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Author(s): James McCloskey
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Quantifier Float and *Wh*-Movement in an Irish English

James McCloskey

The English of northwestern Ireland allows quantifier float of a previously undocumented kind in *wh*-questions. The quantifier *all,* though construed with a fronted *wh*-pronoun, may appear in a position considerably to the right of that pronoun. It is argued that *all* so stranded marks a position through which a *wh*-phrase has passed or in which a *wh*-phrase originates. The construction then provides visible evidence for intermediate derivational stages. This evidence is used to develop a new argument for successive cyclicity and to argue for overt object shift in English and for an origin site for subjects strictly within VP and below the object shift position.

Keywords: quantifier float, *wh*-movement, successive cyclicity, object shift, verb raising, VP-internal subjects

1 A Local English

This article examines part of the syntactic system of a local variety of English—a variety spoken in an area west and east of the river Foyle in the northwest of Ireland. The area includes at least Derry city, the Inishowen peninsula, southeast Donegal, and the westernmost parts of counties Tyrone and Derry. At the risk of sacrificing accuracy for brevity, I will call the English(es) spoken in this area *West Ulster English.* West Ulster English is close to the east Ulster variety (called *Belfast English*) described in the important body of work on dialect syntax developed by Alison Henry. The two varieties are, however, distinct in numerous ways—phonological, morphological, and syntactic. In particular, the phenomenon considered here does not occur, as far as I know, in Belfast English.[1]

I would like to dedicate this article to the memory of my teacher Lee Baker, who, among many other things, was the first, I believe, to do theoretical work on the syntax of an Irish variety of English (Baker 1968:66).

Thanks to Sandy Chung, Norbert Hornstein, and Jason Merchant for comments on earlier versions. The research reported on here grew out of conversations with Cathal Doherty. An early version was presented at NELS 26 (Harvard and MIT). Versions were also presented to audiences at the University of California, Santa Cruz, the University of California, Berkeley, and Cornell University. I am especially grateful to three reviewers for *LI* for providing unusually thoughtful and useful critiques of an earlier version. The article was prepared with the help of research funds from the Academic Senate of the University of California, Santa Cruz.

[1] West Ulster English is, or was, my native dialect. The observations presented here, however, derive from work with 15 speakers in all (directly or by proxy). I am particularly grateful to Brian McCloskey, Martin McCloskey, Elizabeth McCloskey, Cathal Doherty, Frank McGuinness, Jonathan Allison, John Dunnion, Elaine Brotherton, Mary McLaughlin, Billy Robinson, Dáithí Sproule, Ciaran Tourish, and Paul McGill for their help. Thanks also to Karen Corrigan and to Alison Henry for their help in delineating the geographical range of the feature.

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Working on local varieties of English is a difficult business (see, e.g., Henry 1995:12–15). The stigmatization that nonstandard varieties are subjected to makes it even more difficult than it usually is to establish reliable data. Luckily, though, the syntactic features I will discuss here have not, as far as I know, been noticed before—by linguists, by speakers, or by the guardians of purity. Since the features have escaped notice, they have also escaped condemnation. Many speakers, in fact, express surprise when it is suggested to them that the features in question are not a part of "Standard" English. This fact has the happy consequence for the linguist that at least some of the difficulties that usually make working on nonstandard varieties so fraught do not apply in the present case.

2 The Phenomenon

The basic observations can be quickly made. Most varieties of English (although not all, it seems) allow questions of the kind shown in (1).

(1) a. What all did you get *t* for Christmas?
b. Who all did you meet *t* when you were in Derry?
c. Where all did they go *t* for their holidays?

Such questions differ from those in (2) in implicating that the answer is a plurality and in insisting on an exhaustive, rather than a partial, listing of the members of the answer set.

(2) a. What did you get *t* for Christmas?
b. Who did you meet *t* when you were in Derry?
c. Where did they go *t* for their holidays?

In addition to (1), though, West Ulster English allows (3).

(3) a. What did you get all for Christmas?
b. Who did you meet all when you were in Derry?
c. Where did they go all for their holidays?

The quantifier *all* in (3a–c) is construed with the interrogative pronoun and not with the subject. That is, the examples in (3) are synonymous (completely so, as far as I have been able to tell) with those in (1).[2] The relationship between the *wh*-pronoun and its associated quantifier is indicated in (3) by means of underlining, a notational device that I will adopt throughout. The effect occurs in both matrix and embedded questions.

(4) a. I don't remember what all I said.
b. I don't remember what I said all.

I will occasionally refer to the construction exemplified in (3) and (4b) as *wh-quantifier float.*

[2] *Why all* and *how all* are both impossible. I suspect that this must ultimately reflect the special denotational properties of *why* and *how*. Szabolcsi and Zwarts (1993) argue that *how* is an element that ranges over domains whose elements exhibit a partial ordering; *who, what, where,* and *when* range over individual domains. For *why,* see their footnote 14. *When all* seems to be marginally possible.

The purpose of the present article is to use this construction as a probe to investigate properties of (long) *wh*-movement and to explore some aspects of clausal organization.

3 Basics

Wh-quantifier float bears a clear family resemblance to quantifier float of the more familiar sort, illustrated in (5).

(5) The children must all have gone to bed.

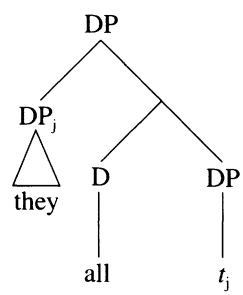
The major difference between (5) and (4b) is that in the former the DP construed with *all* occupies an A-position, whereas in the latter it occupies an Ā-position.

Two principal ways of understanding the syntax of quantifier float have emerged in recent years. One originates in work by Sportiche (1988) and was developed subsequently by him and by others (Giusti 1990, Shlonsky 1991, Sportiche 1996, Merchant 1996). It holds that (5) derives from a representation in which *the children* and *all* form a constituent. The other takes *all* to be an adjoined adverbial element that has the special property that the constituent it adjoins to must contain a trace (Klein 1976, Williams 1980, Kayne 1984:chap. 4, Dowty and Brodie 1984, Miyagawa 1989, Doetjes 1992, Baltin 1995, Torrego 1996, Bobaljik 1995, 1998, Morzycki 1998).

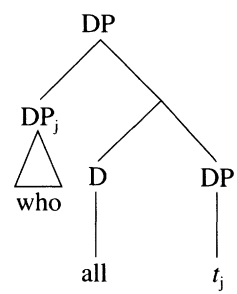
I will develop an approach of the first type here—at least for *wh*-quantifier float—justifying it as the discussion proceeds. Whether this approach is also right for the more familiar A-movement cases is a different question, which I will consider (but only very briefly) in section 7.

Say we begin with the assumption that *who, what, where,* and *when* are pronouns and that the internal structure of, for instance, *who all* is analogous to that of *they all.* Following Postal (1974:111) and Koopman (1999), we might also assume that as (6) illustrates, the order [pronoun quantifier] derives from a structure in which the quantifier precedes the pronoun.

(6) a.

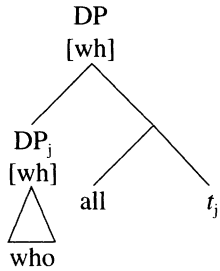


b.



Given (6), phrases like *who all* have an internal structure in which a certain ambiguity of factorization will hold in any potential application of *wh*-movement. The lower DP (*who*) of (6b) evidently bears a *wh*-feature. It should therefore be able to undergo *wh*-movement. But from the grammaticality of (1), we know that movement of the entire phrase *who all* also results in successful checking of the *wh*-feature. Let us for present purposes take the traditional view that this is possible because the *wh*-feature is instantiated both on the specifier *who* and on the dominating DP (*who all*), as in (7).

(7)



If other conditions are met, then, both (1) and (3) should be possible. Prominent among these "other conditions" are the locality requirements on movement. In the theory of locality of movement developed in Chomsky 1995:311, 1998:38, a target K may not attract an element β if there is an element α closer to K than β, which could enter into a legitimate feature-checking relation if raised to K. "Closeness" is defined in terms of asymmetric c-command: α is closer to K than β if K c-commands α, α c-commands β, and β does not c-command α. By this definition, neither one of the two *wh*-DPs of (7) is closer to the target of *wh*-movement than the other, since neither c-commands the other. Both should, then, be accessible to C.[3]

Viewed in this general light, (3) is a grammatical violation of Ross's (1967) Left Branch Constraint. The question arises why (3) is not possible in all varieties of English. I will return to this issue. Note, though, that the phenomenon now falls within the known range of syntactic variation, since we know that some languages permit extraction of a *wh*-specifier, stranding the head, and that some do not (Ross 1967, Bresnan 1976, Uriagereka 1988, Chomsky 1995:263, Aissen 1996, Chung 1998:255–257, 308–313, Kennedy and Merchant 1998).[4]

Finally, I should point out that examples such as (3) have certain very distinctive prosodic characteristics. The sequences *get all* in (3a), *meet all* in (3b), and *go all* in (3c) are prosodic units whose most prominent element is the verb. There is a strong intonational break following this prosodic unit. These facts are discussed in some detail in McCloskey 1998, and an analysis is proposed there. For present purposes, the core observation is that *wh*-quantifier float examples

[3] The idea that, when *wh*-pronouns alone raise, they must pass through the specifier of *all* is in harmony with the body of evidence that some general principle forces movement out of DP to proceed through the specifier position of D (Cinque 1980, Torrego 1986, Stowell 1989, Giorgi and Longobardi 1991, Valois 1991, Szabolcsi 1994, Aissen 1996). The logic of the text discussion does not force this conclusion since it would apply equally well to any *wh*-DP embedded within another. Obligatory extraction through the specifier of DP would be ensured if DPs were "phases" in the sense of Chomsky (1998). This in turn would be guaranteed if phases corresponded to constituents that were saturated, or "closed" in the Fregean sense.

[4] German has a construction that is at least superficially similar to the West Ulster English construction considered here.

(i) Was hast du alles gekauft?
what have you all bought
'What all did you buy?'

The German construction has been studied by Giusti (1991), Beck (1996), Pafel (1996), and Almy (1997) and especially in the very careful and detailed study by Reis (1992). Pesetsky (1998:48) discusses an interpretive parallel between the German and West Ulster English constructions.

are optimal when *all* can be incorporated into a preceding head, preferably a verb. The requirement is not absolute (as we will see), but examples that depart from this optimal pattern are liable to be judged variably—evoking different reactions from different consultants, and different reactions from the same consultant in different sessions.

These observations will be both helpful and unhelpful in the discussion that follows. They will be helpful in the sense that they will provide an account of some of the subtler distinctions that will have to be made. They will be unhelpful in the sense that for the purposes of this article (which are syntactic purposes), the prosodic factors are a source of noise. For any example that departs from full well-formedness, we will have to worry about whether the blemish has its origins in syntactic factors, in prosodic factors, or in some interplay between the two. Settling this is not always straightforward, but arguments can be given, I believe, for most or all of the cases of central interest. The logic of the arguments is familiar and straightforward. In some cases it can be shown that all prosodic requirements are plausibly met but the example type remains ungrammatical. It seems safe to conclude in such cases that the deviance has its origins in syntax. In other cases it can be shown that keeping the syntax constant, but varying the prosodic factors, makes the example type either more or less deviant. In such cases it seems plausible to attribute the varying grammaticality to prosodic factors.

In any case, despite the complexity introduced, the factors are real and need to be faced sooner or later.

4 Stranding under "Long" *Wh*-Movement

If my general line of thought is on the right track, *all* in *wh*-quantifier float should always mark either a position in which *wh*-movement originates or a position through which a *wh*-phrase has passed. A particularly telling confirmation of this prediction is that *all* may mark the intermediate positions posited by the theory of successive-cyclic movement. Consider examples like (8).

(8) a. What all did he say (that) he wanted *t?*
b. What did he say (that) he wanted all?
c. What did he say all (that) he wanted *t?*

All three variants are possible. Speakers are virtually unanimous about this,[5] and there is a preference for (8c) (with intermediate stranding) over (8b) (with stranding in the origin site), although both are clearly grammatical. The possibility of intermediate stranding exists for all the *wh*-pronouns.

(9) a. Where do you think all they'll want to visit *t?*
b. Who did Frank tell you all that they were after *t?*
c. What do they claim all (that) we did *t?*

[5] Two of 15 speakers rejected the intermediate stranding exemplified by (8c)—one consistently, the other intermittently.

It also exists for nonfinite clauses.

(10) a. What were you trying all to say *t?*
b. What did you mean all for me to do *t?*

(11) shows the possibilities that arise for complex structures involving a nonfinite clause within a finite clause.

(11) a. What all did he say that he wanted to buy *t?*
b. What did he say all that he wanted to buy *t?*
c. What did he say that he wanted all to buy *t?*
d. What did he say that he wanted to buy all?

As can be seen in (11b) and (11c), stranding is possible in both the intermediate positions. There is, once again, a dispreference (stronger here than for the two-clause embeddings) for the case in which *all* is stranded in the lowest IP. Finally, (12) illustrates the case of three finite clauses. As usual, such examples tax speakers' patience and credulity; but once again it is clear that stranding of *all* is possible in the two available intermediate positions ((12b) and (12c)). There is again a dispreference for (12d), in which *all* appears in the A-position in which the movement originates.

(12) a. What all do you think (that) he'll say (that) we should buy *t?*
b. What do you think all (that) he'll say (that) we should buy *t?*
c. What do you think (that) he'll say all (that) we should buy *t?*
d. What do you think (that) he'll say (that) we should buy all?

These observations suggest the analysis schematized in (13), in which *all* has been stranded in an intermediate specifier of CP position.[6]

(13) $[_{CP}$ what$_j$ $[_{IP}$ . . . say $[_{CP}[_{DP_i}$ t_j all $t_j]$ that $[_{IP}$ he wanted $t_i]]]]$

Given what we have established so far, this is expected. If the understanding outlined earlier is roughly correct, then the two options available in the origin site of *wh*-movement should also be available at each point in the derivation at which *wh*-movement must (re)apply.[7]

That *all* in such cases is actually in the specifier of CP (rather than adjoined to a VP projection containing CP, for instance) is suggested by the data in (14) and (15). (14) illustrates the case of

[6] Within the context of Chomsky 1998, it is not obvious whether the intermediate strandings documented so far involve movement through the specifier of CP or movement through the outer specifier of *v*P. Both interpretations are available because we will ultimately be led to the view that English has verb raising out of VP, which would place the verb *think* in (12b), for instance, to the left of the specifier of *v*P. However, the paradigms we will examine presently (cf., e.g., the contrast between (14b,d) and (14e)) speak against this interpretation.

[7] It is known that extraction of phrases in the specifier position of a CP complement does not give rise to ungrammaticality (Torrego 1986, Chomsky 1986:25–27, Postal 1997:34–35). In the system of Chomsky 1986, the result follows from the requirement that specifiers of L-marked categories are themselves L-marked.

(i) the guy that we couldn't decide how many pictures of we should buy

Therefore, extraction of the specifier alone (stranding *all*) should be possible in principle. However, see footnote 9.

a verb (*tell*) that selects a DP complement and a CP complement. Stranding of *all* is possible to the right of DP and to the left of C, but not otherwise.

(14) a. What all did he tell him (that) he wanted *t?*
b. What did he tell him all (that) he wanted *t?*
c. *What did he tell all him (that) he wanted *t?*
d. ?What did he tell his friends/Mickey all (that) he wanted *t?*
e. *What did he tell all his friends/Mickey (that) he wanted *t?*

A partially similar array of judgments is seen in (15).

(15) a. What all did he say to him that he wanted to buy *t?*
b. *What did he say all to him that he wanted to buy *t?*
c. ?What did he say to him all that he wanted to buy *t?*
d. ?*What did he say to his friends all that he wanted to buy *t?*
e. *What did he say all to his friends that he wanted to buy *t?*

In this case the selected complements are PP and CP. The differences between (15c) and (15d) (and between those and (14b,d)) seem to be basically prosodic in character, having to do with the relative phonological weight of the material that intervenes between V and the stranded quantifier (see above, and McCloskey 1998).

In sum, the stranding possibilities that are found are those that the general line of analysis proposed here would lead us to expect. *All* in *wh*-quantifier float constructions appears in positions for which there is considerable independent evidence that they are either positions in which *wh*-movement originates or positions through which *wh*-movement passes.[8] We have in these observations a new kind of argument for the successive-cyclic character of long *wh*-movement.[9]

[8] An apparently similar paradigm is found in Standard English with adverbs like *exactly* and *precisely* in uses like those in (i)–(iv).

(i) What precisely do you want?
(ii) Precisely what do you want?
(iii) What exactly do you want?
(iv) Exactly what do you want?

This use of *precisely/exactly* is presumably the same as that found in (v) and (vi).

(v) She made exactly ten trips to France last year.
(vi) She made ten trips exactly to France last year.

The adverb in this use may be separated from the *wh*-phrase with which it is construed.

(vii) What do you want exactly/precisely?

Intermediate placement is also possible.

(viii) What did he say exactly that he wanted?

The interpretive issues here are a little subtle, but it seems relatively clear that the triad consisting of (viii) and (ix)–(x) involves one use of *exactly.*

(ix) What exactly did he say that he wanted?
(x) What did he say that he wanted exactly?

5 Stranding under "Short" *Wh*-Movement

This much established, we can try to understand what happens in apparently simpler cases—cases of clause-bounded *wh*-movement in which *all* appears inside VP.

(16) and (17) show *all* stranded apparently in the canonical object position (i.e., immediately to the right of V, to the left of other complements and adjuncts), however the syntax of that position is best understood.

(16) a. What did you give all to the kids?
b. What did you put all in the drawer?
c. Who did you send all to the shops?
d. What do we need all from the shop?
e. Who did you meet all up the town?

(17) a. Tell me what you got all for Christmas.
b. Tell me what you've been reading all.

Stranding of *all* in positions further to the right within the VP is degraded. This is shown for one class of cases in (18)—cases in which the quantifier is stranded to the right of a clausal complement.

(18) a. Who did he tell all he was going to resign?
b. *Who did he tell he was going to resign all?

Stranding of *all* in a position to the right of adjuncts is also uniformly impossible.

Urban (1999) points out that *just* contrasts with *exactly* and *precisely* in two ways: it may not follow the *wh*-element, and it may not be separated from the *wh*-element.

(xi) Just what do you want?

(xii) *What just do you want?

(xiii) *What do you want just?

This perhaps suggests that the separability of *exactly* and *precisely* depends on the possibility of (i), (iii), and (vi). If *precisely* and *exactly* are heads that take *wh*-phrase complements and that permit optional raising of those complements to their specifier position, then the possibility of stranding in these cases can be understood in the same terms suggested above for *wh-all* phrases. There are difficulties, though. As pointed out by Urban (1999), (xiv) is mysterious on this account.

(xiv) About what do you want to complain exactly?

And as pointed out by a reviewer, the ungrammaticality of (xv) is also suspicious.

(xv) ?*What did he say yesterday exactly that we wanted?

[9] These observations leave all the more mysterious Postal's (1974) observation that (i) is impossible.

(i) *[$_{CP}$ Who do [$_{IP}$ they believe [$_{CP}$ to *t* that [$_{IP}$ the students spoke *t*]]]]?

One possibility is that whatever relation (poorly understood) it is between preposition and governing head that licenses preposition stranding fails to hold in (i).

(19) a. What did she buy all in Derry yesterday?
b. *What did she buy in Derry yesterday all?
c. *What did she buy in Derry all yesterday?

(20) a. What did you do all after school the day?
b. *What did you do after school the day all?
c. *What did you do after school all the day?

This much is fundamentally compatible with what is known about extraction of objects under *wh*-movement. There is presumably no doubt that the "canonical" object position (immediately postverbal) is a position from which *wh*-movement is possible. The ungrammaticality of stranding in a position to the right of adjuncts will follow under either or both of the following assumptions:

(i) The relevant position is not one through which *wh*-movement may pass.

(ii) The relevant position is an adjoined position and therefore phrases that occupy it are islands—extraction of a subpart is impossible but extraction of the adjoined phrase itself is possible.

The ungrammaticality of the relevant examples, however, seems to be much stronger than that of typical adjunct island violations, suggesting perhaps that assumption (ii) is not sufficient as an explanation. Let us, then, adopt hypothesis (i), though with the understanding that nothing large is at stake if (ii) also turns out to play a role.[10]

More importantly, these facts essentially fall into place given the analysis as developed so far.

Now consider the case of verbs with PP complements. Consistent with our general hypothesis, (21) is completely impossible.[11]

(21) a. *Who did you talk all to?
b. *What were you laughing all at?

Stranding of *all* in prepositional object position is slightly degraded when the preposition is adjacent to the verb.[12]

[10] As always, prosodic factors may also play a role in the deviance of (19)/(20b–c). This is clearly not the whole story, though. See footnote 14.

[11] A reviewer points out that the ungrammaticality of (21), if interpreted correctly here, implies that extraction out of PP does not proceed by way of the specifier of PP—a proposal developed originally by Van Riemsdijk (1978) and Baltin (1978).

[12] As pointed out by a reviewer, there is an interesting contrast between (22) (weakly ungrammatical if ungrammatical at all) and the facts of *combien*-extraction in French, which is completely impossible from prepositional objects (Kayne 1981a:97).

(i) *Combien a-t-il parlé avec d' étudiants?
how-many has-he spoken with of students
'How many students did he talk to?'

It seems likely that this contrast is a reflection of whatever makes preposition stranding grammatical in English but ungrammatical in French.

(22) a. ?Who did you talk to all (at the party)?
b. ?Who was he laughing at all?

When another complement intervenes between verb and PP complement, the degree of ungrammaticality by comparison with (22) is more severe.

(23) a. ?Who did you give tea to all?
b. Who all did you give tea to?
c. *Where did you move the books to all?
d. Where all did you move the books to?

Further, if a prosodically substantial preposition follows the verb, there is also a noticeable degradation as compared with (22).

(24) a. Who all were you sitting beside?
b. ?*Who were you sitting beside all?

The contrasts among these various cases are almost certainly best understood in prosodic terms, in that the examples that are most consistently acceptable are those in which the material that intervenes between the verb and the element *all* is sufficiently insubstantial (in prosodic terms) that it can be incorporated into the verb along with *all* (McCloskey 1998). We have seen this effect before (see the discussion of (14)–(15)), and we will see it again.

It is conceivable that the relevant difference between Standard English and West Ulster English (one disallowing and the other allowing *wh*-quantifier float) is that West Ulster English possesses the relevant mechanism of prosodic incorporation but that Standard English does not.[13]

6 The Internal Architecture of VP

6.1 Object Positions

This much seems reasonably coherent, but a number of interesting puzzles remain, among them the following.

We have seen that stranding of *all* is uniformly impossible in a position to the right of VP adjuncts. (25) and (27) contrast starkly with (26) and (28).

(25) What did she buy all in Derry yesterday?

(26) a. *What did she buy in Derry yesterday all?
b. *What did she buy in Derry all yesterday?

[13] The prosodic organization of West Ulster English does seem to be very different from the prosodic organization of Standard English. However, some larger syntactic difference between standard varieties and West Ulster English might be at work in addition, since it is a feature of West Ulster English that prosodically weak function words may appear in a range of right-peripheral positions that are forbidden them in Standard English.

(i) He's wile rich but. (= 'But he's very rich.')

(ii) You're wile thin got. (= 'You've got very thin.')

(27) What did you do all after school the day?

(28) a. *What did you do after school the day all?
b. *What did you do after school all the day?

Earlier we concluded that examples such as (26) and (28) are excluded because the positions marked by *all* are neither positions in which the object originated nor positions into which the object might have been moved by *wh*-movement.[14]

But (26) and (28) contrast with examples such as (29), in which *all* associated with an object is stranded in a position to the right of another complement but to the left of adjuncts.

(29) a. ?What did you put in the drawer all (yesterday)?
b. ?What did you bring to school all (yesterday)?
c. ?Who did you send to the shops all (last night)?

Stranding of *all* in this position yields results that are uniformly worse than in the case of stranding in canonical object position. The relevant examples are not completely unacceptable, however. The annotation ? here means that some speakers reject the sentences outright, whereas others find them relatively acceptable (but degraded in comparison with (3)). There is also considerable variation in speakers' reactions to (29); the same consultant will often react differently on different occasions. The empirical challenge, then, is delicate. What is required is an analysis that will account for the three-way contrast illustrated in (30).

(30) a. What did you put all in the drawer (yesterday)?
b. ?What did you put in the drawer all (yesterday)?
c. *What did you put in the drawer yesterday all?

The elements of an account are already in place. (30c) is syntactically ill formed. As for (30b), we have seen that *all*-stranding is fully grammatical for all speakers only if *all* can be prosodically incorporated into a preceding head—optimally a verb. Structures that depart from this ideal, but meet the purely syntactic conditions on stranding, are of intermediate status—judged variably by different consultants, and by the same consultant at different times. We can attribute the variably degraded status of (30b) to this effect, since in this case the prosodic requirement is not met in its optimal form. (30c) also violates this requirement (see footnote 14).

In sum, then, we can account for the three-way contrast by maintaining that (30a) and (30b) are syntactically well formed, but that (30b) is prosodically nonoptimal. (30c) is syntactically ill formed as well as being prosodically nonoptimal.[15] That much granted, the issue to be addressed is why (30b) and its like meet all the purely syntactic conditions on *all*-stranding. If the earlier

[14] (26) and (28) also violate the prosodic licensing requirement discussed earlier. It is unlikely, though, that this constitutes a complete account of their deviance. It provides no basis for understanding the (sharp) contrast between (26)/(28) on the one hand and (29) below on the other. The account to be developed here categorizes (29) as syntactically well formed but prosodically nonoptimal; it categorizes (26) and (28) as being simultaneously syntactically and prosodically ill formed.

[15] It is also possible that the degraded status of (30b) reflects the same dispreference for distance between *wh*-phrase and *all* that we saw in the discussion of long movement above. Compare the discussion of (8)–(12).

discussion is on track, this must mean that both positions are positions that an object *wh*-phrase may occupy in the course of its derivational career. This consequence is assured if there are in fact two "object positions" in English: one the immediate postverbal position, and the other a position to the right of PP complements. (30a) then represents the case in which *all* is stranded in the leftmost object position; the more degraded examples of the type (30b) are cases in which *all* is stranded in the rightmost object position.

The idea that there might be two such positions is not, of course, new (see especially Kayne 1994:69–78, modifying earlier suggestions advanced in Larson 1988, 1990; also Pesetsky 1989, Johnson 1991, Runner 1995, Koizumi 1993, 1995, Takano 1998; see also Belletti and Shlonsky 1995 for related discussion). We cannot, however, follow Kayne (1994) in identifying this lower object position with the position occupied by phrases that (on traditional analyses) have undergone rightward shifting. "Heavy" objects may appear to the right of adjuncts.

(31) She brought to the meeting at the weekend [$_{DP}$ three hefty reports about local economic conditions and prospects].

Compare (32).

(32) a. What did she bring all to the meeting at the weekend?
b. ?What did she bring to the meeting all at the weekend?
c. *What did she bring to the meeting at the weekend all?

Let us take away from this discussion, then, two propositions:

(i) English has an object position to the right of the position occupied by PP complements but to the left of the positions occupied by adjuncts.

(ii) This is a position out of which movement to an Ā-position is possible (i.e., it is a position that is L-marked, in the terminology of Chomsky 1986).

There is much more to be said about this topic, and more will be said shortly. This will be more easily done, however, once certain other observations are in place.

6.2 Exceptional-Case-Marking Constructions

Postal (1974) and Lasnik and Saito (1991) discuss a range of phenomena that suggest in combination that the exceptional-Case-marking (ECM) subject in English is in a relatively high position—high enough to participate in binding and licensing phenomena involving material within adjuncts attached to the matrix VP. That is, the claim is that (33) and (34) have the same status.

(33) a. The prosecutors proved *absolutely nobody* to be guilty during *any* of the trials.
b. The prosecutors proved *the two defendants* to be guilty in *each other*'s trials.

(34) a. The prosecutors convicted *nobody* during *any* of the trials.
b. The prosecutors convicted *the two defendants* during *each other*'s trials.

Lasnik and Saito (1991) argue that such cases indicate that the ECM subject must have raised to

the accusative position associated with the matrix VP. Otherwise, it would not be sufficiently prominent to enter into binding and licensing relations with elements inside phrases adjoined to the matrix VP. However, they remain ultimately agnostic about whether the required raising takes place overtly or inaudibly. Lasnik (1996) returns to these questions and argues that one must assume overt raising of the ECM subject. The core claim of the paper is that appeal to covert raising to the accusative position is insufficient to account for the binding and licensing facts that were dealt with in the 1991 paper (and in Postal 1974). This is because covert A-movement is known not to expand binding possibilities (Den Dikken 1995).[16]

(35) a. *There seemed to themselves/each other to be at least two candidates well qualified for the position.
b. At least two candidates seemed to themselves/each other to be well qualified for the position.

Nor does covert raising expand licensing configurations for negative polarity items.

(36) a. *There seemed to any of the interviewers to be no candidate properly qualified for the position.
b. No candidate seemed to any of the interviewers to be properly qualified for the position.

If (33) is properly construed as grammatical (or, more accurately, as being as grammatical as (34)), then, the conclusion seems to be forced that raising must be overt.[17]

The binding theory judgments are somewhat delicate, though. What is interesting at this point is that the phenomenon of *all*-stranding in West Ulster English provides a more robust way of adjudicating the issue. Consider (37).

(37) a. I wanted my mother to meet lots of people at the party.
b. I expected my mother to meet lots of people at the party.

There are two ways of thinking about the syntax of the postverbal DP in (37): either it occupies the specifier of the complement IP, or it has raised out of IP to occupy the accusative licensing position of the matrix clause.[18] Consider now what happens if we apply *wh*-movement to a *wh*-

[16] There may be a contrast between A- and Ā-movement in this respect, since Fox (1995), reinterpreting some observations of Fiengo and May (1994), has argued that covert Ā-movement does alter binding possibilities.

[17] The assumption of overt raising also (for better or for worse) removes any doubt about whether or not an object can be properly taken to c-command elements within VP adjuncts. Reinhart (1976, 1983) argues in detail that this possibility does exist.

[18] It is not uncontroversial that verbs like *want* are properly categorized as raising/ECM verbs. However, Postal (1974:176–187), Lasnik and Freidin (1981), and Pesetsky (1982:673–682, 1991:15–38) all present evidence that this is the correct view.

One might want to ask about the status of such uncontroversial raising/ECM verbs as *believe* or *consider* (the B-verbs of Postal 1974) in West Ulster English. These verbs in their raising/ECM use belong to a very formal register, however, and the task of investigating their syntax in a local English raises many fraught methodological issues about register, dialect, and their interaction. I have no confidence that the results of that investigation would be meaningful.

phrase like *who all* from within an ECM complement. Two possibilities emerge as grammatical. (38) is unremarkable.

(38) a. Who all did you want your mother to meet at the party?
b. Who all did you expect your mother to meet at the party?
c. Who all did you force your mother to talk to at the party?

However, (39) is also possible.

(39) a. Who did you want your mother all to meet at the party?
b. Who did you expect your mother all to meet at the party?
c. Who did you force your mother all to talk to at the party?

And (40) is thoroughly excluded.[19]

(40) a. *Who did you want all your mother to meet at the party?
b. *Who did you expect all your mother to meet at the party?
c. *Who did you force all your mother to talk to at the party?

In the case of *for* complements, the pattern is reversed.

(41) a. Who did you arrange all for your mother to meet at the party?
b. *Who did you arrange for your mother all to meet at the party?

The pattern in (41) is understandable in the system as developed so far. In (41a) *all* is stranded in the specifier of CP headed by *for*. (40b) is ungrammatical because there is no position between the specifier of IP (occupied by the DP *your mother*) and the head of IP (occupied by *to*) that could plausibly be interpreted as a stopping-off point for *wh*-movement.

What, then, should we make of (39) and (40)? The contrast between (39)–(40) on the one hand and (41) on the other suggests that the structural differences between the complement of *want* and the complement of *arrange* must go beyond the presence or absence of an overt complementizer. The pattern of contrasts falls into place right away if English (or at least this variety of English) has overt object shift. Given this, we can take *all* in (39) to mark, as usual, one of the positions through which *wh*-movement has passed (the specifier of CP). The DP *your mother* occurs to the left of that position because it has undergone raising to the accusative position of

[19] The task given to consultants to establish these conclusions was a little different from that used in general to establish the data of this article. After it was established that a speaker had the basic construction, he or she was presented with (38) and asked to supply an alternative version of the sentence along the lines already established (i.e., with a stranded *all*). Seven speakers were presented with this task, and all volunteered (39). When presented with the examples in (40), all rejected them. Examples like those in (39) are not fully grammatical for all speakers. We may attribute this to the fact that they too fail to meet the prosodic licensing requirement in the optimal way, since *all* is not adjacent to a verb.

Notice incidentally that in (40) the prosodic licensing requirement is met in the optimal way but the structure is nevertheless strikingly ungrammatical, suggesting once again that appeal to prosodic considerations alone is insufficient for determining the distribution of *all* stranded under *wh*-movement. A similar conclusion emerges from the discussion of extraction from postverbal subject position at (49)–(52) below.

the matrix clause. This interpretation further implies that English has overt verb raising.[20] This seems to be the interpretation of the data that involves the least ad hoc stipulation. If it is correct, then at least this variety of English must have overt object shift and at least some overt verb movement.

6.3 Objects Revisited

If this much is right, then there is an obvious solution for the problem of the two object positions identified by stranded *all*. Given that we now have evidence for both overt object shift and overt verb raising, we can identify the leftmost (immediately postverbal) position with the VP-external accusative position (specifier of Agr_O in many accounts, or the outer specifier of the head that introduces external arguments).

(42) What did you put all in the drawer?

The rightmost position we can identify with the VP-internal thematic position in which the object originates.

(43) ?What did you put in the drawer all?

A consequence of this proposal is that we must assume that the internal organization of VP is a little different from that often assumed. Specifically, the direct object (in these kinds of cases

[20] In addition, movement to an A-position across a CP boundary must be possible. There is independent evidence, though, that this possibility exists: (a) in the existence of verbs in French that select the complementizer *à* or *de* but exhibit raising properties (Perlmutter 1970; but cf. Kayne 1981b:353, fn. 9),

(i) Il commence à pleuvoir.
it begins C rain[− FIN]
'It's starting to rain.'

(ii) Il menace de pleuvoir.
it threatens C rain[− FIN]
'It looks like it might rain.'

(b) in raising across the negative complementizer *gan* in Irish (McCloskey 1984, 1985, Chung and McCloskey 1987, McCloskey and Sells 1988),

(iii) N' fhéadfadh a cuid feola gan *t* a bheith righin.
NEG could its portion flesh C NEG[− FIN] be[− FIN] tough
'Its flesh couldn't but be tough.'

and (c) in raising across *for* in those English varieties that permit *for-to* complements (Henry 1990, 1995).

(iv) He seems for to have left early.

As far as fundamental locality requirements are concerned, the presence of an intervening specifier of CP position should be irrelevant for movement to an A-position. Furthermore, if thematic positions are in principle unavailable as landing sites (Rizzi 1991, Chomsky 1995), then in the structure (v)

(v) [F_{Acc} [$_{VP}$ V [$_{CP}$ C [$_{IP}$ DP I VP]]]]

the specifier of F_{Acc} is the closest available landing site for A-movement of DP. See Pesetsky 1991 for extensive related discussion. However, Norbert Hornstein (personal communication) points out that this interpretation is at odds with Chomsky's (1998) proposal that CP is a "phase" that should block all A-movement across its boundary.

at least) must originate in a position to the right of, and probably as a consequence lower than, the position of the PP complement.[21]

The lower position of the object will go largely undetected, since its higher, postraising position is the one relevant for most relations that depend on relative syntactic prominence (binding of anaphors, binding of pronouns, licensing of negative polarity items, etc.). However, the lower origin of the object might be detectable in the intermediate status of examples such as (44) (Burzio 1981:337–338, nn. 4 and 5).

(44) a. ?She told $[_{DP}$ stories about each other$]_j$ to the children t_j.
b. ?We gave $[_{DP}$ a portrait of herself$]_j$ to the dean$_j$.
c. ??She read $[_{DP}$ each other$_j$'s stories] to the children$_j$.

Given the analysis sketched above, such examples should be well formed to the limited extent that reconstruction for Principle A effects is available under A-movement. That is, their status should be analogous to that of so-called backward binding examples like those in (45) (Postal 1971:188, Jackendoff 1972, Giorgi 1984, Pesetsky 1987, and especially Belletti and Rizzi 1988: 312–319).[22]

(45) a. ?Such claims about each other's positions amazed them.
b. ?Books about themselves often annoy people.
c. ?*Each other's habits annoy them.
d. ?False claims about each other's positions were put about by both candidates.
e. ?*Each other's children seem to them (to be) the smartest.

6.4 Subjects

A number of puzzles arise when we ask how subjects behave under *wh*-quantifier float. We can begin with the observation that *all* associated with an extracted subject may appear (marginally for a minority of speakers) in postverbal position.

(46) a. What happened all at the party last night?
b. Who spoke all at the meeting last night?
c. Who was fighting all at the party?
d. Who was laughing all when the groom was making his speech?

Notice that the possibility holds both for unaccusative predicates like *happen* in (46a) and for the unergative predicates seen in (46b–d). In passives also, stranding in the postverbal position is possible.

(47) a. Who was arrested all in Duke St.?
b. What was said all at the meeting?

[21] For these cases at least. It is perfectly possible that different verb types, with different thematic properties, would project VPs with different patterns of internal organization.

[22] Pesetsky (1995:221–222) makes similar observations and draws conclusions that are similar in spirit, though they are developed within a rather different framework of assumptions.

The logic of preceding sections suggests that *all* in (47) and (46) marks either a position in which the *wh*-subject originates or one through which it has passed. Read in this way, (46) suggests the existence of a subject position to the right of the surface position of the main verb.

What is this subject position? There seem to be two options. Either it is a right specifier in VP (with no implications for the scope of verb movement in English), or it is a left specifier and verb movement has applied to raise the verb to a position to its left (Pesetsky 1989, Johnson 1991, Koizumi 1993, 1995, Runner 1995, Lasnik 1995, 1996, Bošković 1997, Takano 1998)—the latter being the only option available in the framework of Kayne (1994), which does not countenance rightward specifiers.

Since the proposed analysis of object positions already commits us to the existence of short verb raising in English, we are free to assume that the thematic position for subjects is a left specifier.

To establish what exactly this position is, though, one would want to know what position the subject occupies in relation to other elements of the VP—objects and PP complements especially. Consider objects first.

If English has overt object shift and raising of V to a position outside VP, and if West Ulster English also allows stranding of *all* in a VP-internal subject position, then a straightforward prediction emerges. There should exist structures like (48), in which the object has raised out of VP, V has also raised out of VP, and *all* is stranded in the subject position inside VP.

(48) [*wh*-DP_{Subj} V DP_{Obj} [$_{VP}$[$_{DP}$ t_{Subj} all] t_V t_{Obj} (XP)]]

Testing this prediction is complicated by a number of factors, one familiar from the present discussion, another from the literature on Romance syntax. Consider the contrasts in (49)–(52).

(49) a. Who all built this house?
b. *Who built all this house?
c. ?Who built this house all?

(50) a. Who all likes toffee?
b. *Who likes all toffee?
c. ?Who likes toffee all?

(51) a. Who all'd like tea?
b. *Who'd like all tea?
c. Who'd like tea all?

(52) a. Who all was throwin' stones (around Butchers' Gate) (yesterday)?
b. *Who was throwin' all stones (around Butchers' Gate) (yesterday)?
c. Who was throwin' stones all (around Butchers' Gate) (yesterday)?
d. *Who was throwin' stones around Butchers' Gate all yesterday?
e. *Who was throwin' stones around Butchers' Gate yesterday all?

The (c) examples are not all perfect (presumably because they do not meet the prosodic licensing requirement in the optimal way), but the contrast between the (c) examples and the (b) examples

is stark.[23] Examples of the (c) type approach total well-formedness under two conditions. First, they improve if the object is part of a collocation or idiom in combination with the verb—an effect very reminiscent of the transitivity effect on postverbal subjects in French and some other Romance languages (Kayne 1972 and much subsequent work). (53c) and (54c) are close to perfect and contrast very sharply with (53b) and (54b).[24]

(53) a. Who all changed their mind?
b. *Who changed all their mind?
c. ?Who changed their mind all?

(54) a. Who all did their nut at the meetin' last night?
b. *Who did all their nut at the meetin' last night?
c. ?Who did their nut all at the meetin' last night?

Second, they improve if the object that separates stranded *all* from the verb has little prosodic substance; compare (49c) with the (c) examples of (50)–(52). If the object is an unstressed pronoun, examples of the relevant type are essentially perfect.[25]

(55) a. Who all read it this morning?
b. *Who read all it this morning?
c. Who read it all this morning?

In summary, the patterns correspond closely to expectation, as long as we factor in the prosodic concerns that have played a role throughout, as well as some factors familiar (but little understood) from the study of postverbal subject constructions in Romance.

Finally, PP complements (in contrast with direct objects) prefer to follow a stranded subject *all*.[26]

(56) a. Who all was talking to the kids last night?
b. *Who was talking to the kids all last night?
c. *Who was talking to him all last night?
d. ?Who was talking all to the kids last night?

(57) a. Who all was arguing with the girls last night?
b. *Who was arguing with the boys all last night?

[23] Note that, although the (b) examples of (49)–(52) meet the prosodic licensing requirement in the optimal way (since *all* may incorporate into V), they are thoroughly ungrammatical (suggesting once more that prosodic considerations do not alone determine the distribution of stranded *all;* compare the discussion of ECM cases in footnote 19).

[24] The idiom in (54) is *do one's nut,* which means roughly 'go crazy, lose it'.

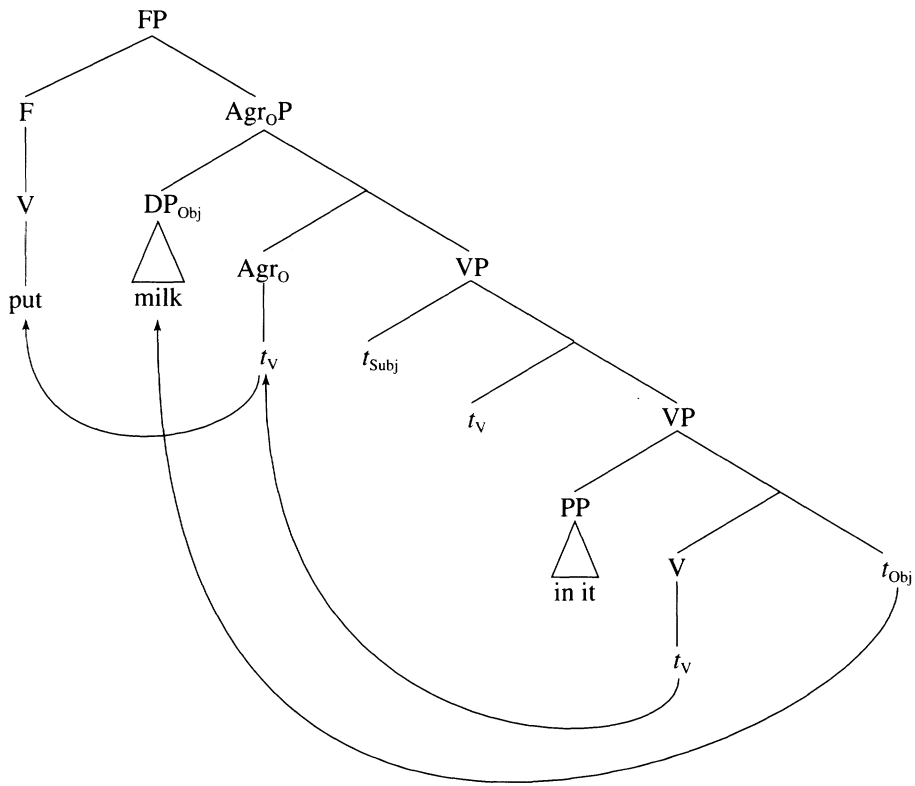
[25] Of course, (55c) is ambiguous, since, in addition to being parsed as indicated by the underlining, it can be parsed with *it all* as a constituent—a direct object.

[26] Note that substituting prosodically light PPs (as in (56c) and (57c)) for the prosodically heavier PPs in (56b) and (57b) does not improve matters, suggesting again that prosodic factors alone are insufficient to account for these facts. This is particularly clear when these facts are compared with the facts of (29), involving object extraction. If the proposed interpretation of (29) is right, then prosodic factors alone cannot account for the degree of deviance seen in (56b–c) and (57b–c).

c. *Who was arguing with him all last night?
d. Who was arguing all with the boys last night?

What these observations in combination suggest is an internal organization for VP like that schematized in (58). The higher V of (58) is the element that introduces the external argument, and the lower V is the element that introduces internal arguments (Hale and Keyser 1993, Chomsky 1993, 1995, Kratzer 1994, 1996). (58) assumes an independent projection for the licensing of accusative DP (Agr_O), but this is clearly not a crucial assumption. For an alternative view, see Chomsky 1995:348ff., 1998.

(58)



One important property of this combination of proposals is that it is incompatible with the so-called split-VP hypothesis (see especially Travis 1992, Koizumi 1995, Harley 1995), according to which the thematic position in which subjects originate is outside VP and is higher than the target position for object shift. If the proposals here are correct, then the thematic "layer" is wholly contained within the inflectional "layer" of the clause, and the evidence that suggests the split-VP hypothesis will need to be reassessed.[27]

[27] For additional evidence bearing on the issue, see Jonas 1996:170–171, fns. 5 and 6, McCloskey 1997. See also Chomsky 1998.

It is possible in principle that all of these conclusions about the architecture of VP hold only for West Ulster English and that they reveal nothing about other varieties of English. The detailed evidence we have drawn on here is available only in West Ulster English. However, none of the core facts about VP structure (the facts of constituent order, adverb placement, auxiliary placement, the syntax of negation, ellipsis patterns, etc.) distinguish West Ulster English from, say, Standard English. It is surely unlikely, then, that speakers of Standard English and speakers of West Ulster English could arrive at fundamentally different grammars in the course of linguistic maturation. The formative evidence available to both groups of speakers must be essentially identical.[28]

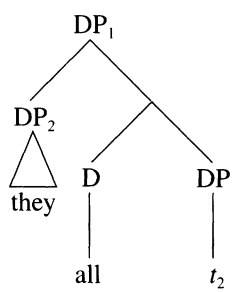
7 Ā-Movement, A-Movement, and Quantifier Float

The logic of the mechanism that allows both (1) and (3) draws no distinction between cases in which the target of movement is an Ā-position and cases in which the target of movement is an A-position. That being so, the same mechanism straightforwardly accounts for familiar cases of quantifier float, such as those seen in (59).

(59) a. They might all have been laughing.
b. They have all been laughing.
c. They were all laughing.
d. They were all arrested last night.

The structure of a phrase like *they all* or *they both* is plausibly (60).

(60)



That being so, either the lower or the higher DP will be able to raise when attracted by some higher head.

Analyses of this general type, since they were originated by Sportiche (1988), have been widely but by no means universally accepted; for critical discussion of the approach, and for alternative proposals, see Klein 1976, Williams 1980, Kayne 1984:chap. 4, Dowty and Brodie 1984, Doetjes 1992, Baltin 1995, Torrego 1996, Bobaljik 1995, 1998, Morzycki 1998.

[28] I assume that observations about *wh*-quantifier float could not form part of the primary linguistic data. Since I first began working on the topic four or five years ago, I have not come across a single example in spontaneous use. Of course, this observation deepens the puzzle of how the construction itself is acquired by speakers of West Ulster English, but not by speakers of standard varieties. For tentative suggestions, see the final paragraph of section 5.

One of the sources of skepticism about this line of analysis has been its inability to provide any way of understanding a well-known, but poorly understood, restriction that severely limits the range of positions in which the floating quantifier may appear. Compare (59) with (61).

(61) a. *They have gone all to bed.
b. *They were arrested all last night.
c. *They froze all during the winter.
d. *They were spoken to all after class.

On the movement analysis, it is not obvious why (61) should be impossible.

Now West Ulster English is not different from other varieties of English in this. The pattern of grammaticality and ungrammaticality seen in (59) and (61) is replicated exactly in this variety. This observation gives rise to a number of puzzles that I want to try to say something about in this final section.

We need, in the first place, an account of the restrictions seen in (61).[29] To make the necessary distinctions, we need either

(i) an account that disallows an A-movement derivation for (59) and (61) and provides some alternative way of understanding (59), or

(ii) an account that allows an A-movement derivation for (59), but not for (61).

Since either one of these approaches would be compatible with most of what I have argued for in this article, and since I have nothing to add to the debate concerning (61), I will leave the matter here. At this point, though, a distinct but related puzzle presents itself—one that arises no matter what the correct explanation for the contrast between (59) and (61) turns out to be.

Consider an instance of stranding in the postverbal subject position.

(62) Who was throwing stones all around Butchers' Gate?

As we have just seen, stranding in this position is illegal under A-movement.

(63) *They were throwing stones all around Butchers' Gate.

It follows from this observation that in (62) *who* must move directly from the VP-internal position to the specifier of CP position. Movement of *who* from the VP-internal position to the specifier of IP would be indistinguishable[30] from the movement that gives rise to (63) and would therefore result in ungrammaticality of the same type and of the same source as (63) (whatever that may be).[31]

[29] The issue arises even if some alternative (nonmovement) analysis is offered for grammatical instances of quantifier float. Say we analyzed the use of *all* found in (59) as an adjoined adverbial element. It would still be true that the mechanisms considered here would provide well-formed movement derivations for all of the examples in (59) and (61).

[30] Indistinguishable, at least, at its point of application. I assume that derivational "look-ahead" is impossible. Thus, there is no way to know, at the point of application of A-movement in (62), that it will be followed by an application of *wh*-movement at a subsequent point in the derivation.

[31] The contrast between (62) and (63) remains if we abandon the movement analysis of *wh*-quantifier float. If in

From one perspective, this conclusion is unsurprising. Movement from the postverbal position directly to the specifier of CP has been well established for the null subject languages since the discussion initiated by Rizzi (1982) and the detailed supporting evidence provided subsequently by others (see Jaeggli 1982, 1985, Burzio 1986, Brandi and Cordin 1989, Kenstowicz 1989, Rizzi 1990, Poletto 1993, Campos 1997). *Wh*-movement of (a subpart of) the subject in (62) is the West Ulster English equivalent of *wh*-movement from the postverbal subject position in Italian.

More puzzling, though, is the status of those factors (e.g., the EPP) that would normally make raising of the subject to the specifier of TP obligatory. How are EPP (Extended Projection Principle) requirements satisfied in (62), if *who* moves directly to the specifier of CP, without passing through the specifier of TP? In minimalist terms, this is a question about the very intractable issue of what it means for a movement-inducing feature to be "strong." The question for us arises both for whatever feature or features lie behind obligatory raising of the subject (EPP, subject-verb agreement, nominative licensing, etc.) and for the feature or features that license accusative Case. Given our earlier discussion, this feature must also be "strong," forcing overt object shift.

A place to start in unraveling this puzzle is with the observation that there is probably no legal derivation that includes a step in which the interrogative pronoun moves from the specifier position of *all* to an A-position. The interrogative pronoun bears the *wh*-feature. Its move into the specifier position of *all,* if not itself triggered by the presence of a *wh*-feature on the head *all,* will, on plausible assumptions, result in that head acquiring the *wh*-feature (cf. Hendrick 1990, Kennedy and Merchant 1998). This will in turn mean that that position is an Ā-position when occupied by *who, what, when,* or *where.* Any further movement from this position to an A-position will as a result be an instance of improper movement and will be ill formed.

To more clearly see what is at stake, consider possible derivations of the grammatical examples in (64).

(64) a. Who all was throwing stones in Guildhall Square?
b. Who was throwing stones all in Guildhall Square?

The initial stages of the derivations can be schematized as in (65). At this point features of T are crucial in determining what happens next, and features within the complex DP *who all* are the elements with which those features will interact.

One possibility is that *who all* would raise to the specifier of TP and subsequently on to the specifier of CP, yielding (64a).[32]

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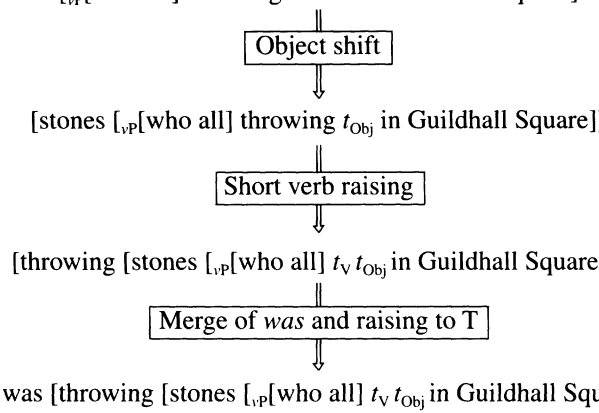
wh-quantifier float *all* is (also) taken to be an adjoined adverbial, we still need an account of why it may be adjoined to the right of the object in (62) (in the presence of an Ā-trace), but not in (63) (in the presence of an A-trace). The conclusion still seems to be forced that *wh*-movement must proceed directly from the thematic position in (62). If there were an A-trace associated with *all* in (62), the structure would be locally indistinguishable from (63) and as a consequence would be expected to be ungrammatical.

[32] It should also be possible (in all varieties of English) to strand *all* in one of the A-position specifiers of the inflectional system and raise *who* alone ultimately to the specifier of CP, yielding (i),

(65) $[_{vP}$[who all] throwing stones in Guildhall Square]



If, on the other hand, T targets (the features of) *who* alone, a potential difficulty arises. Movement of *who* to the specifier of T would be illegal—an instance of improper movement. In addition, the impossibility of such movement is locally determinable. It must be, then, that the unavailability of this derivation licenses an alternative in which T and *who* enter into an agreement relation without associated (visible) movement. Following introduction of C bearing the *wh*-feature, *who* raises to its specifier position and the derivation proceeds by way of Ā-movement.[33] The possibility of this kind of derivational opening is expected if we adopt certain aspects of the framework of Frampton and Gutmann (1999), specifically if we adopt (66) (Frampton and Gutmann 1999:3).

(66) A derivation consists of a sequence of cycles, each of which is of the following form:
   a. (Select) A new lexical item is introduced. It selects its arguments and is merged with them.
   b. (Satisfy) The features of this newly introduced head are satisfied as fully as possible by checking (which induces overt movement whenever possible).

(i) Who was all throwing stones in Guildhall Square?

analogous to (ii).

(ii) They were all throwing stones in Guildhall Square.

However, reactions to such examples vary in ways that I do not understand. Most informants I have consulted reject (i) and examples like it. Not all do, however, and two anonymous reviewers report that they are fully grammatical. I have also heard at least two examples in actual use: (iii) from a teenage speaker of West Ulster English, and (iv) from a middle-aged Californian.

(iii) Who was all down?

(iv) And the VP keeps me informed of what's all been happening.

I have no idea what to make of this. Perhaps, as suggested by a reviewer, the difficulty here has its source in an "agreement conundrum," *who* forcing singular agreement, but *all* suggesting plural agreement.

[33] If an expletive is included in the initial lexical array, then of course other, more straightforward, possibilities come into play.

(i) Who was there throwing stones all down the town?

The essential content of (66) is the claim that movement is, in general, a preferred option, but that if movement should result in a locally detectable problem, then feature satisfaction without movement becomes possible. In the case of (64b) ((62)), when T is introduced, its features must be satisfied as fully as possible. Satisfaction of the features of T will depend on features of the subject DP, or of *who* in the specifier position of the subject. If T enters into a checking relation with the entire subject *who all,* movement (raising of *who all*) is unproblematical. On the other hand, if T enters into a checking relation with the specifier *who,* overt movement is impossible because, as we have seen, it would result in a (locally determinable) violation: improper movement from an Ā- to an A-position. When C is subsequently introduced, *who* is free to move overtly to its specifier, resulting ultimately in (64b) ((62)).[34]

8 Conclusion

A number of problems and mysteries of course remain. But most of the fundamental properties of the construction we have been concerned with fall into place reasonably naturally given the view of the internal architecture of VP and the theory of movement that we have been led to.

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[34] A reviewer suggests a connection between these facts and the celebrated English/French paradigm in (i)–(iv), discovered and discussed by Kayne (1980).

(i) *I assure you Chris to be the most competent.

(ii) ?Who can you assure me to be competent?

(iii) *Marie croit Jean être intelligent.
Marie believes Jean be[−FIN] intelligent.
'Marie believes Jean to be intelligent.'

(iv) Jean, que Marie croit être intelligent . . .
Jean C Marie believes be[−FIN] intelligent.
'Jean, who Marie believes to be intelligent . . .'

The well-formedness of (ii) and (iv) in contrast to the deviance of (i) and (iii) is mysterious in that their derivations will involve (on usual assumptions) intermediate stages that are indistinguishable in relevant respects from (i) and (iii). Somehow the extra step of *wh*-movement ameliorates or eliminates whatever goes wrong in (i) and (iii). One might think about the contrast between (62) and (63) in the same terms: A-movement to the specifier of TP is itself ungrammatical (hence the ill-formedness of (63)), but the derivation is saved by a subsequent application of *wh*-movement (hence (62)).

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Department of Linguistics
University of California, Santa Cruz
Santa Cruz, California 95064

mcclosk@ling.ucsc.edu