

Multiple Sluicing in English?

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Much of this material was originally presented in colloquia at the University of Stuttgart (2004) and UCLA (2006). A written version was prepared in 2006 for publication in a book that unfortunately never materialized. The present version, completed in early 2011, includes several relatively minor revisions as well as the new Appendix B.

Ellipsis in general and sluicing in particular are known to be able to 'repair' certain kinds of syntactic violations. For instance, Ross 1969, the classic study of sluicing, contains the very important observation that island violations are significantly improved when sluicing takes place. Ross gives the following examples, with (1) as baseline data involving no island. The '??' judgment for the Sluicing examples is Ross's. Many speakers find them perfect or virtually so.

- (1) I believe that he bit someone, but they don't know who (I believe that he bit)
- (2) a. *I believe the claim that he bit someone, but they don't know who I believe the claim that
he bit [Complex NP Constraint, noun complement]
b.(??)I believe the claim that he bit someone, but they don't know who
- (3) a. *Irv and someone were dancing together, but I don't know who Irv and were dancing
together [Coordinate Structure Constraint]
b.(??)Irv and someone were dancing together, but I don't know who
- (4) a. *She kissed a man who bit one of my friends, but Tom doesn't realize which one of my
friends she kissed a man who bit [Complex NP Constraint, relative clause]
b.(??)She kissed a man who bit one of my friends, but Tom doesn't realize which one of my
friends
- (5) a. *That he'll hire someone is possible, but I won't divulge who that he'll hire is possible
[Sentential Subject Constraint]
b.(??)That he'll hire someone is possible, but I won't divulge who

See Merchant 2001 for extensive illuminating discussion of this particular repair phenomenon.

Below, I will mention an account of the facts.

Lasnik (2001b) and Merchant (2001) discuss another sort of repair by sluicing: a case where a normally obligatory movement doesn't apply, and sluicing renders the result acceptable. Ross (1969) regarded sluicing as an embedded wh-question phenomenon. He gave examples such as (6).

(6) Speaker A: Mary will see someone.

Speaker B: I wonder who ~~Mary will see~~.

The construction is very plausibly analyzed as WH-movement followed by IP ellipsis. This was essentially Ross's account, taken up again by Saito and Murasugi (1990) and Merchant (2001). However, sluicing is not limited to embedded questions. It can also occur in matrix wh-questions:

(7) Speaker A: Mary will see someone.

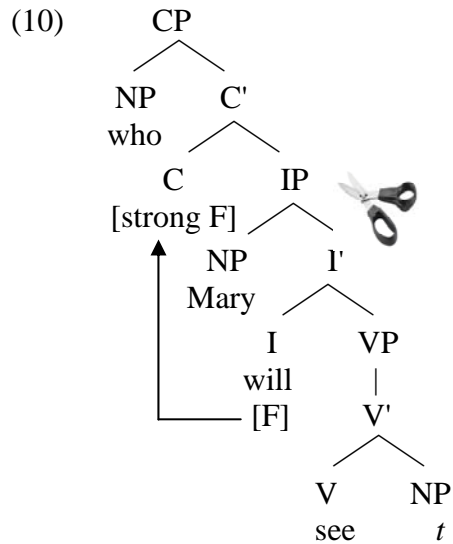
Speaker B: Who ~~Mary will see~~?

The interesting fact is that the normally obligatory raising of Infl to C (in matrix interrogatives) does not apply.

(8) *Who Mary will see?

(9) Who will Mary see?

Assume, as is standard, that matrix interrogative C contains the strong feature that triggers the overt raising of T, with the matching feature of Infl (presumably a tense feature) raising overtly to check it. Now, roughly following Ochi (1999), suppose that this leaves behind a phonologically defective Infl, which will cause a PF crash unless either pied-piping or deletion of a category containing that Infl (sluicing) takes place. (10) illustrates the latter option.



I turn now to another kind of conceivable repair by ellipsis: a situation where something should not have moved at all (at least overtly) but apparently did, with the result seemingly rendered acceptable by sluicing. First some background: Not surprisingly, in languages with multiple wh-fronting (such as Bulgarian and Serbo-Croatian), multiple Sluicing (Sluicing with multiple survivors) is possible:¹

(11) Njakoj vidja njakogo, no ne znam koj kogo ~~{vidja}~~
 someone saw someone but not I-know who whom (saw) [Bulgarian]

(Richards 1997)

(12) Neko je vidio nekog, ali ne znam ko koga ~~{je vidio}~~
 someone is seen someone but not I-know who whom (is seen) [Serbo-Croatian]

(Stjepanovic 2003)

¹ See Merchant 2001: 109-114 for extensive discussion of this in seven languages.

Surprisingly, at least some multiple Sluicing is allowed in at least some **non**-multiple wh-fronting languages:²

(13) I know that in each instance one of the girls got something from one of the boys.

?But which from which (Bolinger 1978)

(14) I know that in each instance one of the girls got something from one of the boys.

?But they didn't tell me which from which (Nishigauchi 1998)

Compare:

(15) *They didn't tell me which from which got something

A further example:

(16) ?One of the students spoke to one of the professors, but I don't know which to which

(17) *One of the students spoke to one of the professors, but I don't know which to which
spoke

Richards (1997), Richards (2001) offers an intriguing account of this surprising possibility, involving a sort of repair by ellipsis, of these apparent multiple sluicing constructions. Richards proposes the following theory of chains and overt movement, all assuming the 'copy theory' of movement:

(18) PF must receive unambiguous instructions about which part of a chain to pronounce
(and only a single member of the chain will be pronounced).

² As far as I know, all of the published examples involve exactly two wh-phrases. However, three wh-phrases also seem possible:

- i. ?One of the students spoke to one of the professors about something, but I don't know
which to which about what

(19) A strong feature instructs PF to pronounce the copy in a chain in which it is in a feature-checking relation.

Suppose a weak feature overtly attracts an item. The resulting chain would then contain two members, with no instruction about which to pronounce. It is reasonable to conclude that the derivation crashes at PF. This directly contrasts with the situation where the attracting feature is strong, in which case PF is instructed to pronounce the head of the chain.

As Richards notes, his approach does not absolutely bar overt weak feature driven movement. One exception involves ellipsis. Suppose a weak feature drives movement out of what will become an ellipsis site. In this case PF only has to consider a single position for pronunciation (the head of the chain), since nothing in the ellipsis site will be pronounced. This is the basis of Richards's analysis of apparent multiple sluicing in languages lacking overt multiple wh-movement. Richards gives the following example, adapted from Bolinger 1978:

(20) I know that in each instance one of the girls got something from one of the boys. But they didn't tell me which from which.³

Note that without sluicing, this would be impossible:

(21) I know that in each instance one of the girls got something from one of the boys. *But they didn't tell me which from which got something.

In a language like English, then, some of the features on C⁰ driving wh-movement are weak.

(21) is correctly ruled out, as the representation will contain two copies of the second wh-phrase, with no instruction as to which to pronounce (Assuming that movement of the first wh-phrase is

³ Richards, among others, notes that in the best such examples, the second wh-phrase is a PP.

Richards offers no account of this. I will return to this phenomenon.

driven by a strong feature, no problem arises for it, or, for that matter, for a simple wh-movement example with one wh-phrase.). On the other hand, when the IP is elided, as in (20), the wh-chain will be legitimate, containing only a single candidate for pronunciation.⁴

Merchant (2001) suggests a rather similar account, also involving a kind of repair by ellipsis. Merchant suggests first that Procrastinate is a 'local' requirement, encoded as a feature of a trace. Moving overtly when covert movement would have been possible leaves this feature on the trace (perhaps ultimately resulting in a PF crash). If the IP containing the trace is deleted, the defective feature is no longer present at the PF interface, so the violation is repaired. Merchant also suggests an Optimality Theoretic account. Suppose the constraint against movement penalizes PF occurrences of traces. Then the deletion of a containing structure "would allow perfect satisfaction of the lower-ranked constraints favoring multiple movements." Under either account, "deletion converts an otherwise suboptimal candidate to an optimal one."

On the other hand, Nishigauchi (1998) discusses examples like Bolinger's, concluding that these are not really multiple sluicing. Nishigauchi proposes that while the first wh-phrase is, indeed, in Spec of CP, the second occupies some other position. He suggests that (20) is actually similar (though not identical) to gapping. Richards (2001) points out several respects in which English multiple sluicing differs from gapping.⁵ Most obviously, gapping obeys an extraordinarily strict locality condition such that the gapped clause must be conjoined with the corresponding non-gapped clause (examples mine):

⁴ I slightly modify Richards's discussion to focus just on the second wh-phrase.

⁵ Nishigauchi had already noted some of these.

- (22) Mary talked about Syntactic Structures and John about "Conditions on Transformations"
- (23) *Mary talked about Syntactic Structures and I think John about "Conditions on Transformations"
- (24) I think that Mary talked about Syntactic Structures and John about "Conditions on Transformations"
- (25) *I think that Mary talked about Syntactic Structures and that John about "Conditions on Transformations"

Multiple sluicing is subject to no such constraint:

- (26) In each instance, one of the students talked about one of Chomsky's works, but I don't know exactly which about which

In this regard, as Richards notes, multiple sluicing is more like sluicing than like gapping. But, in fact, in this regard, multiple sluicing is more like **any** other English ellipsis process than like gapping. Gapping is the only known ellipsis process with this super strict locality constraint.⁶

Merchant (2001), who, as mentioned above, suggests an account of English examples like (20) in terms of genuine multiple sluicing (i.e., multiple wh-movement followed by IP deletion), does acknowledge the likelihood that the movement of the non-initial remnant is not carried out by wh-movement, but by some much more local operation. Below, I will pursue that possibility. For now, I turn to the phenomenon that Merchant brings up in this connection: "One striking fact about multiple sluices in the languages above is that they tend not to be separated by a tensed clause boundary...". I illustrate this phenomenon here. (27) displays normal long distance wh-movement in English.

⁶ A reviewer suggests that stripping might be another instance.

(27) Which one of the professors did the students say that Mary spoke to

Of course, standard sluicing is possible here:

(28) The students said that Mary spoke to one of the professors, but I can't remember which professor ~~the students said that Mary spoke to~~

But multiple sluicing is not possible with one wh associated with the matrix clause and the second with the embedded clause:

(29) *One of the students said that Mary spoke to one of the professors, but I don't know which student to which professor

In the absence of interfering factors, this is unexpected on both Merchant's and Richards's accounts, since on those accounts, both wh-phrases are undergoing standard wh-movement.

To further explore this issue, it will be instructive to consider a normal multiple wh-movement language. As mentioned above, in languages with multiple wh-fronting (such as Bulgarian), multiple sluicing (sluicing with multiple survivors) is rather freely possible, as seen in the following two examples from Richards 1997, and Stjepanovic 2003 respectively:

(30) Njakoj vidja njakogo, no ne znam koj kogo {vidja}
someone saw someone but not I-know who whom (saw) [Bulgarian]

(31) Neko je vidio nekog, ali ne znam ko koga {je vidio}
someone is seen someone but not I-know who whom (is seen) [Serbo-Croatian]

The important question now is whether such multiple sluicing is possible across a clause boundary. Apparently it is. Six my seven Serbo-Croatian informants report that the following example is quite good (though two find it a bit “hard to parse”):

(32) a. Neko misli da je Ivan nesto pojeo.

someone thinks that is Ivan something ate

`Someone thinks that Ivan ate something.'

b. ?Pitam se ko sta.

Ask self who what

`I wonder who what.'

A seventh informant rejects the example. Significantly, these judgments track their judgments for multiple wh-movement without sluicing. The first six speakers accept the following example while the seventh rejects it:⁷

(33) Ko sta misli da je Petar pojeo?

who what thinks that is Petar eaten

`Who thinks that Petar ate what?'

If this pattern holds more generally, in this language with genuine multiple wh-movement, there is no evidence for a finite clause constraint on multiple sluicing per se.⁸

The English phenomenon we have been looking at, then, has a special locality constraint. As alluded to in footnote 3, there is one additional requirement as well: The second wh strongly prefers to be a PP. There is a notable contrast between the following two examples.⁹

⁷ I am grateful to Chris Laterza for helping me collect the Serbo-Croatian data.

⁸ I put aside consideration of the constraint at work for some speakers in multiple wh-movement.

⁹ Not all speakers find this contrast. In fact, one anonymous reviewer finds both examples good, and another finds them both bad. But there are a good number of speakers who find a significant contrast. See Appendix B for more discussion of the facts.

(34) ?Someone talked about something, but I can't remember who about what

(35) ?*Someone saw something, but I can't remember who what

A parallel contrast seems to show up when both wh's are complements:

(36) ?Mary showed something to someone, but I don't know exactly what to whom

(37) ?*Mary showed someone something, but I don't know exactly who what

This combination of constraints is reminiscent of what we find in another process: rightwards focus movement. The first of the constraints shows up as a constraint of Ross 1967, often called the Right Roof Constraint, which prevents rightwards movement out of the minimal containing clause:¹⁰

(38) Any rule whose structural index is of the form ... A Y, and whose structural change specifies that A be adjoined to the right of Y, is upward bounded.

I will return to extensive consideration of Right Roof effects with English (apparent) multiple sluicing. As for the superior acceptability of PP over DP as the second wh-remnant, this too is similar to what is found with rightwards movement. First note the following contrast:

- (39) a. Some students spoke yesterday to some professors
b. ?*Some students saw yesterday some professors

In fact, we can construct a near perfect minimal pair:

- (40) a. Some students met yesterday with some professors
b. ?*Some students met yesterday some professors

As is well known, 'heaviness' is a factor in extraposition, as discussed by Ross (1967) and

¹⁰ As far as I can tell, this name was first used by Grosu (1972). The constraint was then discussed in more detail in Grosu 1973.

Fiengo (1980) among many others. However, that requirement seems limited to situations where it is a DP that tries to extrapose:

- (41) a. *Mary saw yesterday Harry
b. Mary saw yesterday her old friend Harry
c. Mary saw yesterday Harry Hetherington

(42) Mary spoke yesterday to him

Even though the PP in (42) is very light, it still can be extraposed, unlike the situation with DPs.

In passing, I note that this suggests that there are (at least) two different extraposition processes at work, one for phrases other than DPs, and one for heavy DPs (or heavy phrases; given the first process, it is hard to tell). Multiple sluicing tracks extraposition quite well:

- (43) a. Who was talking yesterday to who
b. Someone was talking (yesterday) to someone, but I don't know who to who

- (44) a. ?*Who bought yesterday what
b. ?*Someone bought something, but I don't know who what

Further, it seems to me that if when the second wh-phrase is a DP it is made heavier, both extraposition and multiple sluicing improve:

- (45) a. Which linguist criticized yesterday which paper about sluicing
b. ?Some linguist criticized (yesterday) some paper about sluicing, but I don't know
which linguist which paper about sluicing

Finally, rightwards DP movement is well known not to affect the object of a preposition, as first discussed by Ross (1967):¹¹

¹¹ See Drummond, Hornstein and Lasnik 2010 for recent discussion of this constraint.

(46) *A linguist spoke about yesterday a paper on sluicing

Compare:

(47) A linguist criticized yesterday a paper on sluicing

The second wh in multiple sluicing seems subject to the same constraint, though the effect is perhaps less pronounced:

(48) Some linguist spoke about some paper on sluicing, but I don't know which linguist
?*(about) which paper on sluicing

Needless to say, none of these properties hold of standard wh-movement.¹²

I return now to Right Roof effects. As mentioned above, Ross was the first to note this special strict locality constraint on rightwards movement. Interestingly, the core examples Ross gives do not actually motivate the constraint:

(49) *That Sam didn't pick those packages up is possible which are to be mailed tomorrow
[Relative clause extraposition]

(50) a. That a review came out yesterday of this article is catastrophic
b. *That a review came out yesterday is catastrophic of this article
[PP extraposition]

True, these both violate the Right Roof Constraint. But they also both violate Ross's Sentential Subject Constraint, which bars extraction out of a clause that is itself the subject of a clause, as

¹² Larson (2011) notes another dissimilarity between wh-movement and multiple sluicing. For many speakers, the former rather strongly disfavors pied piping:

i. ?*About what were you talking (cf. What were you talking about)

Yet, as seen above, PPs are acceptable (and far preferable to simple DPs) as second survivors.

well. However, there is other evidence for the constraint. For example, a PP complement can rather freely extrapose to the end of its own clause:

(51) Some students spoke yesterday to some professors

But it cannot extrapose out of its own clause into a higher clause:

(52) *Some students said that Mary will speak yesterday to some professors

(Here the temporal adverb guarantees that the extraposition is into the higher clause.) There are certain exemptions. One involves control clauses:

(53) ?Mary wanted to go until yesterday to the public lecture

Again, temporal considerations guarantee that the adverb is in the higher clause.

Significantly, apparent multiple sluicing tracks both the constraint and the exemption quite well:

(54) *Some of the students wanted John to go to some of the lectures, but I'm not sure which to which

(55) ?Some of the students wanted to go to some of the lectures, but I'm not sure which to which

As two reviewers reminded me, Merchant (2001:113 fn 4) points out another exemption to the clause-boundedness constraint on multiple sluicing. An embedded bound pronoun in a finite clause allows for multiple sluicing, as in the following

(56) ?Some of the students thought they would go to some of the lectures, but I'm not sure which to which

Both of those reviewers correctly note that on my account this should correlate with a Right Roof exemption for extraposition. And, in fact, this is just what we find. One reviewer presents the

following example as good, a judgment with which I concur:¹³

(57) Everybody₁ promised he₁’d bring to the potluck, when I asked, something delicious from an ex-French colony.

All of this is quite suggestive that the second *wh* in these multiple constructions has actually undergone extraposition, rather than *wh*-movement.¹⁴ If that is so, there is yet no evidence that overtly moving an item not normally movable is a repairable violation.

Before proceeding, it will be worthwhile to consider the illuminating proposal of Fox and Pesetsky (2003) concerning linearization of syntactic structure. Their approach to some islands and to repair by ellipsis is the most promising I am currently aware of. They argue that some of

¹³ In fact, I noted the correlation in “A Family of Questions”, a 2006 talk I presented at Nanzan University and USC.

¹⁴ Given that the examples of the construction under investigation cited in the literature typically have an argument PP as the second *wh*-phrase, a reviewer raises the question of whether the second *wh*-phrase can be an adverbial. It seems to me that it can, as (i) is reasonably acceptable.

- i. Some students missed class on some holidays, but I’m not sure which students on which holidays

This fact seems neutral between a multiple *wh*-movement account and an extraposition one, since there is no reason to think that adverbials cannot extrapose. Presumably at least one of (ii) and (iii) involves adverb extraposition, and both are acceptable.

- ii. I had a good time in 1977 in London
- iii. I had a good time in London in 1977

the properties of multiple sluicing also follow from that approach. The fundamental idea is that at each spell-out domain, linear ordering statements are added to an ever growing Ordering Table.¹⁵ When ellipsis takes place, it can have a salvation effect by eliminating all statements involving deleted material, including the contradictory statements that can result from moving too far. Island violation repair is one such situation; possibility of multiple wh-fronting is another (similar to the account of Richards mentioned above). But not everything is possible. As Fox and Pesetsky note, when two wh-phrases are not phase mates, they are not ordered directly. Rather, their relative order is determined by transitivity via elements at the edge of the intervening phases. According to Fox and Pesetsky, "If these connecting links are deleted, phonology doesn't know what to do with the remaining elements." Thus, we get a phasemate condition on multiple sluicing, accounting for the clausemate effects seen earlier. There is an important potential difference between this kind of account and the one based on the Right Roof Constraint. The former would allow multiple sluicing even out of an embedded clause, as long as the two wh-phrases both originate in the same embedded clause (at which point their linear ordering would be directly established). The latter would allow no such exemption. Fox and Pesetsky present a pair of examples indicating that the former is correct:

(58) Fred thinks a certain boy talked to a certain girl.

I wish I could remember which boy to what girl

(59) A certain boy said that Fred talked to a certain girl.

*I wish I could remember which boy to what girl

¹⁵ This is fascinatingly reminiscent of the Table of Coreference of Jackendoff 1972, right down to the cyclic construction of the Table.

On the face of it, this pair constitutes strong evidence for the clausemate constraint on multiple sluicing, and against the Right Roof constraint. In both (58) and (59), the second wh-phrase starts off in an embedded clause, so both would violate the Right Roof Constraint. On the other hand, only the latter violates the clausemate constraint, and only the latter is bad. However, I would like to speculate about an alternative account of this data. In particular, suppose that the source of the sluice in (58) is actually (60)a rather than (60)b.¹⁶

- (60) a. I wish I could remember which boy talked to what girl
b. I wish I could remember which boy Fred thinks talked to what girl

This reading (or, as I like to call it, pseudoreading) would require a sort of accommodation, since it was never actually asserted that a boy talked to a girl, merely that Fred thinks that it happened. Suppose we make accommodation more difficult. That is, it isn't much of a discourse leap from Fred thinking X to the speaker assuming X. But if the main verb were, say, deny, accommodation would be essentially impossible. And, correspondingly, multiple sluicing seems considerably less available:

- (61) Fred denied that a certain boy talked to a certain girl.
???I wish I could remember which boy to what girl

Notice that standard simple sluicing is not adversely affected:

- (62) Fred denied that a certain boy talked to a certain girl
a. I wish I could remember which boy

¹⁶ My suggestion is strikingly reminiscent of that of Merchant (2001) for (apparent) repair by sluicing of relative clause island violations. Ironically, I rejected that possibility (for reason that I still think are valid) in Lasnik 2001b.

- b. I wish I could remember what girl

The same pattern emerges with the verb doubt:

(63) Fred doubts that a certain boy talked to a certain girl.

?*I wish I could remember which boy to what girl

(64) Fred doubts that a certain boy talked to a certain girl

- a. I wish I could remember which boy
- b. I wish I could remember what girl

Another potential test involves anaphor binding. The examples are, of necessity, complicated, and the judgments subtle, but I believe they lead in the same general direction. (65) indicates that the remnant remaining after sluicing can contain an anaphor, bound via 'reconstruction', whose antecedent was in the deleted context.

(65) ?John said that some pictures of himself hung on certain walls, but I'm not sure how many pictures of himself

With multiple sluicing, however, acceptability degrades considerably:

(66) ?*John said that some pictures of himself hung on certain walls, but I'm not sure how many pictures of himself on which walls

(66) contrasts with a monoclausal example:

(67) John has hung some pictures of himself on certain walls, but I'm not sure how many pictures of himself on which walls

Once again, this is suggestive of a 'short' source for the apparent instances of sluicing with multiple movement out of an embedded finite clause. To the extent that this is correct, we do seem to be dealing with Right Roof effects.

The rightwards movement account I have advocated of the 'extra' wh survivor in the English construction under consideration raises one further final question that I will outline, but only cursorily discuss. The question involves sluicing situations where there is rightwards movement of a non-wh expression. Consider a case where there is both wh-movement of one item and rightwards focus movement of another:

(68) Who_i did Mary talk to t_i t_j yesterday [about phonology]_j

Now imagine a situation supporting sluicing and focus:

(69) I know who Mary talked to yesterday about phonology,
but I don't know who about semantics

To my ear, this rings false; yet from what I have said so far, it should be as good as core multiple examples like (20) above, repeated as (70).

(70) I know that in each instance one of the girls got something from one of the boys. But they didn't tell me which from which

Possibly the 'normal' rightwards focus site is not high enough to escape deletion under sluicing, and only a WH-element can move high enough (i.e., into essentially the same kind of geometric relation with a wh-Comp that Spec of such a Comp has).¹⁷ As Milan Rezac (personal

¹⁷ Perhaps this high extraposition site is one adjoined to IP. In future research I hope to investigate this question further. I should also note that while I take extraposition to be actual rightwards movement, as in traditional generative grammatical work, a reviewer raises the interesting possibility of restating this into a leftward-movement plus-remnant VP-movement account (in which case the remnant VP-movement step might be bled by ellipsis). It is worth mentioning that one reviewer does not find (69) worse than (70). And, in fact, Larson (2011)

communication) notes, this would reduce the impossibility of successive cyclic movement to the impossibility of wh-movement from a wh-position.

Appendix A: On the Right Roof Constraint

As mentioned in the text, Ross (1967) first noted an asymmetry in movement operations: Rightwards movement is bounded, in the sense that it cannot escape the first containing clause. At the end of the thesis, Ross acknowledges that "This thesis has raised far more questions than it has attempted to answer. Among them are: Why should rules which adjoin terms to the right side of a variable be upward bounded, and not those which adjoin terms to the left of a variable?" Chomsky (1973) offers an account for the asymmetry, in terms of his theory in which all movement is bounded, but can (sometimes) proceed successive cyclically, resulting in the appearance of unbounded movement. Chomsky argues that the "asymmetry of boundedness follows from the asymmetry of the Complementizer Substitution Universal":

- (A1) Only languages with clause-initial COMP permit a COMP-substitution transformation [i.e., wh-movement]

This is the Bresnan (1970) reformulation of the Q-Universal of Baker (1970). For Chomsky, all movement rules are bounded by Subjacency. Chomsky's formulation of Subjacency is such that items that move to COMP escape this boundedness. Further, given other of the Chomsky (1973)

presents such examples as acceptable. To the extent that such judgments are general, the additional mechanism suggested in the text would not be needed. Further investigation is called for here.

conditions, an item in COMP can move upward only to another COMP position. Thus, "it follows that there can be, in effect, unbounded movement [only] to the left by iteration of Complementizer Substitution." To see this in detail, consider that there are three salient derivations potentially available. One is one fell swoop rightwards movement, which will (generally) be straightforwardly excluded by Subjacency. Another involves successive adjunction. This will generally be ruled out by the formulation of Subjacency, which permits escape only via COMP. Finally, successive movement via COMP until a final step of rightwards movement will also be excluded by the requirement that movement from COMP can only be to another COMP.

Needless to say, this account relies on key stipulations. It will therefore be of interest to consider alternatives. Preventing the one fell swoop derivation is the least problematic aspect. Some version of Subjacency (or the Phase Impenetrability Condition) is still relevant. Another possibility is the Fox-Pesetsky approach, though only for situations where the item to be moved is not rightmost in the entire structure to begin with, as far as I can tell. The second sort of derivation mentioned above, successive cyclic leftward movement followed by a final step of rightward movement can be very nicely handled by Fox-Pesetsky. All of the leftward movements will be fine, but the final rightward step will yield linear ordering statements that conflict with those already created. Perhaps most problematic is successive rightwards movement, which might be expected to be just like its mirror image successive leftwards movement. Note that the precedence statements successively created will never be contradicted by later ones.

Here I offer a speculation about that problematic derivation, relating it to abstractly

similar illicit derivations in the realms of wh-movement and A-movement. One long-standing problem with wh-movement is that once a wh-phrase has moved to the Spec of an interrogative C, it can move no further, as illustrated in (A2), where what has moved through the CP, Spec just under wonder.¹⁸

(A2) *What did you wonder [t [John bought t]]

Intuitively, the moving wh-phrase is trying to reach an appropriate position; once it does it is stuck there.

A-movement is known to behave in similar fashion. Overwhelmingly, A-movement from a characteristic Case-checking position is barred:

(A3) *Mary is believed [t is a genius]

(A4) *John seems to t [that Bill is the best candidate]

Chomsky's early description of this sounds like what I just said about (A2):

"... movement is a kind of 'last resort.' An NP is moved only when this is required ... in order to escape a violation of some principle [such as] the Case filter ..."

(Chomsky 1986, p. 143)

A later formulation is even more similar:

"[We must] prevent a nominal phrase that has already satisfied the Case Filter from raising further to do so again in a higher position." (Chomsky 1995, p.280)

Here again, once movement has reached a designated type of position, no further movement (at least of the same type) is possible.

My speculation is that successive cyclic rightwards movement, at least in English, falls

¹⁸ See Lasnik and Saito 1984 and Epstein 1992 for some early discussion.

under the same generalization. Rightwards movement in English is focus movement, as discussed by Rochemont (1980), among many others. Thus, the very first movement will be to the designated position type - focus, so no further (focus) movement will be allowed,¹⁹ just as no further wh-movement was allowed in (A2) and no further A-movement was allowed in (A3) and (A4).

One significant question still remains. I have argued for a rightwards movement account (i.e., of the second wh-phrase) of apparent multiple sluicing in English based on Right Roof effects. However, since sluicing repairs a variety of violations, as discussed earlier, the mystery now is why the Right Roof violation of one fell swoop movement (when the second wh-phrase is originally rightmost in its own clause) cannot be repaired. Possibly all that can be said at this point is that different operations have different repair potential. I will try to do slightly better than that, relating this problem to one that arose in my treatment of overt object shift in Lasnik 2002. There the question was why pseudogapping (which I analyzed as VP ellipsis following A-movement of the survivor) cannot repair overly long A-movement, thereby falsely allowing examples like (A5):

(A5) *Susan thought Mary studied Bulgarian and John did ~~think Mary studied~~ Macedonian

I proposed that this falls under the prohibition of A-movement from a Case position. This was based on the arguments of Lasnik (2001a) that base direct object position is a Case position; raising to Spec of Agr_O is not crucial for accusative Case licensing. Now notice that extraposition is not the only focus strategy in English; focus in situ is also available. But then for

¹⁹ A reviewer notes that this is quite similar in spirit to the “criterial freezing” of Rizzi (2010).

a focused element, even if it does not undergo a short initial step of extraposition, movement to a distant focus position will still be disallowed. The final question is parallel to the final question that arose for my A-movement analysis of pseudogapping: Since direct object begins in a Case position, how is it ever permitted to undergo A-movement to Spec of Agr_O? The parallel question here is: Since a focused element in situ is already in a focus position, how is extraposition ever possible? In both instances, long movement is blocked, but short movement is allowed. My speculation about A-movement can, I believe, carry over to extraposition. The permitted short cases of movement might all be internal to a phase; the banned long cases are all across the boundary of a phase. If all checking within a phase is simultaneous, then just this result obtains.

Appendix B: On the Judgments

Though most of the major judgments reported in this paper have appeared in the literature going back to the 1970's, and, as far as I know, have not been challenged, I admit that they are somewhat delicate. In fact, one skeptical reviewer claims that they are spurious, with multiple sluicing examples in English such as (B1) (presented by Bolinger and then by Richards) being almost completely unacceptable.

(B1) One of the students spoke to one of the professors, but I don't know which to which
This reviewer reports that for him/her the example is not obviously different in status from (B2), an unacceptable instance of the Comp-trace effect.

(B2) She's the kind of girl that you never know if is telling you the truth

The reviewer also ran a small acceptability judgment experiment that apparently confirms his/her

judgments. In particular, 31 subjects were asked to rate on a scale of 1 (completely well formed) to 5 (completely ill-formed) various examples, including (B1) and (B2) above, and also an example (not given in the review) of what the reviewer calls “routine sluicing”. The mean acceptability ratings of these examples were as follows:

(B3)	(B1)	3.2
	(B2)	3.8
	“routine sluicing”	1.4

Prompted by the editors to address this reviewer's concerns about the data, I ran a small experiment of my own, with 29 subjects.²⁰ I sent a list of 12 sentences to my department's ListServ (which mainly includes faculty, staff, graduate students, and undergraduate research assistants). Like the reviewer, I asked for the examples to be rated on a scale of 1 (completely well formed) to 5 (completely ill-formed). My results²¹ were rather different, confirming the usual claims in the literature, at least to the extent that I found (B1), the multiple sluicing example, to be significantly better ($t(52) = 3.97, p < .0002$) than (B2), the Comp-trace example (though still significantly worse than my routine sluicing example (B5); more on this below):

(B4)	(B1)	2.3
	(B2)	3.7
	“routine sluicing”	1.3

(B5) Mary spoke to one of the professors, but I don't know which

²⁰ I am grateful to Jeff Lidz and, especially, Shayne Sloggett, for assistance with the statistical analysis.

²¹ I used a 2-tailed, paired t-test to arrive at the following results.

I also collected data on multiple wh-movement in English, as in (B6) and its minimal pair sluicing variant (B7).

(B6) One of the students spoke to one of the professors, but I don't know which to which spoke

(B7) One of the students spoke to one of the professors, but I don't know which to which

Here too there is confirmation that we are dealing with a real phenomenon:

(B8) (B6) 4.4

(B9) (B7) 2.3

(Apparent) multiple sluicing is far far more acceptable than multiple wh-movement with no ellipsis ($t(52) = 7.3, p < .0001$).

Finally, part of my argument relied on my claim that multiple sluicing in English is much better when the second survivor is a PP than when it is a (simple) DP, so I tested this as well using the following minimal pair:

(B10) Someone talked about something, but I can't remember who about what

(B11) Someone saw something, but I can't remember who what

Once again, the difference was highly significant ($t(52) = 4.65, p < .0001$).

There is still the pesky fact to consider that multiple sluicing in English is marginal, not perfect. On this point, I tend to agree with a conjecture of the skeptical reviewer. He/she suggests that the extraposition operation raising the survivor high enough to escape the ellipsis site is a marked process, since the target position must be much higher than would normally be expected. Further, it is not unreasonable to imagine that different speakers have varying tolerance for this markedness. I am contemplating additional study of this.

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