

On Pseudogapping

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Lasnik (1995) has recently used some of the properties of Pseudogapping to provide an interesting argument in support of the view that the Agr_O projection occurs between the two VPs in a “split VP” analysis of the sort proposed by Koizumi (1993, 1995). While agreeing with many of Lasnik’s basic conclusions, I shall present evidence that the intervening projection must be something rather different from Agr_OP. I shall then use this result to support a somewhat different version of the split VP hypothesis of the sort proposed in Bowers (1993, 1997), according to which the upper VP is actually a projection of a functional category Pr.

Before starting, I would like to discuss briefly one methodological issue. Lasnik notes that researchers have differed considerably in the degree of acceptability they are willing to assign to Pseudogapping sentences, ranging all the way from * to fully grammatical. It happens that the full range of patterns observed in Pseudogapping sentences occurs also in the process known in the literature as “comparative subdeletion” (Bresnan 1973), and the latter are almost invariably good, even when the former sound somewhat less than perfectly felicitous. Consider, for example, the following sentences, all of which have been marked as less than perfect to one degree or another:

- (1) a. John will select me, and Bill will ~~select~~ you.
- b. Bill ate the peaches and Harry did ~~eat~~ the grapes.
- c. John reviewed the play and Mary did ~~review~~ the book.
- d. I rolled up a paper, and Lynn did ~~roll-up~~ a magazine.
- e. You probably just feel relieved, but I do ~~feel~~ jubilant.
- f. Rona sounded annoyed, and Sue did ~~sound~~ frustrated.
- g. John gave Bill a lot of money, and Bill will ~~give~~ Susan ~~a lot of money~~.

The corresponding sentences embedded within subdeletion structures all sound completely unexceptionable to me:

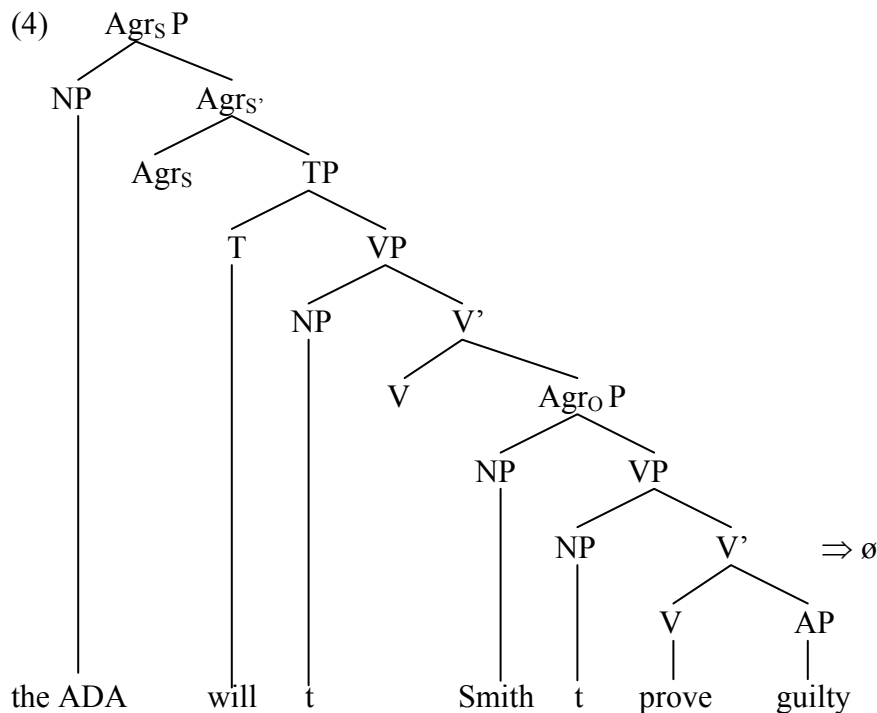
- (2) a. John will select me more happily than Bill will you.
- b. Bill ate the peaches with more enjoyment than Harry did the grapes.
- c. John reviewed the play more favorably than Mary did the book.
- d. I rolled up a paper as easily as Lynn did a magazine.
- e. You probably feel at least as relieved as I do jubilant.
- f. Rona sounded just as annoyed as Sue did frustrated.
- g. John gave Bill a lot more money than Bill will Susan.

Therefore, whenever there might be any conceivable doubt about the acceptability of a Pseudogapping structure, I will use a subdeletion structure instead in order to avoid unnecessary debates about grammaticality.

Now let's consider an example of Pseudogapping in which the deleted constituent contains more than just the verb:

(3) The DA proved Jones guilty and the Assistant DA will ~~prove~~ Smith ~~guilty~~.

Lasnik's basic point is that if the direct object *Smith* can be assumed to raise overtly from the inner VP to [Spec, Agr₀] to check accusative case and if raising of the verb can somehow be delayed, then the remnant VP will contain exactly the elements that are missing in Pseudogapping sentences, thus permitting the process to be stated as simple deletion of the inner VP at PF:



In order to permit the verb to remain in VP, Lasnik suggests (1) that the strong feature that drives V-raising is a feature of V (perhaps a θ -feature) rather than of the position it

raises to; and (2) that that an unchecked strong feature is an ill-formed PF object. If these two conditions are met, then deletion of the VP will salvage what would otherwise have been a bad derivation by deleting the offending unchecked strong V-feature at PF.

So far, so good. But almost immediately we begin to encounter problems. Obviously Lasnik's analysis makes a number of strong predictions. One is that essentially only direct objects should be able to be saved from VP deletion by raising, since [Spec, Agr_O] is, by hypothesis, the position to which objects are moved to check case and agreement features.¹ A second, partially related, prediction is that in VPs with more than one complement, only the higher one should be an acceptable VP remnant. A third is that only one constituent in the VP can be saved from VP deletion. I shall now show that all three of these predictions are false, forcing us to seriously rethink the nature of the intervening category, assuming that the basic approach to Pseudogapping proposed by Lasnik is correct.

Consider first a case in which the VP contains some element other than a direct object, e.g. sentences with predicate APs such as (1) e. and f. Lasnik marked these examples with a * in his paper, but they don't sound that bad to me and, as I have already shown, they are virtually perfect in the corresponding subdeletion structures (2) e. and f. Therefore, if these examples are to be accounted for, we must somehow make it possible for predicate AP complements, as well as direct objects, to raise into AgrP. As we shall see shortly, there are many other constituents of the VP that can raise as well.

¹ In fact, Lasnik suggests that certain PPs might raise as well. Noting that the PP in Pseudogapping structures such as *?John swam beside Bill and Mary did beside Susan* is acceptable, he proposes that these PPs must also raise to Agr_OP in order to satisfy the EPP feature, which he claims resides in Agr. I return to these examples momentarily.

Consider next a case in which a VP contains more than one argument, e.g. a double object construction:

(5) John gave Bill a lot of money.

Assuming that the structures underlying such sentences contain three VPs with AgrPs sandwiched between the first and the second and between the second and the third, Lasnik shows that examples such as the following are predicted to be good:

- (6) a. ?John gave Bill a lot of money, and Mary will ~~give Susan a lot of money~~.
 b. John gave Bill a lot more money than Mary did ~~give Susan a lot of money~~.

while examples such as the following are predicted to be bad:

(7) *John gave Bill a lot of money, and Mary will ~~give Bill~~ a lot of advice.

But before accepting the * that Lasnik assigns to (7), consider examples such as the following:

- (8) a. John gives Bill money as often as Mary does advice.
 b. Mary gives her kids more advice than she does money.
 c. John is leaving the kids a lot of money, and Mary is a bunch of stocks.

Exactly the same counterarguments can be given to Lasnik's claim that in dative constructions, only the direct object is an acceptable remnant:

- (9) a. ?John gave a lot of money to Bill, and Mary will a lot of advice.
 b. *John gave a lot of money to Bill, and Mary will to Susan.

as the following data shows:

- (10) a. John gives money to his sister more often than Sam does to his brother.
 b. John gave as much money to his sister as Sam did to his brother.
 c. Mary leaves books on the table more often than Sue does on the dresser.
 d. Bill serves turnips to his guests less often than he does to his relatives.
 e. Bill serves boiled turnips to his guests, just as Mary does to her relatives.

In fact, it appears that for any VP containing either a double object or both an object and a prepositional complement, either of the objects in the first case and either the object or the PP in the second case can serve as the remnant in Pseudogapping and comparative subdeletion constructions. Hence the second prediction made by the Agr₀P approach is falsified.

Consider next the third prediction, namely, that no more than one constituent at a time may serve as a remnant. Though Lasnik starts the following example:

- (11) I didn't give a dime to Mary, but I did a nickel to Sue.

I find it perfectly acceptable. Once again, this conclusion can be strengthened by examining analogous examples in subdeletion contexts:

- (12) a. I gave more books to Mary than I did records to Sue.
 b. I give dimes to Mary more often than I do nickels to Sue.

Another way of reinforcing the conclusion that Pseudogapping with more than one remnant is perfectly acceptable is to observe carefully the role that intonation plays in these sentences. In spoken English, the paired objects and datives in these examples *must* have contrastive stress in order to be acceptable:

- (13) a. I give DIMES to MARY more often than I do NICKELS to SUE.
 b. I DIDN'T give a DIME to MARY, but I DID a NICKEL to SUE.²

Furthermore, in examples in which the two subjects are different, they must have contrastive stress as well:

- (14) JOHN didn't give a DIME to MARY, but BILL did a NICKEL to SUE.

Going back to the earlier data, note that intonation plays a critical role here also. In particular, it is important, if these examples are to sound acceptable in spoken English,

that the remnants have strong contrastive stress and that the constituents in the first clause, copies of which are deleted in the second, have relatively lower stress:

- (15) a. The DA proved JONES guilty and the ASSISTANT DA will SMITH.
 b. JOHN gave BILL a lot of money, and MARY will SUSAN.
 c. JOHN gives Bill MONEY as often as MARY does ADVICE.
 d. JOHN gives money to his SISTER more often than SAM does to his
 BROTHER.
 e. MARY leaves books on the TABLE more often than SUE does on the
 DRESSER.

I invite readers to check for themselves that every case that might have sounded dubious at first can be dramatically improved by simply pronouncing or indicating in writing the appropriate contrastive intonation patterns.

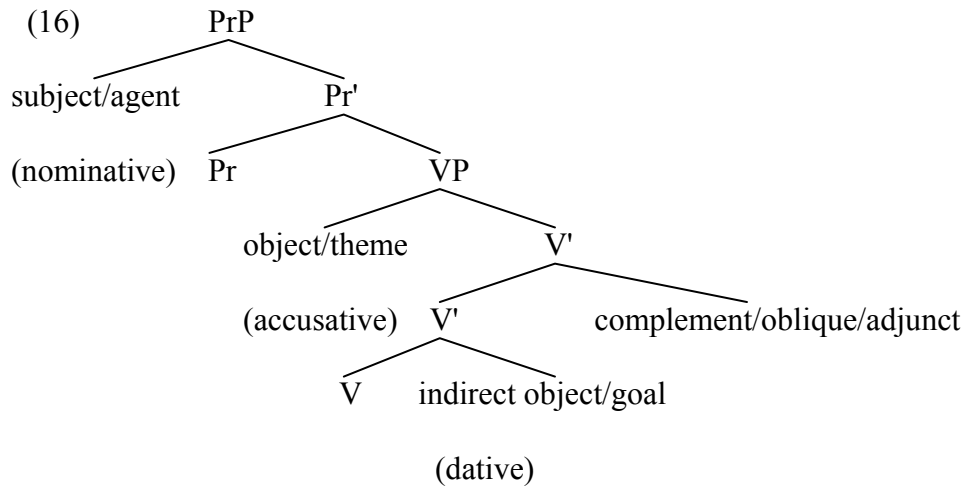
The results discovered thus far, together with the observation that having the proper contrastive intonation plays a crucial role in determining the grammaticality of Pseudogapping and Comparative subdeletion sentences, suggest that a rather different approach is in order. At the same time, it would obviously be desirable to retain Lasnik's basic insight that these processes are best explained in terms of VP-deletion after raising of the remnant constituent(s) out of VP. We have seen that not only is it possible to raise any constituent (apart from the verb) out of VP, thereby elevating it to remnant status, but also that any number of constituents may be raised, *as long as the raised constituents are*

² Note that contrastive stress on the auxiliary verbs is required in this example only because the positive

assigned strong contrastive stress in the phonological component. Clearly this data is not consistent with the idea that the category to which the remnant constituents are raised is an Agr_O projection. In fact it appears that Pseudogapping, like Comparative subdeletion, has nothing at all to do with case and agreement checking. Rather, these processes seem to be crucially involved with a process of contrastive focalization, which is realized phonetically in English in the form of contrastive stress. At the same time, the basic idea that these processes are the result of a syntactic process of overtly raising the focused constituents out of VP, followed by deletion of VP at PF, seems to be on the right track.

Let us therefore retain the assumption that the basic propositional structure of sentences is bipartite, but rather than the split VP structure proposed by Koizumi, I will instead adopt the structure proposed in Bowers 1993, according to which the VP is a complement of a functional category 'Pr', whose specifier contains the external argument. I will also follow Bowers 1993, for reasons that will soon be made clear, in assuming that the VP may contain in addition to a specifier and a complement V'-adjuncts of various kinds. The canonical structure that I am assuming for basic propositional structure has roughly the following form:

and negative forms of the verb are being contrasted. Compare with (13) a. where that is not the case.



Now let us assume that there is a functional category ‘F’ (standing for ‘focus’) that may optionally be projected between PrP and VP, as well as in some higher position above PrP.³ Let us assume in addition that any constituent in VP may optionally be marked with a feature [+F]. I assume that the category F has strong F-features and that the feature [+F] is an ill-formed object at PF, so that constituents with the feature [+F] must be checked off in the checking domain of F before PF in order to prevent a PF crash. In addition, following Lasnik’s lead, I will assume that the verb also has a strong feature [+F] that must either be checked off by adjunction to F or deleted. The former takes place in the first clause in Pseudogapping structures (followed by further obligatory raising of the verb to Pr), while the latter takes place in the second clause in such structures.⁴ Finally, I assume that constituents that end up with a checked [+F] feature at

³ I will not try to determine here the exact position of this higher FP.

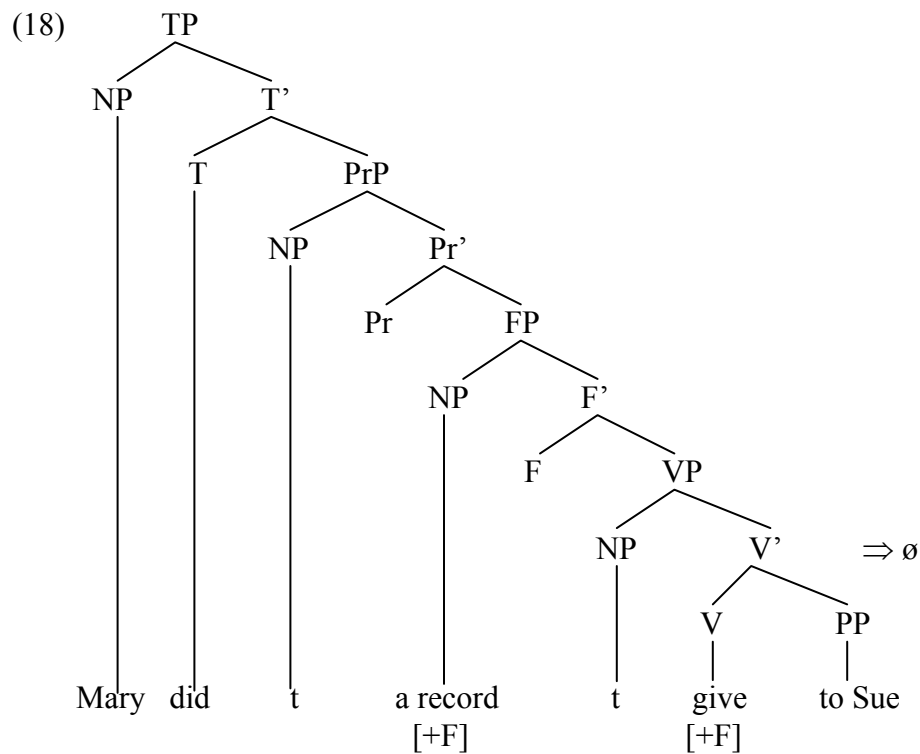
⁴ Because I believe, for reasons discussed above, that Pseudogapping and Comparative subdeletion examples are fully grammatical, I see no need to follow Lasnik in assuming that the unchecked [+F] feature of V that fails to raise in the second clause (but is deleted) gives rise to an LF violation. Hence I will follow Chomsky 1993 in assuming that a strong feature that is not overtly checked leads only to a PF crash. See Lasnik 1995 for further discussion of the consequences of these two alternatives.

PF are interpreted phonetically as relatively strongly stressed, resulting ultimately in intonation contours of the sort indicated informally above by means of capital letters.

Let us now apply this apparatus to a simple example such as the following:

(17) JOHN gave a BOOK to Sue, and MARY did a RECORD.

The structure of the right-hand clause in (17) (ignoring focus on the subject) is as follows:

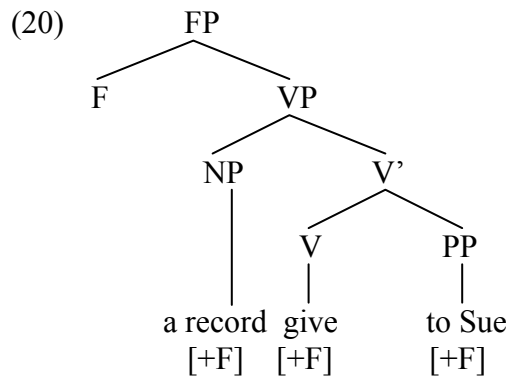


The structure of the left-hand clause is identical, except that the VP of course does not delete and the verb raises successively to F and Pr to check the strong [+F] feature and the strong V-features of Pr, respectively.

Suppose that *to Sue*, rather than *a record*, had the feature [+F] in a structure such as (18). In that case, *to Sue* would raise into FP, ultimately receiving a strong stress, while the VP containing *a record* would delete, resulting in an example such as the following:

(19) JOHN gave a record to HELEN, and MARY did to SUE.

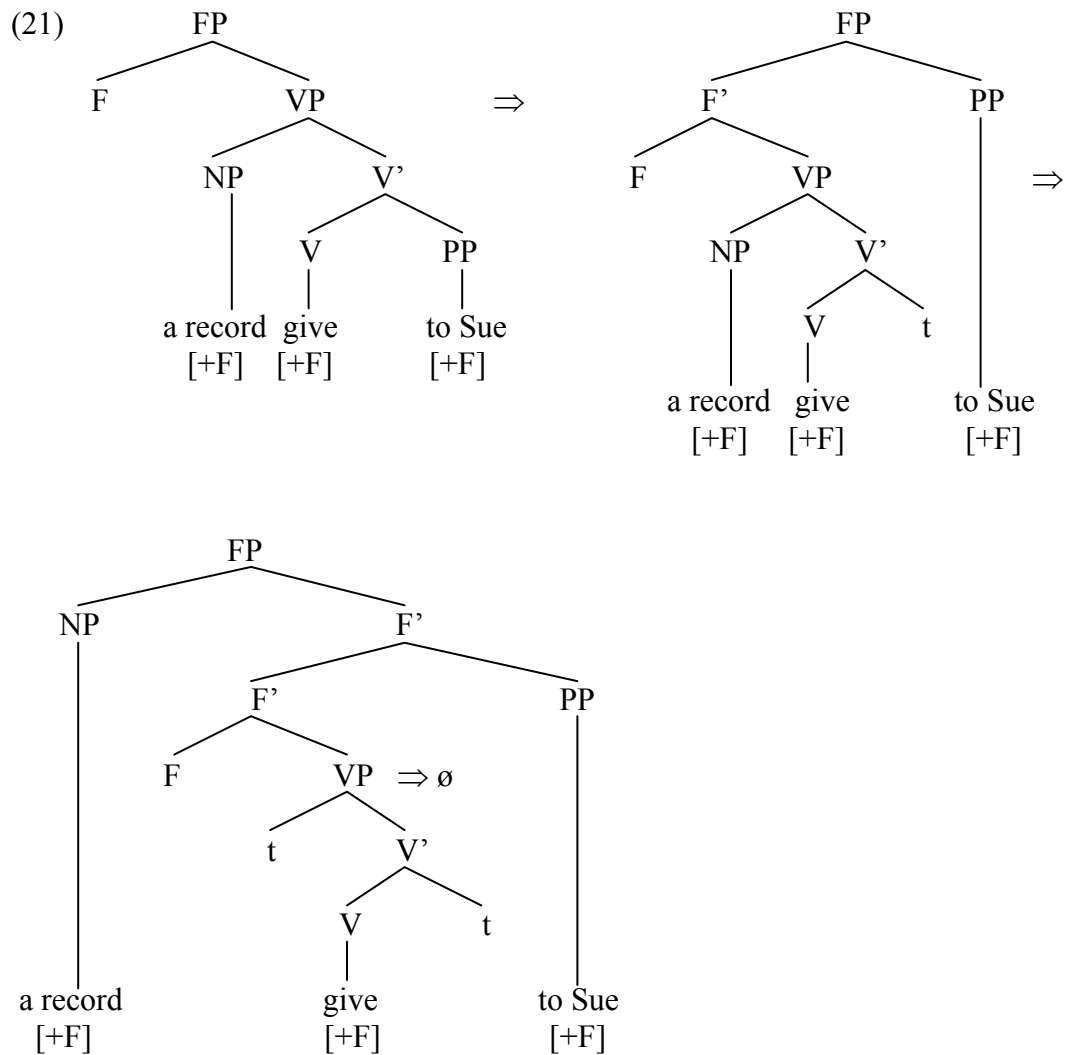
Consider next a case in which *both* the object and the dative PP are marked [+F]. At the point where VP merges with F to form FP, we will have the following structure:



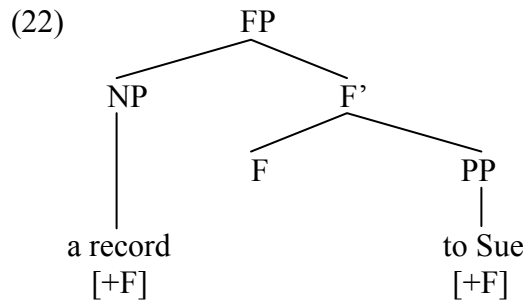
Now both *a record* and *to Sue* must raise and merge with FP in order to check their respective [+F] features. Given the theory of multiple specifiers proposed in Chomsky (1995), there is obviously no problem in accomplishing this, but in what order should these operations take place? Clearly, this is not trivial question. If, for example, the object were to raise first and merge on the left with FP, followed by the dative PP, the wrong order would result. Similarly, if the dative PP were to merge on the right followed by the object NP, the wrong order would again result. If, on the other hand, the order were reversed in these two derivations, there would be two entirely different ways of

arriving at the correct order. There must therefore be some principle that regulates the order of the operations in cases where more than one constituent can be raised.

Let's assume, for the sake of argument, that the order in which the constituents must raise is from most deeply embedded to least deeply embedded and, in addition, that the linear order of a constituent with respect to its head must be preserved. Applying this principle to (20) would result in the following derivation:



Once the VP has deleted, the non-branching F'-node can be pruned, resulting in the following structure:



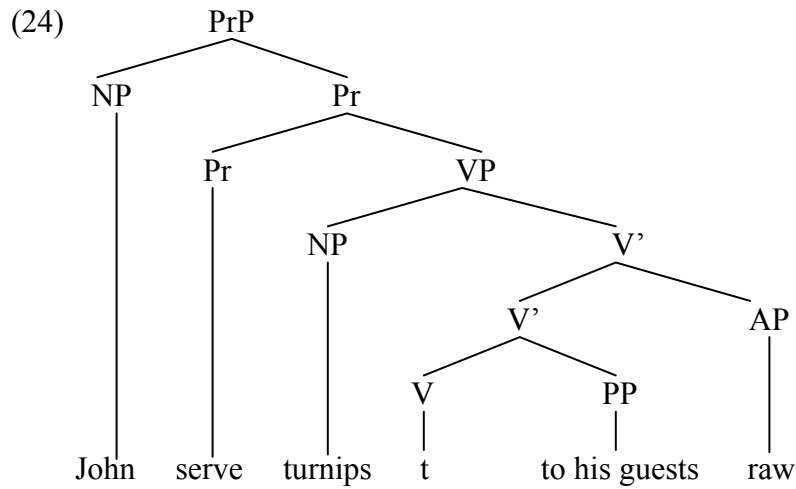
Notice that (22) preserves, in a rather obvious way, the internal structure of the VP from which the object NP and the dative PP have been raised, the only difference being that these constituents are now contained in FP, hence must be realized phonetically with contrastive stress. Let us therefore assume tentatively that a structure-preserving principle of this sort regulates the raising and adjunction of multiple constituents and see what consequences this has in more complex structures.

I consider first sentences containing a SC adjunct in addition to a subject and complement:

(23) John served turnips to his guests raw.

It is shown in Bowers 1993 that such sentences must have the following structure:⁵

⁵ I ignore for the purposes of this discussion the fact that the PP-complement and AP-adjunct are actually PrP complements with further internal structure.



Given that each of the three constituents within the VP may or may not have the focus feature [+F], there are seven possible combinations that must be looked at:

(25) a. John serves turnips to his guests RAW more often than he does COOKED.

[+F]

[+F]

b. John serves TURNIPS to his guests raw more often than he does

[+F]

CARROTS.

[+F]

c. John serves TURNIPS to his guests RAW more often than he does

[+F]

[+F]

CARROTS COOKED

[+F]

[+F]

d. John serves TURNIPS to his GUESTS RAW more often than he does

[+F]

[+F]

[+F]

CARROTS to his RELATIVES COOKED.

[+F]

[+F]

[+F]

e. John serves turnips to his GUESTS RAW more often than he does

[+F] [+F] to his RELATIVES COOKED.

[+F] [+F]

f. ??John serves turnips to his GUESTS raw more often than he does

[+F] to his RELATIVES

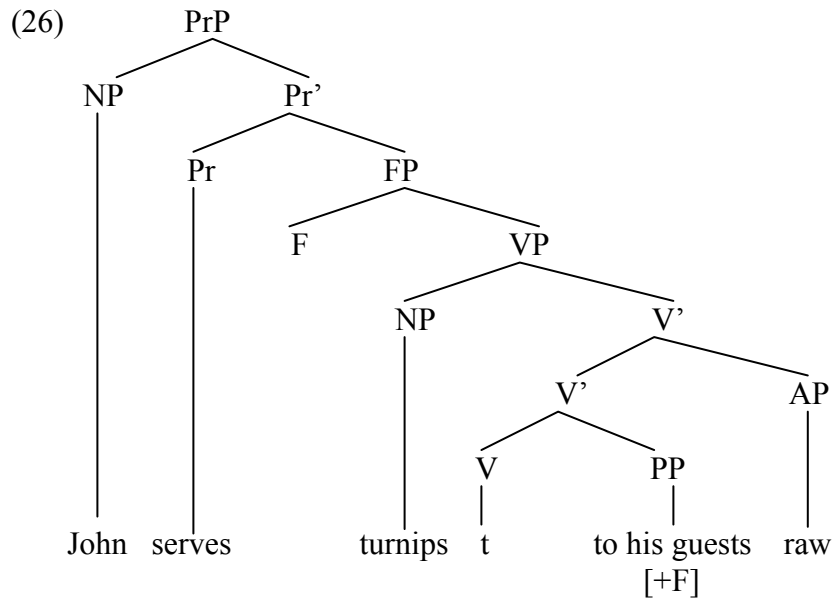
[+F]

g. ??John serves TURNIPS to his GUESTS raw more often than he does

[+F] [+F] CARROTS to his RELATIVES

[+F] [+F]

Of these seven possibilities, the first five are perfect. (25) f. and g., on the other hand, seem odd. For some reason, examples with an unfocused AP following a focused dative phrase are extremely awkward. Why should this be so? If, as is often assumed in the literature, contrastive stress is simply marked phonologically on constituents, subject only to the condition that the constituents have the same linear order in the two clauses, then all these combinations should be equally possible. The theory proposed above, on the other hand, predicts exactly this distribution of data. To see why, look at the structure that would be assigned to (25) f.:



In this configuration the only constituent that must be raised and adjoined to FP is the dative phrase *to his guests*. There is, however, no way to raise it and at the same time preserve the linear order of the constituents. We predict therefore that the only way to express this particular contrast is as follows:

(27) John serves turnips raw to his GUESTS more often than he does to his
RELATIVES.

and in fact (27) seems more acceptable than (25) f. (25) g. is essentially the same case, except that the direct object as well as the dative is focused. But raising of the direct object poses no additional problems since it must be raised to the left rather than to the right. As in the case of (25) f., we predict that the only way to express the contrasts marked in (25) g. is by reordering the dative phrase to the right:

(28) John serves TURNIPS raw to his GUESTS more often than he does
 CARROTS to his RELATIVES.

Once again, this prediction is borne out, as (28) seems to be more acceptable than (25) g. I leave it to the reader to verify that (25) a.-e. can all be produced by the proposed structure-preserving constraint without altering the original linear order of the constituents.

This analysis of Pseudogapping and comparative subdeletion, if correct, provides a useful test of constituency. For example, it has often been suggested, based on the existence of pseudopassive forms, that a wide variety of Verb+Preposition combinations, as well as more complex combinations of Verb+Noun+Preposition, should be ‘reanalyzed’ as single verb forms:

- (29) a. You can count on a friend.
- b. John spoke to Mary.
- c. Sue talks about Linguistics.
- d. Bill signed up with the Navy.
- e. John took advantage of Bill.

Based on the following examples of subdeletion, however, it would appear that most of these cases must be analyzed as full PPs, since only the PP as a whole, not its object, can serve as a remnant:

- (30) a. You can count on friends more than you can *(on) strangers.
 b. John spoke to Sue sooner than he did *(to) Mary.
 c. Sue talks about Linguistics more than Mary does *(about) Philosophy.
 d. You can sign up with the Army more easily than you can *(with) the
 Navy.
 e. John takes advantage of Bill more often than he does *(of) Mary.

Hence we may conclude, based on this evidence, that pseudopassivization is simply not a reliable criterion for reanalysis. Most particles, in sharp contrast, seem to be a part of the verb, as the following data shows:

- (31) a. John looked up the telephone number faster than Bill did (*up) the
 address.
 b. Mary found out about the party faster than Sue did (*out) about the dinner.
 c. Bill looks up to his mother more than he does (*up) to his father.
 d. John has been looking around for his glasses far longer than he has
 (*around) for his shirt.
 e. Sue beats up her brother more than she does (*up) her sister.

Consider next ECM complements. It has been argued in Bowers (1993, 1997, forthcoming) that the subjects of such complements, in both SCs and infinitive complements, must raise into object position (in [Spec, V]) in the matrix clause. If this

analysis is correct, then we would expect to find that either the raised object or the complement or both can be focused in Pseudogapping and subdeletion contexts. That these predictions are correct is shown by the following data:

- (32) a. I can believe/prove MARY (to be) innocent more easily than I can BILL.
 b. I can believe/prove Mary (to be) INNOCENT more easily than I can (to be) GUILTY.
 c. I can believe/prove MARY (to be) INNOCENT more easily than I can BILL (to be) GUILTY.

Conversely, we would expect that the whole complement, consisting of subject+predicate, should *not* be a possible remnant, a prediction borne out by the following data:

- (33) *I can believe [Mary (to be) INNOCENT] more easily than I can [her (to be) GUILTY].

Notice, incidentally, that there is in general no obstacle to repeating the subject of a focused clause in pronominal form, as the following example shows:

- (34) I can believe [that Mary is INNOCENT] more easily than I can [that she is GUILTY].

Hence the ungrammaticality of (33) cannot simply be due to the presence of the pronoun *her* in the second clause, but rather must be due to the fact that the subject of the ECM complement cannot be case-marked unless it raises to object position in the matrix clause.

Similarly, we can use these constructions to test the claim (Sportiche 1988, Bowers 1993) that floating quantifiers are associated with a (small or main) clause out of which a subject has been moved rather than with the subject itself. The following example shows that a constituent consisting of a floating quantifier and its associated clause can be left behind in VP and subsequently deleted:

(35) I consider the MEN all (to be) crazy more often than I do the WOMEN
 (*all).

The next example shows that both the raised subject and the SC containing the quantifier can be focused independently:

(36) I consider the MEN [all (to be) CRAZY] more often than I do the WOMEN
 [all (to be) SANE].

Finally, the following example shows that the SC containing the quantifier can function as a remnant by itself:

(37) I consider those men [both (to be) CRAZY] more often than I do [both (to be) SANE].

Let us consider one more aspect of the internal structure of VP. It was argued in Bowers 1993 that there is a class of adverbial modifiers restricted to be postverbal position whose distribution can best be explained if they are analyzed as V'-adjuncts:

- (38) a. Mary (*beautifully) sang the song beautifully.
 b. John (*perfectly) learned French perfectly.
 c. Bill (*poorly) recited the lines poorly.

If this analysis is correct, then we should expect to find exactly the same range of possibilities in Pseudogapping and Comparative subdeletion as we have found previously, as is indeed the case:

- (39) a. You can learn FRENCH perfectly more easily than you can GERMAN.
 b. You can learn French PERFECTLY less easily than you can POORLY.
 c. You can learn FRENCH PERFECTLY as easily as you can GERMAN
 POORLY.

Furthermore, if a PP complement is added to such examples, then the theory of focus proposed here predicts an even wider range of possibilities:

- (40) a. You can learn FRENCH from Mary PERFECTLY more easily than you
can GERMAN POORLY.
- b. You can learn FRENCH perfectly from MARY as easily as you can
GERMAN from SUE.
- c. You can learn French PERFECTLY from SUE more easily than you can
POORLY from MARY.
- d. You can learn FRENCH from MARY PERFECTLY as easily as you can
GERMAN from SUE POORLY.
- etc.

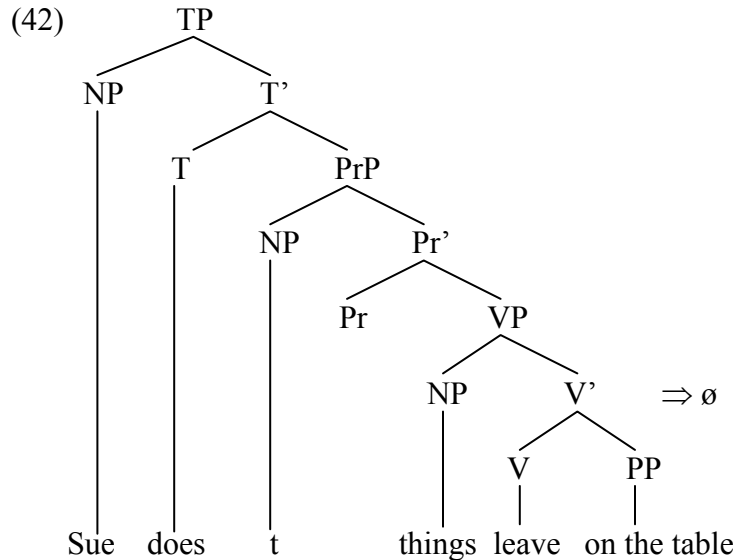
demonstrating once again that different numbers and combinations of constituents in the VP can be raised into FP to become remnants in a virtually unlimited number of Pseudogapping and subdeletion patterns, while at the same time confirming that all of these various constituents must originate in the VP.

So far we have only considered cases of VP-deletion in which one or more constituents are extracted and thereby saved from deletion. What happens if we simply fail to generate an FP above VP? In that case, the whole VP is available for deletion, yielding the kind of examples referred to in the literature (following Ross 1969) as “Sluicing”:

- (41) a. John gave a book to Mary, but Bill didn’t (give a book to Mary).
- b. Mary leaves things on the table more often than Sue does.
- c. Mary is publishing a book, and Bill is too.

d. John will leave the house soon, and Mary will too.

Notice that if it is correct to view sluicing as VP-deletion, then an empty Pr-node will be left in the second clause:



In principle, therefore, Sluicing could be due to PrP-deletion rather than VP-deletion.

One way of deciding the issue would be to see whether there is an expletive that can fill the empty Pr-position. In fact, Lopez (1996) has argued that the element *so* in examples such as the following is just such an element:

(43) John went to the store, and Mary did so too
 so did Mary

Another way of demonstrating that VP-deletion rather than PrP-deletion is involved in Sluicing is to show that various modifiers of Pr, e.g. Pr-licensed adverbs and subject-

oriented SC adjuncts (Bowers 1993), can occur in the right-hand remnant. As has frequently been noted in the literature, this is indeed the case:

- (44) a. John (happily) left the room happily, and Mary did (so) sadly.
 b. John eats breakfast clothed, while Mary does (so) nude.

Hence it is safe to conclude that a single unified process of VP-deletion underlies not only Pseudogapping and Comparative subdeletion but a wide variety of Sluicing phenomena as well.

I conclude that Pseudogapping does, as Lasnik claims, involve raising of various constituents out of VP, followed by deletion of the VP remnant. However, the raised constituents are not limited in number or in kind in the way that he assumes they are. Furthermore, the raising process has nothing at all to do with movement to Agr_OP in the Split VP Hypothesis. Rather, it has to do with the process of contrastive focalization, which is marked intonationally in spoken English. Pseudogapping, therefore, cannot provide evidence one way or the other for the location of Agr_OP. On the other hand, it can provide extremely valuable information about constituency relations within VP.

References

- Bowers, J. 1993. The syntax of predication. *Linguistic Inquiry*, 24.4, 591--656.
- Bowers, J. 1997. A binary analysis of resultatives. In R.C. Blight and M.J. Moosally (eds), *Texas Linguistic Forum 38: The Syntax and Semantics of Predication* (pp. 43--58). Austin, Texas: Department of Linguistics, The University of Texas at Austin.
- Bresnan, J. 1973. Syntax of the comparative clause construction in English. *Linguistic Inquiry* 4: 275-343.
- Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The View from Building 20*, 1-52, eds. Kenneth Hale and Samuel Jay Keyser. Cambridge, Massachusetts: MIT Press.
- Koizumi, M. 1993. Object agreement phrases and the split VP hypothesis. In *MIT Working Papers in Linguistics* 18.
- Koizumi, M. 1995. Phrase structure in minimalist syntax. Doctoral dissertation: MIT, Cambridge, Massachusetts.
- Lasnik, H. 1995. A note on pseudogapping. In *MIT Working Papers in Linguistics* 27, 143-163.
- Ross, J.R. 1969. Guess who? In R.I. Binnick, A. Davison, G.M. Green, and J.L. Morgan (eds.), *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society* (pp. 252-86). Chicago: Chicago Linguistic Society, University of Chicago.
- Sportiche, D. 1988. A theory of floating quantifiers and its corollaries for constituent structure. *Linguistic Inquiry*, 19, 425—49.