

MAIN CLAUSE PHENOMENA IN SUBORDINATE CLAUSES

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A number of syntactic constructions claimed by linguists to be restricted to main clauses are shown to occur, in fact, in a variety of subordinate clause types, but only under certain mysterious conditions—basically, when the speaker desires to be understood as committed to the truth of the subordinate clause. Formalization of this notion, however, remains elusive. The analysis of this phenomenon by Hooper & Thompson 1973, while attractive and initially explanatory, is shown to be, before the final analysis, incapable of accounting for the range of embedding environments allowed, which differs from one restricted construction to another. It is shown in the present paper that an adequate solution will involve a complex interaction of several factors—syntactic, semantic, and pragmatic—and the range of data to be accounted for is partially delineated.*

The phenomena dealt with here, which I shall call Main Clause Phenomena (MCP), have been discussed in recent years under a variety of names, including Root Transformations (Emonds 1971) and Highest Island Phenomena (Ross 1971).¹ Basically they boil down to the same thing: certain constructions are fully

* This paper owes much to audiences who heard earlier versions of it in Ann Arbor, Urbana, Bloomington, and Chicago. I delayed writing it up for nearly a year in the hope that I could first answer more of the questions that the data raised. When I realized, as reported in Green 1974, the extent to which pragmatic factors influenced judgments about forms, it became clear that these questions could not be answered without several man-years of work. Since the best way to get that done is to publicize the questions, I felt it my responsibility to expose them, and to discharge my responsibility to those people who requested copies of the talks.

¹ Ross 1971 (apparently—all I have is a handout) observed that ‘all and only those non-cyclic transformations whose effect is to adjoin some constituent immediately to the left of the subject of the clause in which they operate are restricted so that they can only apply in highest islands [main clauses]’. Although most rules which are restricted to main clauses are of this form, not all are; thus Tag-Question Formation, Right Dislocation, and Truncation have the same restriction to highest islands as do Left Dislocation and various negative and adverb preposing rules, although none of the former is ordinarily formulated so as to adjoin anything to the left of the subject of the clause being affected. In fact the restrictions are even stronger for the rules which don’t adjoin anything to the left of the subject.

Truncation is a particularly interesting case: it is adamantly restricted to highest clauses, but almost never applies to overtly performative clauses. With the exception of *bet* (whose performativity may be questioned in truncated examples like *Bet I can run faster than that*), the only good case I know of also involves discourse deletion (cf. Morgans 1973):

A: I’ll buy you a new one.

B: Promise?

A: Promise.

There is, of course, a stylistic clash between the use of most overt performative verbs and the use of truncation. Truncation is typical of casual speech, while overt performative verbs are restricted to relatively stiff and formal speech, even among intimates. Still, sentences like (a) and (b)—compare the abbreviated, but not truncated (c) and (d)—seem more than stylistically inappropriate:

(a) Insist that you leave immediately!

(b) Promise I’ll buy you a new one.

(c) Permission requested to revive the lieutenant.

(d) Permission denied.

grammatical in main clauses, but odd or ungrammatical—in any case, much less acceptable—in embedded clauses. Some illustrative examples are presented as 1–15 below.² The b-examples are typical of those which linguists have cited in support of the claim that these constructions are restricted to main clauses. It should be pointed out that not all the asterisks here are of equal value; some of the b-examples are much worse than others. Such distinctions are irrelevant here; elsewhere, where they are relevant, they are marked.

(A) Negative Adverb Preposing (triggers inversion of the subject and the tense-bearing element of the VP):

- (1) a. Never before have prices been so high.
- b. *Nixon regrets that never before have prices been so high.

(B) Participial Phrase Preposing (triggers inversion):

- (2) a. Squatting in the corner was a spotted tree frog.
- b. *I never enter the room when squatting in the corner is a spotted tree frog.

(C) VP Preposing:

- (3) a. John says he'll win it, and win it he will.
- b. *John wants to win it, but the claim that win it he will is absurd.

(D) Directional Adverb Preposing (triggers inversion of the VP with non-pronoun subjects):

- (4) a. In came the milkman. Up it goes.
- b. *John thinks that in came the milkman.

(E) Directional Phrase Preposing (triggers inversion of the VP with non-pronoun subjects):

- (5) a. Into the garden ran a golden-haired girl. Into the garden she ran.
- b. *I guess that into the garden ran a golden-haired girl.

(F) Evidentiary *indeed* (initial; affirms agreement, citing support):

- (6) a. [Assuming languages can have nasal assimilation rules, this is a natural analysis.] Indeed, languages must have nasal assimilation rules.
- b. *Sydney regrets that indeed, languages must have nasal assimilation rules.

Most stylistically mixed sentences sound comical, e.g. (e) and (f); but (a) and (b) are not comical, just weird:

- (e) I insist that you bug off.
- (f) Like, I requested permission to, you know, adjust the hydrostatic gizmos.

² The phenomenon of Right Dislocation, as in (a) and (b), has been used to provide crucial examples in several works on MCP:

- (a) Jo doesn't like it, my hat.
- (b) *I suppose Jo doesn't like it, my hat.

However, I am not aware that I use this construction, except in afterthoughts (which I assume to be a distinct phenomenon); hence I am leery of trying to use it for crucial examples myself, even with informant judgments.

(G) Flat *indeed* (initial, with close juncture; contradicts or affirms flatly):

- (7) a. [Do you have any children?] Indeed I do (not).
 b. *I claimed that indeed I do (not).

(H) Exclamatory Inversion:

- (8) a. Boy/Man/Mm mmm, are we in for it! Was it (ever) loud!
 b. *He discovered that boy, was I in over my head.

(I) Adjective Phrase Preposing (triggers inversion of the subject and the entire VP):

- (9) a. Very important to the Japanese is the amount of mercury being pumped into their bays.
 b. *I expect that very important to them is the amount of mercury being pumped into their bays.

(J) Negative NP Preposing (triggers inversion of the subject and the tense-bearing element of the VP):

- (10) a. Not a bite did he eat.
 b. *Mary says that not a bite did he eat.

(K) Tag Questions:

- (11) a. John eats pork, doesn't he?
 b. *I discovered that John eats pork, doesn't he?

(L) *Lo and behold*:

- (12) a. Lo and behold, there was a unicorn among the roses.
 b. *I realized that lo and behold, there was a unicorn among the roses.

(M) Rhetorical Questions:

- (13) a. Who can understand *Aspects*? [∅ No one can understand *Aspects*.]
 b. *It seems that who can understand *Aspects*.

(N) *Frankly* (indicating that speaker is being frank):

- (14) a. Frankly, Bobby Riggs never had a chance.
 b. *Bobby realized that frankly, he never had a chance.

(O) Truncation:

- (15) a. Gotta go now. Time for dinner. See you later. Went downtown yesterday.
 b. *I guess (that) see you later.

The observant reader may have noted that the same embedding frame has not been used for all the constructions. In fact, the choice of embedding environment makes all the difference: as 16–28 show, it turns out that most MCP can occur quite comfortably in some subordinate clauses.

(A) Negative Adverb Preposing:

- (16) I knew that never before had prices been so high.

(B) Participial Phrase Preposing:

- (17) John knew that squatting in the corner was a spotted tree frog.

(C) VP Preposing:

- (18) John wants to win it, and I'm afraid that win it he will.

(D) Directional Adverb Preposing:

(19) I realized that in would come the milkman, with me there, and my hair in curlers.

(E) Directional Phrase Preposing:

(20) It seems that into the garden ran a golden-haired girl.

(F) Evidentiary *indeed*:

(21) Linguistic theory can countenance transgalactic rules, because, indeed, it must countenance them.

(G) Flat *indeed*:

(22) I said that indeed I did not.

(H) Exclamatory Inversion:

(23) I knew that boy, was I in deep.

(I) Adjective Phrase Preposing:

(24) I claim that very important to the Japanese is the amount of mercury being pumped into their bays.

(K) Tag Questions:

(25) I guess John didn't come in, did he?

(L) *Lo and behold*:

(26) I saw that lo and behold, there was a unicorn in the roses.

(M) Rhetorical Questions:

(27) We ought to assign Postal, because who can understand *Aspects*.

(N) *Frankly*:

(28) I'm afraid that frankly, he hasn't a chance.

However, not all MCP seem to be able to occur in subordinate clauses. I have not been able to find any good examples of embedded truncations. Sentences 29a-d are uniformly awful, even in environments that permit other MCP:

- (29) a. *I knew (that) hadda go.
 b. *It seems (that) gotta go.
 c. *I guess (that) see you later.
 d. *I'd better get my coat, because gotta go now.

And similar examples with Negative NP Preposing are at best very awkward and unnatural-sounding:

- (30) a. ?I knew that not a bite had he eaten.
 b. ?It seems that not a bite has he eaten.
 c. *I guess that not a bite has he eaten.
 d. *We'll have to leave because not a bite has he eaten.

Mysteriously, Directional Phrase Preposing is acceptable in subordinate clauses if the subject is grammatically indefinite, as in 20; but when the subject is definite, the sentences are much worse:³

³ It looks like there is more to it than this, because Directional Phrase Preposing in subordinate clauses with indefinite pronominal subjects is as bad as with definite subjects:

- (31) a. *It seems that into the garden ran the cat with the red collar.
 b. *It seems that into the garden he ran.

And while some exclamatory forms may be embedded, not all can. Sentence 32 is much worse than 23, even though they are similar syntactically:

- (32) *I knew that was she (ever) smart.

So the problem is to figure out what determines which constructions may be embedded, and when. Since most MCP are constructions which have been described as emphatic devices, one fairly attractive hypothesis is that MCP may be embedded just in case the proposition they affect, and thereby emphasize, is one which the speaker supports. This predicts that contexts that indicate support will permit MCP, while ones that indicate disagreement will not permit them. There is considerable evidence in favor of this hypothesis. Thus, when a clause with Negative Adverb Preposing is syntactically embedded, in a syntactic and conversational context which indicates agreement (as in 33a), it is much more acceptable than in a similar syntactic context where it is conversationally a 'straw man', and the speaker indicates disagreement, as in 33b:

- (33) a. John says that never before have prices been so high, and I agree.
 b. *John says that never before have prices been so high, but I disagree / but he's wrong.

Similarly, different conversational uses of the same syntactic form with Participial Phrase Preposing, as below, show a range of acceptability from good, with affirmation (34a), to poor, with denial (34c):

- (34) a. John says that standing in the corner is a man with a camera, and I think he's right.
 b. ?John says that standing in the corner is a man with a camera, but I think he's mistaken.
 c. ??John says that standing in the corner is a man with a camera, but he's wrong.

The immediate syntactic contexts are the same in 33–34, and it is only a conjunct (and could as well be an independent sentence) which explicitly indicates the speaker's attitude toward the proposition embedded in the main clause: this strongly suggests that the principles determining the embeddability of so-called MCP are pragmatic or conversational, and not formal or syntactic at all. I know of no other case where the occurrence of a syntactic or lexical form is governed by

- (a) *It seems that into the garden one ran.
 (b) *It seems that into the garden ran one.

However, this is not a mystery concerning the embedding of this construction, but one concerning the construction in general. Directional Phrase Preposing in unembedded clauses with indefinite pronominal subjects is equally impossible:

- (c) *Eight-week-old kittens are so cute—I was looking out of the window yesterday, and right into my garden {one leaped.
 {leaped one.

Compare (d), with a definite pronoun in the same context:

- (d) Eight-week-old kittens are so cute. I was looking out of the window yesterday, watching one chase a butterfly, and right into my garden it leaped.

material in a clause conjoined after it. Generally, governing forms or constructions must precede and/or command the forms they govern. Indeed, since the first clauses in 33–34 are acceptable in conversation alone depending on the speaker's intentions (as I argue in Green 1974), the principle governing embedding is clearly pragmatic.

Likewise, it seems plausible, especially in light of the above, to say that the relevant difference between 35a and 35b is pragmatic, in their intended use, rather than syntactic or formal:

- (35) a. John says that he'll win it, and I think that win it he will.
 b. *John says that he'll win it, but I don't think that win it he will.

The sentences in 36, with 'evidentiary' *indeed*, support this hypothesis in a slightly different way. In 36a the proposition at issue is embedded as the opinion of a disinterested authority—one who ought to be believed; and the result is much better than 36b, where a comparable proposition is cited as the propaganda of an interested party—which we have, therefore, not so much cause to believe:

- (36) a. [A: Maybe the French just make better wine than the British.]
 B: Craig Claiborne says that indeed, the French make better wine than the British. (And why should he lie?)
 b. [A: The British don't make as much wine as the French, but maybe they make better wine].
 B: ??The British Ministry of Trade says that indeed, the British make better wine than the French. (Of course I don't know why we should believe them.)

Note now that the hypothesis that embeddability of a clause with some MCP is a function of the speaker's agreement with the content of that clause predicts that, even if there is variation among the MCP as to the range of embedded environments in which they will sit comfortably, there will be a hierarchy of such environments, ordered by the amount of agreement expressed or implied. Thus we might suppose that, where speakers' agreement with the content of the embedded clause is presupposed, more kinds of MCP will be embeddable than where it is merely asserted or implied, and that any given MCP will embed more easily where agreement is asserted or presupposed than where a neutral position is indicated, etc. Likewise, the hypothesis may be interpreted as predicting that where disagreement is presupposed, it will be harder to embed MCP than where it is merely asserted or implied. In other words, the list in 37 should reflect decreasing tolerance for MCP, from top to bottom:

- (37) Types of complement-taking verbs, with examples:
 a. Agreement presupposed: emotive factives (*regret*); 'semi-factives' (*discover, realize*); wishy-washy factives (*know*).
 b. Agreement asserted: *I say, I said; I think; I claim*.
 c. Agreement conversationally implied: *X says, X thinks*.
 d. Neutral: *guess, seem, possible*.
 e. Disagreement implied: *X claims*.
 f. Disagreement asserted: *I doubt, I deny*.
 g. Disagreement presupposed: *pretend*.

This hierarchy correctly predicts both that clauses with MCP embedded under 1st person assertive verbs are better than under 3rd person ones (as shown in 38), and that *realize* and *say* will embed things that *guess* and *pretend* won't (as shown in 39):

- (38) a. I think that indeed, they will come.
 b. ??John thinks that indeed, they will come.
- (39) a. Bill wanted to win, and I realize that win he did.
 b. Bill wanted to win, and John says that win he did.
 c. ??Bill wanted to win, and I guess that win he did.
 d. *Bill wanted to win, and I pretended that win he did.

However, while I still believe that the data of 33–36 (which motivated this hierarchy) are not spurious and do provide some insight into this phenomenon, it is easy to see that the hierarchy is conspicuously wrong. To begin with, it fails to distinguish between 1st and 3rd person factives, since their complements are equally presupposed. Yet 1st person factives embed MCP much more easily than 3rd person factives:

- (40) a. I regret that never before has such a proposal been made.
 b. *But Bill regrets that never before has such a proposal been made.
- (41) a. I realize that standing in the corner was a man with a camera.
 b. ??Look, John realizes that standing in the corner was a man with a camera.
- (42) a. I knew that boy, were we in trouble.
 b. ??John knew that boy, were we in trouble.

Second, it predicts that *regret* will be one of the best embedders, better than *realize*; and that *realize* will embed more MCP than *know*. But in fact, the order is exactly the opposite: *know* is a good matrix for more MCP than *realize*, which in turn is more tolerant than *regret*, which is pretty poor:⁴

- (43) a. I know that win it he will.
 b. I know that into the garden ran a yellow cat.
 c. ?I know that not a bite did she eat.
- (44) a. I realize that win it he will.
 b. ?I realize that into the garden ran a yellow cat.
 c. ?*I realize that not a bite did she eat.
- (45) a. ?*I regret that win it he will.
 b. ?*I regret that into the garden ran a yellow cat.
 c. ?*I regret that not a bite did she eat.

⁴ Obviously, demonstrating this point conclusively would involve the citation of sixty or so examples; the nine cited are typical of what I have found. I know of only one case, in fact, where *regret* is a better embedder than *realize*, and this is with the flatly assertive use of *indeed*:

- (a) ?I regret that indeed they do (not).
 (b) *I realize that indeed they do (not).

I suspect that *regret* may be elliptical for *regret to say*, which would make the relative acceptability of (a) a function of *say*, not of *regret*; but at present I am unable to confirm this suspicion.

Third, it predicts that *seem* will be less tolerant than *realize*, since it isn't factive at all; in fact, they are about equally as good as embedding environments.⁵

- (46) a. I realize that never before have prices been so high.
 b. ?I realize that into the garden ran a yellow cat.
 c. ?*I realize that not a bite did she eat.
 d. *I realize that indeed he does (not).
- (47) a. It seems that never before have prices been so high.
 b. ?It seems that into the garden ran a yellow cat.
 c. ?*It seems that not a bite did she eat.
 d. *It seems that indeed he does (not).

Fourth, the hierarchy in 37, taken as a predictor of embeddability of MCP, predicts that *guess* will be mediocre as an embedder, though better than *seem*. But in fact, *guess* is one of the worst, and *seem* is pretty good:

- (48) a. ?I guess that never before have prices been so high.
 b. ?*I guess that indeed, languages must have nasalization rules.
 c. ?*I guess that into the garden ran a yellow cat.
- (49) a. It seems that never before have prices been so high.
 b. It seems that indeed, languages must have nasalization rules.
 c. ?It seems that into the garden ran a yellow cat.

Fifth, but probably not last, the hierarchy predicts that *pretend*, which presupposes disagreement, will be less tolerant than *doubt*, which merely asserts or implies speakers' disagreement. But in fact, *pretend* is appreciably better than *doubt* in a significant number of cases:

- (50) a. I pretended that indeed, the British made the best wine in the world.
 b. I pretended that standing in the corner was a man with a camera.
 c. ?I pretended that not a bite would she eat.
- (51) a. *I doubt that indeed, the British make the best wine in the world.
 b. ??I doubt that standing in the corner is a man with a camera.
 c. *I doubt that not a bite would she eat.

The failures of 37 suggest that something other than speakers' agreement is the criterion crucial for predicting tolerance of MCP—perhaps that it is rather something like the extent to which the embedding structure can be used to make an assertion. Hooper & Thompson 1973 consider just this aspect of MCP in subordinate clauses, and indeed conclude that the so-called root transformations which produce MCP are 'restricted to application in asserted clauses' (472).⁶ Their basis for this conclusion is that MCP produce emphasis, and 'emphasis would be unacceptable in clauses that are not asserted, e.g. embedded clauses which are presupposed' (472–3).

⁵ Again, demonstrating this conclusively would require citing more examples than I can expect the reader's patience to tolerate. I can supply them on request.

⁶ Hooper & Thompson claim (467) that root transformations other than inversion do not occur in questions (this is their reformulation of Emonds' claim that no more than one root transformation is allowed per sentence). As it happens, both claims are incorrect—or if they are correct, some native speakers don't observe them. The following is a complete letter to the editors of *Newsweek*: "‘I'm not a crook.’ At this point in time? Wasn't it only two months ago that neither was the Veep?"

I am not convinced that Hooper & Thompson have a non-circular definition of assertion.⁷ Their position, however, is that the complements of a number of non-performative verbs are asserted, although these might not be the only assertions in the sentence; and reported assertions count as assertions. Thus the complements are said to be asserted in examples like 52; but the complements in 53, according to them, are not asserted, and do not permit MCP. The complement in 53a is neither presupposed nor asserted, and the complement in 53b is presupposed:

- (52) a. John says it's raining.
 b. I suppose she'll win.
 c. I realize he's a kleptomaniac.
 (53) a. It's possible that it's raining.
 b. John regrets that Mary won.

When Hooper & Thompson move from subject and object complements to other subordinate clauses, they say that relative and adverbial clauses must be either presupposed or asserted. I can't figure out what they would call the relative clause in 54a, and I would balk at saying that the *if*-clause is asserted in 54b—yet one of its conjuncts contains evidence of a root transformation, Directional Adverb Preposing:

- (54) a. When I need a man who can speak French, I'll look for one.
 b. I get very upset if I go into my sewing room, and out of the closet pops your boyfriend.

To summarize their claims about non-complement subordinate clauses: gerunds, infinitives, and noun complements (*fact that* clauses etc.) are said to be not asserted, and (therefore) do not permit MCP. Non-restrictive relative clauses and restrictive relative clauses on indefinite heads are, they claim, asserted, and so permit MCP; but restrictive relative clauses on definite heads are presupposed, and therefore don't permit MCP.

These claims are too strong, in that they predict that the ungrammatical sentences in 55 will be grammatical, because the MCP are in asserted clauses—non-restrictive relative clauses in 55a–b, restrictive relative clauses on indefinite heads in 55c–d:

- (55) a. *They say that John wants to win the medal; but that son₁ of a gun,
 who₁ win it will, doesn't deserve it.
 b. ??They say that John wants to win the medal, which win he will.

⁷ In some places (e.g. p. 494), they seem to cite, as evidence that a clause is asserted, the fact that it permits root transformations (MCP):

'Adverbial clauses may be ambiguous between presupposed and non-presupposed interpretations. RTs can apply when the clause is non-presupposed, but not when it is presupposed. Thus:

ASSERTED

- (247) She loves her husband, (al)though Sarah, she told me he's unfaithful.
 (248) He has written a good thesis, (al)though to have spent a whole chapter on
 Preposition Hopping was probably a mistake.

PRESUPPOSED

- (249) *Mildred loves her husband (even) though seldom does he bring her flowers.
 (250) *Lottie got a C in the course (even) though the final, she flunked it.'

- c. *John found a garden which into a golden-haired girl ran.
- d. *John found a golden-haired girl who into a garden ran.

And the claims are also too weak, in that they predict that the grammatical sentences of 56 will be thoroughly ungrammatical, because the MCP are in non-asserted clauses—a gerund clause in 56a, and a noun complement in 56b:

- (56) a. The idea of up popping your boyfriend just then is too much for words.
- b. We can support the claim that standing in the corner was a black umbrella.

Thus a general assertion theory, in the simple and strong form given by Hooper & Thompson, is simply inadequate. In addition to the counter-evidence in 55–56, there is a *reductio* argument in the fact that the counterfactive *pretend* permits MCP:

- (57) a. John pretended that standing in the corner was a Tiffany lamp.
- b. We just pretended that very important to her was the question of Myopia's status as a most favored nation.

Hooper & Thompson would be forced to claim, if they wished to maintain this simple assertion theory, that the complements in 57 are asserted. (They have a defense of sorts against counter-evidence of this kind in their claim, p. 479, that for some speakers all *that-S* complements permit MCP. However, in light of the gross unacceptability—to me—of some of the sentences cited in the article, I find this very hard to believe.)

In addition, since MCP occur promiscuously in the complements of non-assertive performative verbs like *bet*, *promise*, and *predict*, as shown in 58, Hooper & Thompson would be forced to say that promises, bets, and predictions are assertions:

- (58) a. I bet that win it he will.
- b. I promise that not a bite will I eat.
- c. I predict that more significant will be the amount of money contributed to campaign funds.

Note, however, that one doesn't make a promise, bet, or prediction unless he supports fairly strongly the proposition in question.

To test an assertion theory further, one can look at the sort of adverbs that may occur in simple asserted declarative sentences, modifying the suppressed performative verb. Thus in 59 the speaker need not be stating that it will be the fortieth time they will have spaghetti:

- (59) For the fortieth time, we're having spaghetti.

He can, rather, be saying this is the fortieth time he has informed his audience that spaghetti is what they are going to have. This is the reading I am interested in. Similar facts obtain for the *frankly* phenomenon in 14. Now, if certain kinds of complements to non-performative verbs really are asserted, as Hooper & Thompson claim, then we could expect this kind of adverb to appear in them. I have found it impossible, however, to adjoin this sort of adverb to any complement of a non-performative verb, while retaining the relevant reading. A sentence like 60 does not say that the speaker is reporting the menu for the fortieth time:

(60) ?It seems for the fortieth time that we're having spaghetti.

However, this adverb embeds easily in non-restrictive relative clauses (as in 61a), which are by all criteria asserted—as well as in all kinds of *because*-clauses (61b–c), and in restrictive relatives on indefinite heads, as in 61d:

- (61) a. She married Herkimer, who, for the fortieth time, is not an M.D.
 b. John likes apples because, for the tenth time, they taste good.
 c. John is here, because, for the tenth time, that's his umbrella.
 d. She found a plumber who, for the fortieth time, WILL make house calls.

So complement clauses like those in 52 do not have the assertion properties of indisputably asserted clauses. I conclude that Hooper & Thompson's analysis, while attractive, is simply not workable.

The original question remains: Why can so-called MCP occur in some subordinate clauses? However, the data have forced us to alter this question to: Why do some MCP embed in lots of subordinate clauses, and some in few or none? And why do some subordinate clause types embed more MCP than others? This formulation suggests that we have a gradience or squish depending on two hierarchies. Now, I have not attempted to graph such a squish; I would need a computer to do it—and even then, I am not convinced that the data would actually lend themselves to such a representation. Even if it could be done, the interesting questions will still be unanswered: Why are the hierarchies arranged as they are? What independent property is held in increasing or decreasing degree by the items in each of the hierarchies? If this property is, among the MCP, emphaticness (as has been suggested), then why are Negative Adverb Preposing and Negative NP Preposing at opposite ends of the scale (the former embeds with the greatest of ease, and the latter only with great difficulty)? Why are tag questions (a doubting device) and exclamations both at the crummy end of the hierarchy?

As far as I can see, the answers to these questions are not going to be simple. Rather, it seems that the distribution of each main clause phenomenon will be determined by pragmatic, semantic, and syntactic factors, which interact in ways not yet totally predictable. Some of the most striking evidence of the pragmatic factor in the distribution of MCP involves the possibility of using sentences with MCP in embedded clauses as answers to questions. That is, while 62a–b are probably both acceptable in one context or another, only 62a is acceptable as an answer to *When was he washing the dishes?*

- (62) a. He was washing the dishes when the dog came in.
 b. He was washing the dishes when in came the dog.

Likewise, 63a but not 63b is an appropriate answer to *Why is he hungry?*

- (63) a. He's hungry because he wouldn't eat a bite.
 b. He's hungry because not a bite would he eat.

Here the syntactic forms are identical except for the MCP; so it must be the MCP which is responsible for the unacceptability of the b-examples as answers to the questions.

The reason, I think, that the b-examples are inappropriate answers is that the

MCP emphasize, and in some sense assert, the content of the embedded clause. Therefore they cannot answer the question: if the content is asserted, it cannot describe a state or event assumed to be familiar to the hearer, as would be required if it were cited as identifying a time or a reason. Consider in this regard the fact that 62b—and NOT, significantly, 62a—can be stated less vividly as follows:

(64) The dog came in when he was washing the dishes.

And 64 is, obviously, not an answer to *When was he washing the dishes?*, even though it has the same truth conditions as 62a (which is an answer), and indeed entails 62a.

There are, on the other hand, semantic reasons why frames like *John realizes*, *John regrets*, and *John knows* are not good for embedding assertions. For instance, acceptable complement-embedded 'assertions' are less assertive than direct statements. I may say *John says Bill left* when I think that my addressee is interested in Bill's whereabouts, and when all I know about them is that, according to John, Bill has left: I think that this is probably true, but I don't want to be held responsible if it's not (or maybe even if it is). But if I were to attempt to relay similar information by using a factive verb like *know*, *regret*, or *realize*, with a 3rd person subject, I would be taking it for granted that the embedded proposition was true and known to be so. On the one hand, this would be a poor way to make an assertion, because it assumes that the addressee already knows that the complement is true; on the other hand, the factive matrix or frame does nothing to absolve me from responsibility, and is merely superfluous information which may mislead the addressee as to the intended point of my remark—i.e., he will understand me to be saying something about the subject of the factive verb, not about Bill. Such a way of talking is at the same time redundant and contradictory, and therefore very confusing.

But this does not explain why certain MCP may be happily embedded under *know* and *realize* with 3rd person subjects:

- (65) a. John knew that squatting in the corner was a spotted tree frog.
b. John realized that never before had prices been so high.

If the property predicting the order of tolerance of embedding environments is ability to be used to assert, or implied consistency with speaker's opinions, why does *pretend* have a greater tolerance for MCP than *guess*? And what on earth can explain the fact that Directional Phrase Preposing is consistently better when the subject is grammatically indefinite than when it is definite, as shown in 66?

- (66) a. I knew that into the garden ran a cat and a dog.
b. ??I knew that into the garden ran the cat and the dog.
c. It seems that into the garden ran a golden-haired girl.
d. ??It seems that into the garden ran the golden-haired girl.

It has been suggested to me that this difference is a function of a distinction between content being introduced into the discourse (indefinite NP's) and pre-supposed content (definite NP's), and that it is natural for new or otherwise important information to be put at the end of the sentence, which is one of the effects of Directional Phrase Preposing. If this is correct, then phrases which are

grammatically definite, but pragmatically indefinite, i.e. not presupposed (like *the fattest man I ever saw*), should function like indefinites, and permit Directional Phrase Preposing. However 67 shows that this is not the case, and we are still at a loss for an explanation:

- (67) ??I know / It's clear / I saw that into the garden ran the fattest cat in Urbana.

I conclude that there may not be a simple explanation of embedding tolerances—that it may be necessary to examine the phenomena case by case. It seems clear to me from the data in 33–36 that speaker's agreement will form part of an ultimate theory, and additional evidence for this position is found in the increasing acceptability of the sentences in (68), which all have the same syntactic form:

- (68) a. *Mary hoped to win the medal, but I rejected the claim that win it she would.
 b. ??Mary was hoping to win the medal, and I heard a claim that win it she would.
 c. ?Mary was hoping to win the medal, and I accepted the claim that win it she would.
 d. Mary was hoping to win the medal, and I made the claim that win it she would.

And from some of the evidence against 37, I conclude that there is something to the notion of assertion-MAKING being involved, although we have seen that no simple yes-or-no assertion theory will work.

It is abundantly clear that no purely syntactic theory, such as Emonds' theory of root transformations, will be adequate; but there do seem to be purely syntactic or morphological facts which interact with the criteria of agreement and assertedness to complicate the data. Thus inverted exclamations that begin with an interjection embed more easily than bare exclamations:

- (69) a. I knew that boy, were we in for it.
 b. *I knew that were we (ever) in for it.
 c. They had to hurry, because boy, were they late.
 d. ?*They had to hurry, because were they (ever) late.

The reason may be that the interjection, even before the intonation, signals that the sentence following is going to be an exclamation rather than what it appears to be—a question. Of course, we still have no explanation for why even signaled exclamations are so intolerant of embedding, compared to other MCP.

Multiple negatives also seem to affect the acceptability of embedding MCP, even where the result does not appear to be perceptually difficult or logically obscure. Thus the difference in acceptability between 70a–b and 70c–d, compared to the uniformity of acceptability in 71:

- (70) a. I realized that not a bite had she eaten.
 b. I realized that never before had prices been so high.
 c. *I didn't realize that not a bite had she eaten.
 d. *I didn't realize that never before had prices been so high.
 (71) a. I realized that standing in the corner was his black umbrella.
 b. I didn't realize that standing in the corner was his black umbrella.

Multiple disruptions of the normal S-V-O-Adverb 'target' structure of clauses, of the sort that may have motivated Emonds' claim that no more than one root transformation may apply per sentence, may also play a role in limiting MCP in subordinate clauses. This would explain why reduced clauses such as gerunds and infinitives, which in normal cases bear little resemblance to surface main clauses in word order, and especially in inflections and other 'trappings', are so resistant to permitting MCP: generally, MCP either involve gross and sometimes multiple changes in constituent order (e.g. all the preposing rules), or depend on particular inflection, usually finite verbs (e.g. Verb Phrase Preposing, Tag Question Formation). Perhaps some parameter of description (which admittedly awaits formulation) could explain the difference between Negative Adverb Preposing and Negative NP Preposing: in general, adverbs have a greater freedom of position than NP's, which are usually positioned according to their function (subject, object etc.)⁸

Sequence-of-tense rules (or tense agreement rules) also run syntactic interference. It seems that the more the embedded clause looks like it could be a direct quotation which could stand alone, where anything goes, the more easily it embeds. Thus judgments of acceptability in 72–73 seem to correlate with the fact that 74a–b require more context to be acceptable than 75a–b (cf. McCawley 1972):

- (72) a. ??John accepted the claim that never before had prices been so high.
 b. ??John accepts the claim that never before had prices been so high.
 c. ?John accepts the claim that never before have prices been so high.
- (73) a. ?John said he wanted to win, and I knew that win he would.
 b. *John said he wanted to win, and I know that win he would.
 c. John said he wanted to win, and I know that win he will.
- (74) a. Never before had prices been so high.
 b. John wanted to win, and win he would.
- (75) a. Never before have prices been so high.
 b. John wants to win, and win he will.

Similarly, there is a morphological explanation for the fact that pseudo-imperatives such as 76, which are pretty poor in any complement clause—and in fact embed happily only in straightforward *because*-clauses, as shown in 77—fail utterly in complements to past-tense verbs, as in 78:

- (76) Discover that automobile emissions cure cancer, and GM will love you.
- (77) a. ??It seems that invite them once, and you're obligated to them forever.
 b. ??I realize that invite them once, and you're obligated to them forever.
 c. I won't even invite the Vandersnoots, because invite them once, and you're obligated to them forever.

⁸ It is not merely the relative deviance of *not a NOUN* NP's which limits their occurrence in subordinate clauses, since unpreposed ones (e.g. subjects) are much more acceptable than the preposed objects cited. Thus (a) and (b) below, and even (c), are much better than comparable examples in the text, where the relevant NP is not a subject:

- (a) We'll have to leave, because not a bite has been eaten.
 (b) It seems that not a word of it reached their ears.
 (c) I didn't realize that not a word of it was legible.

- d. ?John's here, because look in the corner, and you'll see that's his umbrella.
- (78) a. *It seemed that invite them once, and you were obligated to them forever.
- b. *I realized that invite them once, and you were obligated to them forever.

They seem to embed poorly because they violate the constraint that, disregarding discourse truncations (Schmerling 1973), non-imperative clauses require overt subjects. Unembedded, they masquerade as imperatives; embedded, they can't, because imperatives as such cannot be embedded. They fail utterly in complements to past-tense verbs, because they cannot be accommodated to sequence-of-tense rules. Thus 79a violates sequence-of-tense rules, and 79b embeds a structure which no longer has the imperative form—and, indeed, does not conform to any orthodox clause or sentence type:

- (79) a. *I knew that cry and you cry alone.
- b. **I knew that cried and you cried alone.

Finally, if you can make a subordinate clause look like a main clause by getting it into initial position in the sentence, without a subordinating conjunction (i.e. *that*), then even the most reluctant of MCP, truncation, will be fooled into acceptability. Consider the contrast between 81 and 82, where Slifting, a rule which fronts the complements of verbs of saying and thinking (Ross 1973), has created the appropriate environment:

- (80) a. John says (that) it's time for dinner.
- b. I guess it's time to quit now.
- (81) a. *John says (that) time for dinner.
- b. *I guess time to quit now.
- (82) a. Time for dinner, John says.
- b. Time to quit now, I guess.

This principle of disguise applies to pseudo-imperatives as well: 83a, with a past tense in the (ex-)matrix clause, is appreciably better than even 83b, which has a present tense:

- (83) a. Cry and you cry alone, I realized.
- b. ??I realize (that) cry and you cry alone.

Slifting does not improve the embeddability of exclamations and other emphatic MCP, as shown in 84, but there is a reason for this:

- (84) a. *Are we in for it, John says / I bet / etc.
- b. *Not a bite did he eat, you realize / it seems / etc.

Granted, Slifting makes a complement clause into an independent assertion; but the assertion is hedged, since the Gricean principles are still operative by which the underlying embedded clauses (which are the input to Slifting) obtain their ability to inform by way of deduction (cf. Grice 1975). Thus it would be pragmatically contradictory to use an emphatic device with anything sliftable. In other words, 84a–b are unacceptable for the same reasons as 85a–b are:

- (85) a. *John says are we in for it.
- b. ??*You realize (that) not a bite did he eat.

Truncation and pseudo-imperatives, on the other hand, are not emphatic devices, and are perfectly acceptable in the wishy-washy assertions which are the domain of Slifting. Corroborating this, Slifting seems to be incompatible even with only emphasis on the content of the complement clause. Thus 86a could be an excited utterance, a warning; but 86b could only be a report of John's statement:

- (86) a. John says Smokey's at the door./!
 b. Smokey's at the door, John says./*!

Moral: even if you ask a simple question (as several, myself included, have done), you may not get a simple answer—at least, not if you are particular about your answers. To be more specific, the embeddability of so-called MCP is influenced not only by syntactic forms and semantic functions, but also by pragmatic functions, by what a speaker is trying to do in using a particular syntactic form to express something. What I have attempted here is to demonstrate the complexity in the interaction of these three influences.⁹

⁹ For a detailed look at how pragmatic functions influence the embeddability of one main clause phenomenon, see Green 1974.

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