shall assume that we are dealing here with a property of tensed clauses. Now, what characterizes the verb of a tensed clause is that it has to *agree* with its subject. I’ll try to show that the constraint formalized as (FC,85) is simply the following constraint:

- (15) The element that governs the person and number inflection of the verb must be indicated locally.

I shall proceed as follows. First, I shall revise filter (FC,53)¹⁸ (or (V,7)) to (16):

- (16) [_{COMP} *C* *K*], where *C* is a category (which may be empty—that is, which may dominate the identity element *e*) and *K* is the (nonnull) phonological representation of some complementizer.

In particular, in (V,16), *C* may be the trace left by COMP-to-COMP movement. Now, I shall posit the following filter:

- (17) SD: ... [_{α} *V* ...] ...
 SC: *, unless the next NP to the right or to the left of α is the NP that governs the person and number inflection of *V*

I shall assume that (V,17) is subject to the usual conditions, among them A/A and the tensed-S condition. By A/A, α in (V,17) must be taken to be the highest node *x* such that *V* is the leftmost terminal string dominated by α . By the tensed-S condition, α must be chosen in such a way that all the categories dominated by α are c-commanded by the lowest Tense that c-commands *V*. I shall assume that the tensed-S condition takes precedence over A/A; in other words, the maximal value that α can take in (V,17) is *S_V*, where *S_V* is the lowest S that dominates *V*. Consider now the following structures:

- (18) a. Who_{*i*} do you think [_{COMP} NP_{*i*} that]_[S_{*i*} NP_{*i*} saw Bill]
- b. Who_{*i*} do you think [_{COMP} that]_[S_{*i*} NP_{*i*} saw Bill]

(V,18b) is derived from (V,18a) by deletion of the category NP_{*i*} in COMP (by rule (FC,52)¹⁹). (V,18a) is out by filter (V,16). (V,18b) is out by filter (V,17): by A/A, we must take α in (V,17) to be *S_{*i*}* if *V* is *saw*; but then the closest NP on the left of α is *you*; it is not the NP that governs the person and number inflection of *saw*. In that way, we have accounted for the ungrammaticality of **who do you think that saw Bill*. Consider now the form

- (19) Who do you think saw Bill?

One of the surface structures that underlies (V,19) is

(20) Who_i do you think [_{COMP} NP_i][_S₁ NP_i saw Bill]

Clearly, (V,20) is well-formed by (V,16). It is also well-formed by (V,17): in (V,20), we must take $\alpha = S_1$ if V is *saw* (the tensed-S condition and A/A); now, the NP immediately to the left of S_1 is the trace NP_i dominated by COMP; but NP_i is the NP that governs the person and number inflection of *saw*. In that way, we have accounted for the grammaticality of (V,19). Note that the forms in your note 53 do not raise any particular problem for my analysis. It is easy to see that the grammaticality of *the man that saw Bill* follows from our rules and filters: I do not have to add any special subcondition to filter (V,17) to account for this construction. Now, what about the generalization in (FC,71)?²⁰ Well, suppose that (V,17) or some variant of (V,17), depending on word order, belongs to the stock of filters that are provided as options by UG; that is, the form of (V,17) is given by UG, but a particular language may “elect” to have (V,17), or not to have it. Suppose, in addition, that every language contains a rule of subject deletion (which, of course, is optional):

(21) Delete a subject.

That is, (V,21) belongs to UG. (V,21) is subject to recoverability of deletion. In particular, the subject must be empty. Thus, there is no rule of subject-pronoun deletion; cases where “subject-pronoun deletion” is said to have applied actually are cases where lexical insertion failed to apply. Now, if a language has filter (V,17), rule (V,21) cannot apply to delete free subject-NPs (i.e., unbound subject-NPs). But, necessarily, a free NP is lexically specified. Consider English, for example. Consider the following surface structure:

(22) NP₁ left

(V,22) is not well-formed (the corresponding LF has a free variable in the subject position). Now, if NP₁ deletes by (V,21), the resulting structure is ill-formed, because English has the filter (V,17) (this is valid under some reasonable interpretation of (V,17); the “unless” condition of the SC of (V,17) should actually read: “unless there exists at least one NP in the construction and the next NP to the right ...”). In that way, we have accounted for the ungrammaticality of **left*. Similarly for **think that left*. Now, consider Spanish. Corresponding to (V,22), we have

(23) NP₁ partio

(V,23) is ill-formed for the same reason (V,22) is ill-formed. Now, since Spanish does not have filter (V,17), NP₁ in (V,23) can be deleted freely by (V,21): the output will not be starred. Similarly for *creo que partio*. To conclude: if a language does not have filter (V,17), it displays the phenomenon labeled “subject-pronoun deletion” (cf. Spanish); if a language has the filter (V,17), it does not have “subject-pronoun deletion” (cf. English). In other words:

(24) Not filter (V,17) \equiv “Subject-pronoun deletion”

which is the generalization in (FC,71). Now, how does a child know whether a language has filter (V,17) or not? Well, he uses the equivalence in (V,24); the existence of “subject-pronoun deletion” is easy to detect (obviously). I shall assume that UG contains some principle that leads to postulating filter (V,17) as the “unmarked case” unless there is specific evidence to the contrary. I hope all this is not too circular. I presume that the likelihood of a given language having filter (V,17) is inversely proportional to the richness of the verbal inflectional morphology.

Now, what about Joan [Bresnan]’s examples, which I repeat below:

- (25) a. It’s in these villages that are found the best examples of this cuisine.
 b. It’s in these villages that we all believe can be found the best examples of this cuisine.
 c. *It’s in these villages that we all believe that can be found the best examples of this cuisine.

Frankly, I have some doubts about the relevancy of these examples. Note that the French analogue of (V,25c) is OK. But French has filter (V,17). Of course, French has a much freer rule of Stylistic Inversion. The French analogue of (V,25b) is

(26) C’est dans ces villages que nous croyons tous peuvent être trouvés les formes les meilleures de cette cuisine.

For (V,26) to be grammatical, *nous croyons tous* (*we all believe*) must be interpreted as a parenthetical (under this interpretation, it should be “bracketed” by commas; thus, strictly speaking, (V,26) is ungrammatical); this is so because French lacks a rule of free complementizer-deletion. Actually, it looks like *we all believe* in (V,25b) should also be interpreted as a parenthetical. I think that the following examples are not grammatical:

- (27) a. It’s in these villages that Mary, but not Peter, believes can be found the best examples of this cuisine.
 b. It’s in these villages that you think that Mary believes can be found the best examples of this cuisine.
 c. It’s in these villages that, I believe, Mary believes can be found the best examples of this cuisine.

Compare with

- (28) a. It’s in these villages that Mary, but not Peter, believes the best examples of this cuisine can be found.
 b. It’s in these villages that you think that Mary believes the best examples of this cuisine can be found.
 c. It’s in these villages that, I believe, Mary believes the best examples of this cuisine can be found.

Now, my theory makes different empirical predictions from yours, of course. For example, it predicts that in Middle English the form *who do you think that saw Bill* was grammatical. Well, this could be verified, but it cannot be falsified. A dream. Well, actually, there is a variety of French in which such forms as (V,29) below are grammatical:

(29) L'homme *avec qui que* Pierre a parlé vient de partir.

That is, the variety of French under consideration lacks the filter (V,16). My intuition is that in this variety of French, such forms as (V,30) are grammatical:

(30) Qui crois-tu qu'est parti hier?

Well, there might be some "noise," due to the fact that in this variety of French *qui* may be realized as *que* when it is exhaustively dominated by COMP.

Note that my reasoning on examples (V,21) to (V,24) goes through whether the language under consideration has filter (V,16) or not.

Now, there are some consequences for your appendix III. Actually, I don't really understand what you say at the bottom of p. 103. In the last paragraph on p. 103, you consider a dialect that lacks the **for-to* filter, but has the **for-for* filter. You seem to imply that this is equivalent to saying that (FC,213) is grammatical and (FC,214), ungrammatical.²¹ In addition, the dialect you discuss accepts (FC,216) but not (FC,217).²² Then you say that one cannot appeal to the **for-to* filter to block (FC,217), because the dialect lacks this filter. But why not say that the dialect actually has the **for-to* filter, but that this filter is restricted to the complementizer *for* (this is what you propose in the next-to-last paragraph of p. 103)? In other words, I don't understand the difference between (FC,213) and (FC,216).

A last remark concerning filter (V,17). In Latin, a past participle or a future participle in an infinitival declarative agrees in case, gender, and number with the subject, as it does in finite declaratives. Cf. *constat Romanos esse victos* "it is certain that the Romans were defeated." Clearly, this is a case of Subject-Predicate agreement, and not a case of Subject-Verb agreement. The verb itself (*esse* in the above example) does not agree.

That ends my substantive comments.

Some scattered remarks:

- Your example (34c), p. 22, would be excluded by Superiority, assuming Strict Cyclicity (but maybe you want the latter to follow from something else).
- Concerning A/A and your filter (93),²³ pp. 52–53: if one takes your proposal literally here (you say: "Under the conventions just outlined, no construction will be submitted to the filter for analysis if it is properly contained within another construction analyzable in terms of the structural condition"), then the following should be grammatical (or am I mistaken?): *a man to expect that Mary will give a book which to read to*; compare with *a man to expect that Mary will give a book to*. I presume that the

difficulty would be solved if the NP in the SD of the filter were to bear an anaphoric index (modulo the right conventions).

- I presume that your example (149d), p. 74, is blocked (redundantly) by *it*-insertion (your rule (60)).²⁴
- I don't understand the development at the top of p. 77; in the input to the filter, PRO does not bear any index (since the filter does not apply to the output of rules of construal, but to the output of deletion rules, which themselves apply to surface structure).
- Concerning *wh*-deletion, p. 32, you say that the *wh*-word in restrictive relatives has no semantic content, whereas in appositives and in questions it does have semantic content. Well, this could interact with some proposals by Edwin [Williams] and by [Ivan] Sag concerning VP-deletion; consider the following paradigm:

- (31) a. The man who Mary tried to visit and couldn't
 b. The man who Mary tried to visit and she couldn't
 c. The man who Mary tried to visit and she couldn't visit

- (32) a. John, who Mary tried to visit, but couldn't
 b. John, who Mary tried to visit, but who she couldn't
 c. John, who Mary tried to visit, but who she couldn't visit

In (V,31), we have restrictive relatives and in (V,32), appositives. I am assuming that (V,31b) and (V,32b) are ungrammatical. Now, to account for the ungrammaticality of (V,32b), Edwin and Sag rely on the hypothesis that the *wh*-word in (V,32) is a quantifier binding a variable: then, the LF corresponding to the null VP in (V,32b) contains a variable that is bound by the "wrong" *wh*-word, and the form is out. It seems natural to expect, within Edwin's (and Sag's) framework, that the same explanation will hold for (V,31b). Note that the *wh*-word of a free relative deletes freely only in comparative constructions; see the contrast:

- (33) a. John eats more than Mary eats.
 b. *John eats Mary eats.

(V,33a) and (V,33b) are derived by COMP-deletion from (V,34a) and (V,34b), respectively:

- (34) a. John eats more than what Mary eats.
 b. John eats what Mary eats.

- Finally, J. Emonds mentions the following paradigm (personal communication):

- (35) a. A man to whom to explain my problem
 b. A man to expect that I can explain my problem to
 c. *A man to whom to expect that I can explain my problem

I believe we have a similar paradigm with infinitival indirect questions:

- (36) a. I wonder to whom to give this book.
 b. I wonder who to expect that Mary will give this book to.
 c. *I wonder to whom to expect that Mary will give this book.

That's it; comments welcome.

As ever,
 Jean-Roger

Notes

1. The Vergnaud letter was a commentary, solicited by Chomsky and Lasnik, on the manuscript version of "Filters and Control." The published version of the paper (*Linguistic Inquiry* 8, 425–504 (1977)) unfortunately does not incorporate any of Vergnaud's excellent suggestions because there was an accidental delay in sending the manuscript to him. His response was very prompt at that point, but by then, the paper had already gone to the printer.

This and all other notes have been added by the editors. The notes give the examples and constraints as formulated in the published version. Example numbers in square brackets indicate numbers in the published version that had changed from the manuscript version. Numbers in braces indicate examples in the manuscript that did not appear in the published version.

(93) * $[\alpha$ NP to VP] unless α is adjacent to and in the domain of a verb or *for*

(93') * $[\alpha$ NP to VP] unless α is adjacent to and in the domain of [-N]

(107) * $[\alpha$ NP to VP] unless α is adjacent to and in the domain of [-N] or $\alpha =$ NP

(155) * $[\alpha$ NP to VP] unless α is adjacent to and in the domain of

a. [-N] (adjunct)

b. [+V] \emptyset

2. (154) *[V adjunct NP], NP lexical

3. (150) a. *John believes sincerely [Bill to be the best man]
 b. Who_i does John believe sincerely [t_i to be the best man]
 c. *NP was proven conclusively [John to be the best man]
 d. John_i was proven conclusively [t_i to be the best man]
 e. John_i was proven to us [t_i to be the best man]
 f. John_i seems to us [t_i to be the best man]

- (152) a. We want very much [*(for) John to win]
 b. Who_i do you want very much [t_i to win]
 c. We'd prefer most of all [*(for) John to be the candidate]
 d. Who_i would you prefer most of all [t_i to be the candidate]

- {153} a. A kid is here [t to play with you]
 b. A man is at the front door [t to fix the sink]

- (153) a. *I believe sincerely John.
 b. *I like very much John.

4. (135) $\emptyset \rightarrow [-N]$ in the context $[+V]$ _____
5. (100c) A topic [COMP on which] [S Bill to work t] Deletion of *for*
 (101c) A topic [COMP which] [S Bill to work on t] Deletion of *for*
6. (101d) A topic [COMP e] [S Bill to work on t] Deletion of both phrases
7. (105c) A man [COMP who] [S t to fix the sink] Deletion of *for*
 (121c) A topic [COMP which] [t to work on t] Deletion of *for*
8. (101b) A topic [COMP for] [S Bill to work on t] Deletion of *wh*-phrase
 (105d) A man [COMP e] [S t to fix the sink] Deletion of both phrases
 (121d) A topic [COMP e] [S to work on t] Deletion of both phrases
 (122d) A topic [COMP on which] [t to work t] Deletion of *for*
9. (53) $*[_{\text{COMP}} \textit{wh}\text{-phrase } \phi], \phi \neq e$
10. (52) In the domain of COMP, delete $[_{\alpha} \phi]$, where α is an arbitrary category and ϕ an arbitrary structure.
11. See next note.
12. (150) a. *John believes sincerely [Bill to be the best man]
 b. Who_i does John believe sincerely [t_i to be the best man]
 c. *NP was proven conclusively [John to be the best man]
 d. John_i was proven conclusively [t_i to be the best man]
 e. John_i was proven to us [t_i to be the best man]
 f. John_i seems to us [t_i to be the best man]
- (152) a. We want very much [*(for) John to win]
 b. Who_i do you want very much [t_i to win]
 c. We'd prefer most of all [*(for) John to be the candidate]
 d. Who_i would you prefer most of all [t_i to be the candidate]
- (153) See note 3.
13. (127b) NP is certain ϕ John to leave.
 (135) See note 4.
 (155b) See note 1.
14. (129c) *Who_i is it illegal (for) t_i to leave?
15. (103) A man [COMP for] [S who to fix the sink]
 (104) A man [COMP who_i for] [S t_i to fix the sink]
 (105) [The four possible outcomes from (104)—RF/HL]
 a. A man [COMP who_i for] [S t_i to fix the sink] (= (104))
 b. A man [COMP for] [S t to fix the sink] Deletion of *wh*-phrase
 c. A man [COMP who_i] [S t_i to fix the sink] Deletion of *for*
 d. A man [COMP e] [S t to fix the sink] Deletion of both phrases
16. In the third full paragraph after example (74).

17. {68} *[that $[_{NP} e]$], except in the context $[_{NP} NP \text{ ____ } \dots]$
 (68) * $[_{S'} \text{ that } [_{NP} e] \dots]$, unless S' or its trace is in the context $[_{NP} NP \text{ ____ } \dots]$
18. (53) See note 9.
19. (52) See note 10.
20. (71) The filter (68) is valid for all languages that do not have a rule of subject-pronoun deletion, and only these.
21. (213) Who_i are you going to try for t_i to VP
 (214) Who_i are you going to try for [for t_i to VP]
22. (216) Who does she long for t [to win]
 (217) Who would it bother you [for t to win]
23. See note 1.
24. (149d) * Bill_i is eager [(for) t_i to win]
 (60) Insert it in the position of NP in

$$\text{NP } V^* \text{ (A) (PP) } [_{S'} \left. \begin{array}{l} \text{for} \\ \text{that} \\ \text{-WH} \end{array} \right\} \text{S}] \text{ (} V^* = \text{be, seem, } \dots \text{)}$$