Movement and Silence

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PREFACE

This collection of recent essays (arranged in order of composition) has running strongly through it both comparative syntax, which uses differences between languages as a new and fine-grained tool for illuminating properties of the human language faculty, and antisymmetry, a restrictive proposal concerning the set of structures available to the language faculty. The essays address a series of questions having to do with the central notion of movement in syntax, especially remnant movement (a type of movement given special prominence by antisymmetry), and a series of questions revolving around silent elements (especially nouns and adjectives) that, despite their lack of phonetic realization, seem to have an important role in the syntax of all languages.

Chapter 1, written in collaboration with Jean-Yves Pollock, is a study of certain French sentences in which the subject follows the verb. In our analysis, multiple leftward movements interact in such a way as to provide accounts for various phenomena that were not understood in an earlier framework countenancing rightward movement. A close comparison of this chapter with our earlier (1978) work on the same topic will reveal how much progress the field has made in the intervening years.

Chapter 2 continues the debate concerning leftward versus rightward movements in the context of a proposal by James McCloskey about Irish. I try to show, by bringing in considerations from Amharic and from certain English focus constructions, that his Irish data are compatible with a theory of universal grammar (UG) in which no rightward movement of any kind is countenanced.

Chapter 3 is concerned with microcomparative syntax, in the form of a review of a 1994 collection of essays by Paola Benincà, whose work has shown how Italian

dialect syntax can provide an invaluable window on aspects of UG that might have gone unnoticed in work restricted to the best-known Romance languages. Although the discussion is limited to Romance, the point clearly extends to other families as well.

Comparative syntax plays a role in chapter 4, in the study of various instances of *there*. I argue that *there* is not itself intrinsically locative; in its locative uses, it cooccurs with an unpronounced noun PLACE (which is locative). This allows assimilating (apparently) locative *there* to the evidently non-locative *there* of (archaic English) *They spoke thereof*, and similarly for Dutch and German, which have a very productive use of *there*+P. Granting that the preposition itself in such cases can in some languages be unpronounced, we can bring directly into the fold the evidently non-locative uses in French and Italian of the apparently locative clitics *y* and *ci*.

In chapter 5, I focus on the relation between prepositions and movement, arguing that in at least some cases—in particular, in causatives—what we think of as the argument of a preposition comes together with it as the result of movement (or internal Merge), not as the result of external Merge. The prepositions in question are introduced above VP, and are paired with a K(ase) head that is also introduced above VP, in a way that may be parallel to recent work by Dominique Sportiche on determiners.

Chapter 6 takes the position that the antecedent–pronoun relation must involve a movement relation, in a way partially similar to recent work by John O'Neil and Norbert Hornstein. Taking this position to the extreme leads to the conclusion that accidental coreference in the sense of Howard Lasnik has a much narrower part to play in UG than has been thought. The movement approach pursued here eliminates Condition C as a primitive component of UG and has Condition B being more fundamental than is often thought.

Chapter 7 returns to the question of prepositions, pursuing the argument in favor of an above-VP source for some of them. Certain quantifier movements must then be reanalyzed as instances of remnant movement, as had been suggested for some cases in earlier work by Antonia Androutsopoulou and Michal Starke. This chapter contains, in addition, an extended argument in favor of the presence of unpronounced elements such as AMOUNT and NUMBER and MUCH and MANY, both in French and in English.

A more detailed analysis of these unpronounced elements (and others such as GOOD and VERY) is given in chapter 8 in the context of a discussion of English *few*, *little*, *many*, *much*, and *numerous*.

Antisymmetry is the central thread of chapter 9, which broadens the class of cross-linguistic gaps claimed to follow from antisymmetry. This chapter also returns to the question of prepositions, by addressing the question of how the syntax of postpositions is to be integrated into the above-VP/internal Merge approach. The proposal is that sentences with postpositions contain an extra double of P that sentences with prepositions lack; if this is correct, the difference between prepositional and postpositional sentences has something in common with cross-linguistic differences concerning clitic doubling (which also is discussed in chapter 6).

Chapter 10 broadens the class of silent elements by investigating the syntax of expressions of age and time. English sentences like *At the age of seven, John* . . . and

It's already past six are argued to contain unpronounced YEAR(S) and unpronounced HOUR(S), respectively. Differences in this area of syntax between English and French or Italian may, in the spirit of comparative syntax work, be relatable to independent differences concerning number agreement.

Agreement (between subject and verb) is the topic of the first half of chapter 11, in which a silent auxiliary has an important role in a certain nonstandard English construction first discussed by John Kimball and Judith Aissen. The second half of chapter 11 takes up Heavy-NP Shift from the leftward movement perspective introduced by Richard Larson and developed further by Marcel den Dikken. I argue that the absence of Heavy-NP Shift in some SVO languages (such as Haitian) can be understood in terms of a remnant movement approach that makes use of Dominique Sportiche's idea that D can be introduced outside of VP.

Chapter 12 is in part a general essay on comparative syntax and in part an attempt to pin down the parameters underlying some very fine-grained differences (in the area of quantity words, as in chapters 7 and 8) between English and French. One type of parameter proposed involves the choice between pronouncing and leaving silent a particular functional element. In section 5 of this chapter, I come back to the question of adpositions, whose derivations suggest the possibility that some movement may be "closeness-driven" rather than "feature-driven."

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In collaboration with Jean-Yves Pollock

New Thoughts
on Stylistic Inversion

"Stylistic Inversion," henceforth SI (for Stylistic Inversion, or more neutrally, non-clitic [see sec. 1.2] Subject-related Inversion, is the (unfortunate[1]) term used in the generative literature over the past twenty-five years to refer to the syntactic computation(s) that are responsible for the postverbal position of the subject DP in French sentences like (1a,b):

(1) a. A qui a téléphoné ton ami? ('to whom has telephoned your friend')
     b. l'homme à qui a téléphoné ton ami ('the man to whom has telephoned your friend')

Unlike many other Romance languages, French only allows a limited set of sentence types to take postverbal subjects; thus (2a,b,c) are sharply ungrammatical, unlike their counterparts in Italian or Spanish:

(2) a. *A téléphoné ton ami. ('has telephoned your friend')
     b. *J'ignore si a téléphoné ton ami. ('I don't-know if has telephoned your friend')
     c. *A téléphoné ton ami?

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1. Unfortunate because it lends itself to being interpreted as stating that the computations responsible for SI are "stylistic" in Chomsky and Lasnik's (1977, 431) or Rochemont's (1978) sense. Nor should SI be ascribed to the PF component of Chomsky's (1995) minimalist program. Most of the syntactic and interpretive properties of postverbal subjects discussed in this chapter would remain mysterious under any such approach.

The terminology was originally introduced in Kayne (1972, 73) to reflect the fact that the "heaviness" of the postverbal subject sometimes plays a part in the felicitousness of the construction; cf. (166). For a perhaps relevant discussion of heaviness, see Kayne (1998b).

3

Defining precisely the syntactic contexts for SI was the chief goal of early generative work on SI (e.g., Kayne 1972, Kayne and Pollock 1978).[2] Abstracting away from technical details, that work stated that lexical or nonlexical Wh-words and phrases in the left periphery of interrogatives, relatives, exclamatives, and clefts made SI possible, as in (3a–d) and (because of successive cyclicity [see sec. 1.18 below]) (3e):

(3) a. A qui a téléphoné ton ami? (= (1a))
     b. l'homme à qui a téléphoné ton ami (= (1b))
     c. Quel beau visage a cette personne! ('what nice face has this person')
     d. C'est à Jean qu'a téléphoné ton ami. ('it's to John that has phoned your friend')
     e. A qui dis-tu qu'a téléphoné ton ami? ('to whom say you that has telephoned your friend')

On the view that there is no covert Wh-element in (2b,c),[3] those examples illustrate the fact that yes/no questions, whether embedded or root, disallow SI.

In addition to Wh-contexts, a few other syntactic environments make SI possible, some of which are given in (4):

(4) a. Je souhaiterais que téléphone ton ami. ('I would-wish that telephone(subjunc.) your friend')
     b. Qu'ait téléphoné ton ami me surprend. ('that has(subjunc.) telephoned your friend surprises me')
     c. N'a téléphoné que ton ami. ('neg. has telephoned than your friend' = Only your friend has telephoned.)

The complement clause of verbs like *souhaiter* in (4a) and the subject clause of (4b) allow for SI. This is to be tied to the fact that they are in the subjunctive. Some attention has been paid to this instance of SI over the years (see, e.g., Kayne and Pollock 1978, sec. 3, Déprez 1989, Pollock 1986, Kampers-Mahne 1998). The *neque* case of (4c) has received less attention (cf. Pollock 1985, sec. 2).

We return later to some of the issues raised by (3)–(4) and attempt to integrate them with others such as the following:

(5) a. *Qu'a mangé il? ('what has eaten he')
     b. ??Qu'a mangé quelqu'un?[4] ('what has eaten someone')
     c. ?*le jour où en ont téléphoné trois ('the day when of-them have telephoned three')
     d. *Le livre que n'ont pas lu de linguistes, c'est le mien! ('the book that neg. have not read of linguists, it's (the) mine')
     e. ?*Le livre qu'ont peu lu de linguistes, c'est le mien. ('the book that have few read of linguists, it's mine)

2. See also Kayne (1986), Pollock (1986), Déprez (1989; 1990), Friedemann (1997).
3. This view—on which, see Kayne (1972, 77)—is not compatible with the idea that yes/no questions contain a null counterpart of a Wh-phrase, as in much work making use of Rizzi's (1996) "Wh-criterion," unless that null operator belongs to the same class as those Wh-phrases that disallow SI. See (115)–(118).
4. See Cornulier (1974, 185) and Kupferman (1983).

Example (5a) illustrates the sharp incompatibility between SI and subject clitics, (5b) a less sharp incompatibility between SI and certain kinds of indefinite subjects. Examples (5c–e) illustrate the fact that the postverbal subject in SI is subject to restrictions concerning what can be "missing" from it; (5c) shows that the clitic *en* cannot be extracted from within the postverbal subject, (5d,e) that the postverbal subject cannot be of the *de*-NP type licensed by negation or certain quantifiers.

1.1. Proposal

Alongside the ungrammatical examples of (2), we have the grammatical examples of (6), with canonical French word order:

(6)   a. Ton ami a téléphoné.
       b. J'ignore si ton ami a téléphoné.
       c. Ton ami a téléphoné?

The idea that SI sentences such as those of (3) and (4) show noncanonical word order is uncontroversial. The question is how best to account for it.

We follow Kayne's (1994) claim that universal grammar (UG) allows no rightward adjunction and no right-hand Specs. Therefore the postverbal subject in SI cannot be in a right-adjoined position, nor can it be a right-hand Spec. If this is correct, then the postverbal subject must be in some left-hand Spec position (cf. in part Déprez 1989), and the verb must end up still further to the left.

We try to demonstrate, on the one hand, that in SI the postverbal subject is actually in a high (rather than low) Spec position. We argue, on the other hand, that the verb gets to the left of the subject DP via phrasal movement (rather than by head movement).

1.2. The position of the postverbal subject

If the Spec position occupied by the postverbal subject were low, then the postverbal subject would be in that respect similar to an object. In fact, to a significant (but nonetheless partial) extent, the postverbal SI subject is incompatible with a postverbal object:

(7)   *A qui a montré mon article ton ami? ('to whom has shown my article your friend')

(8)   *A qui a montré ton ami mon article?

This led Emonds (1976, 90)[5] to suggest that the postverbal SI subject is actually moved to object position.

Abstracting away from the question of movement to, as opposed to generation in, object position, we note that there are several lines of argument that converge

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    5. See also Legendre (1998).

toward the conclusion that the status of (7) and (8) is not representative and that postverbal SI subjects are, in fact, substantially different from objects.

Of immediate relevance is the observation that while postverbal SI subjects are generally incompatible with a postverbal lexical object,[6] they are not incompatible with a postverbal idiomatic object:

(9) a. Depuis quelle heure ont faim les enfants? ('since what time have hunger the kids')
     b. A quelle pièce donne accès cette clé? ('to what room gives access this key')
     c. Quand ont pris langue Paul et Marie? ('when have taken tongue P and M' = When did P and M discuss the issue?)

This is particularly striking in that such idiomatic objects act like ordinary direct objects with respect to dativization of the infinitival subject in causatives:

(10) a. Cela fera avoir faim *(à) Marie. ('that will-make have-infin. hunger to M')
      b. Cela fera prendre langue *(à) Marie et Paul. ('that will-make take-infin. tongue to M and P')

The obligatory appearance of the preposition *à* before *Marie* in (10a) and before *Marie et Paul* in (10b) is just as in:

(11) Cela fera manger une glace *(à) Marie. ('that will-make eat-infin. an ice-cream to M')

Examples (10) and (11) contrast with:

(12) Cela fera manger (*à) Marie.

The difference between (12) and examples (10) and (11) with respect to *à* can be thought of in Case terms, as proposed by Rouveret and Vergnaud (1980). The Case-licensing of the postinfinitival subject in (12) is due to the causative verb (or, in more recent terms, to a functional head associated with it). But French (as opposed to English) has the property that the embedded infinitive cannot Case-license its object. Thus in (11) the embedded object *une glace* must be Case-licensed by the causative verb itself. Consequently, the embedded subject *Marie* needs a distinct Case-licenser, the preposition *à*.

The fact that (10) behaves like (11) indicates, then, that the idiomatic objects *faim* and *langue* in (10) require the same Case-licensing that *une glace* requires in (11). In turn, this makes it difficult to maintain the position that in (9) the postverbal SI subject is in object position.

Somewhat similarly, a postverbal SI subject is relatively compatible with a direct object if that object is a clitic:[7]

(13) A qui l'a montré Jean-Jacques? ('to whom it has shown J-J')

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6. Even this limited statement is not always true; in particular, it does not hold for the *ne . . . que* or focalization subvariety of SI that we return to in (175)–(178).
7. Judgments are often intermediate here, for unclear reasons. See Kayne (1972, 106, note 8).

If the direct object is itself the Wh-phrase, then the resulting SI sentence is fine (in the absence of other interfering factors):

(14)   Qu'a dit Jean? ('what has said J')

A postverbal SI subject is also compatible with a direct object if that object is a "bare quantifier":

(15)   a. la fille à qui a tout dit Jean-Jacques ('the girl to whom has everything told J-J')
       b. la fille à qui n'a rien laissé sa grand'mère ('the girl to whom neg. has nothing left her grandmother')
       c. la fille à qui laissera sûrement quelque chose sa grand'mère ('the girl to whom will-leave surely something her grandmother')

In (15a,b), the bare quantifier is *tout* or *rien*, which has moved leftward past the past participle. In (15c), the bare quantifier is *quelque chose*, which is not subject to comparable movement:

(16)   a. Jean a dit quelque chose. ('J has said something')
       b. *Jean a quelque chose dit.

Thus, in (15c) it is especially clear that the postverbal SI subject (*sa grand'mère*) is not in object position (but the conclusion is virtually as necessary in (13), (14), and (15a,b), too).

We conclude, then, that the unacceptability of (7) and (8) cannot be due to any competition between the two arguments for object position, that in the general case the postverbal SI subject is not in object position,[8] and that the status of (7) and (8) must be attributed to another factor (to which we return below).

1.3.   The position of the postverbal subject *bis*

Not only is the postverbal SI subject not in object position, there is substantial evidence that it is not in any low position. The following considerations suggest, rather, that it is in a high, subject-like position (past which the verb must then have moved).

The first has to do with "quantitative" *en* cliticization (cf. Pollock 1986, 1998) which is possible from direct objects, as in (17a), and from the associate of impersonal *il* constructions, as in (17b):

(17)   a. le jour où le juge en a condamné trois ('the day when the judge of-them has condemned three')
       b. le jour où il en est parti trois ('the day when it-expl. of-them is gone three')

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8. It may be that the general case does not (always or fully) extend to instances of SI where the verb is unaccusative; see note 9.

This quantitative *en* cannot be extracted from preverbal subjects:

(18)   a. *Trois en ont téléphoné. ('three of-them have telephoned')
       b. *Je ne sais pas à qui trois en ont téléphoné. ('I neg. know not to whom three of-them have telephoned')
       c. *Trois en sont partis. ('three of-them are gone')

Extraction of quantitative *en* from a postverbal SI subject is also deviant; the status of the following is virtually the same as that of (18), but sharply different from that of (17):[9]

(19)   a. *le jour où en ont téléphoné trois ('the day when of-them have telephoned three')
       b. *A qui en ont téléphoné trois? ('to whom of-them have telephoned three')
       c. ?*le jour où en sont partis trois ('the day when of-them are gone three')

With a transitive verb, we have:

(20)   le criminel qu'ont condamné trois juges ('the criminal that have condemned three judges')

(21)   *le criminel qu'en ont condamné trois

The contrast between (17) and (18) can naturally be thought of in terms of c-command. The clitic *en* must be extracted to a position c-commanding its original position. This requirement is met in the object case in (17), but not in the preverbal subject case in (18).[10]

The deviance of (19) and (21) then suggests (with the caveat of note 9) that *en* there cannot c-command the postverbal SI subject.

If *en* in these examples cannot c-command the postverbal subject, then it must further be the case that neither the auxiliary nor the past participle can c-command the postverbal SI subject, either.

Since the postverbal SI subject cannot be in a right-adjoined or right-hand Spec position, the conclusion is that the word order of (19) and (21) is available (with or without a clitic) only insofar as a phrasal constituent containing (*en* and) auxiliary and participle can stand to the left of the SI subject (itself in a left-hand Spec position). Now this can plausibly come about only if that constituent moves leftward past the subject DP.

Thus SI must involve movement of some large constituent XP past the subject, to the left.

9. With unaccusatives, as in (19c), the unacceptability is not complete, perhaps indicating the marginal possibility of early *en* extraction. (Since quantitative *ne* extraction in Italian is sometimes possible with intransitives like *telefonare*, some French speakers might find (19a) or (19b) only marginal.) The facts with transitives are extremely sharp, on the other hand.

On the different behavior of adnominal (non-quantitative) *en*, see Pollock (1998).

10. As expected, this contrast is not found in Czech, whose clitic position is higher than the preverbal subject; see Toman (1986).

Since *en* in (19) and (21) cannot c-command the postverbal SI subject, it is virtually certain that the clitics of (13), repeated here, and (23) cannot, either:

(22)   A qui l'a montré Jean-Jacques? ('to whom it has shown J-J')

(23)   Que lui a dit Marie? ('what him-dat. has said M')

If the clitics *l'* in (22) and *lui* in (23) do not c-command the postverbal SI subject, then they must have been preposed as part of the XP in question.

In other words, the XP preposed past the subject in SI contains the finite auxiliary (when there is one) and the pre-auxiliary clitics (if there are any)—that is, XP looks like it corresponds to the whole IP except for the subject itself. This is especially clear under the standard assumption that French finite verbs and auxiliaries are in the highest head position within IP. (Kayne [1994, 42] argued that a clitic may well be in a separate functional head from the verb, but our argument remains unaffected as long as that functional head, when present, is the highest within IP.)

A paradox now emerges, since moving a constituent equal to IP less the subject of IP would amount to moving a nonmaximal projection, which is quite generally assumed not to be allowed.

The conclusion we draw is that in SI the subject must have moved out of its normal Spec,IP position to a still higher Spec (of a functional head F^0). This allows taking XP movement to, in fact, be IP movement, with IP now containing an empty subject position.[11]

This "extra" leftward movement of the subject in SI turns out to have favorable empirical consequences, to which we return after devoting the next section to additional evidence in favor of the (less-specific) idea that the postverbal SI subject is in a high position.

1.4.   The position of the postverbal subject *ter*

Somewhat parallel to the facts concerning *en* ((17)–(21)) are the following, involving the licensing of a determinerless *de*-NP:

(24)   Jean a peu vu de linguistes. ('J has few seen of linguists')

A quantifier like *peu* can occur between auxiliary and participle and license[12] an object of the form *de*-NP. In the absence of any such quantifier word, the sentence would be ill-formed:

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11. This supports Rizzi's (1997) proposal that there are functional heads above IP that are distinct from the complementizer; cf. Munaro et al. (2001). The IP movement required here would fail to be movement of a maximal projection if the subject had merely moved leftward to a second Spec position (Chomsky 1995, 356) of IP itself.

12. In a way that we will not make precise—see Kayne (1975, sec. 1.5) and Obenauer (1994). The passive of (24) is as bad as (26):

(25)   *Jean a vu de linguistes.

There is a sharp subject-object contrast: that is, a quantifier word standing as in (24) cannot license *de*-NP as subject:

(26)   *De linguistes ont peu vu Jean. ('of linguists have few seen J')

Postverbal SI subjects on the whole do not work like objects:

(27)   a. *le jour où ont peu téléphoné de linguistes ('the day when have few telephoned
          of linguists')
       b. ?*Où sont peu partis de linguistes? ('where are few gone of linguists')

As in the case of *en*,[13] the deviance is not strong with unaccusatives but is very strong with transitives:

(28)   a. *ce qu'ont peu dit de linguistes ('that which have few said of linguists')
       b. *le jour où nous ont peu critiqués de linguistes ('the day when us have few
          criticized of linguists')

Examples (24) and (26) suggest that, for the licensing in question to take place, the quantifier must c-command *de*-NP. If this is correct, then (27) and (28) indicate again that the postverbal SI subject cannot be c-commanded by any of the material intervening between it and the Wh-phrase—that is, that that intervening material reaches a position to the left of the (high) SI subject via phrasal (IP) movement.

    We note in passing that this approach to (27) and (28) provides a natural way of characterizing the fact that if *peu* is replaced by the corresponding Wh-quantifier, the resulting SI sentences are much better:

(29)   a. Combien ont téléphoné de linguistes? ('how-many have telephoned of linguists')
       b. Combien sont partis de linguistes? ('how-many are left of linguists' = How many
          linguists have gone?)
       c. ?Combien nous ont critiqué(s) de linguistes? ('how-many us have criticized of
          linguists')

The reason is that, although the material intervening between Wh-phrase and subject has been moved there as part of IP movement (so that the individual subparts of

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(i)   **De linguistes ont peu été vus par Jean. ('of linguists have few been seen by J')

This may suggest, in the manner of Kayne (1998b), that *de linguistes* in (24) is not a constituent. See also Boivin (1999).

    13. See note 9, as well as Kayne (1981a, note 61).

that IP do not c-command the postverbal subject), the Wh-phrase itself has reached its position by Wh-movement, and so it can c-command the SI subject.[14]

Quite similar to (24) and (26) is the following contrast:

(30)   Jean n'a pas vu de linguistes. ('J neg. has not seen of linguists')

(31)   *De linguistes n'ont pas vu Jean. ('of linguists neg. have . . .')

Again, it appears that *de*-NP must be c-commanded by its licenser, here the negation.[15]

Consequently, the deviance of *de*-NP as postverbal SI subject, illustrated in (32), can be interpreted in the same way as that of (27) and (28):

(32)   a. *Quel livre n'ont pas lu de linguistes? ('what book neg. have not read of linguists')
       b. ?*Le livre que ne comprennent pas de linguistes, c'est le mien. ('the book that neg. understand not of linguists, it's mine')
       c. ?*une voûte que ne soutiennent pas de piliers ('an arch that neg. are-holding-up not of pillars') (from Müller 1977, 181)
       d. ?*une fille que n'a pas aimée de garçon ('a girl that neg. has not loved of boy' ('boy' = subject))

On the assumption, as before, that all the material between the Wh-phrase (or complementizer) and the postverbal SI subject is contained in an IP that has been moved leftward past that subject, the negative licenser will not be in a position to c-command the *de*-NP.

Example (32) contrasts sharply with the following sentences containing *aucun* ('no') instead of *pas . . . de*:

(33)   a. Quel livre ne comprend aucun linguiste? ('what book neg. understands no linguist')
       b. Le livre que ne comprend aucun linguiste, c'est le mien. ('the book that neg. understands no linguist, it's mine')
       c. une voûte que ne soutient aucun pilier ('an arch that neg. is-holding-up no pillar')
       d. une fille que n'a aimée aucun garçon ('a girl that neg. has loved no boy' ('no boy' = subject))

The natural interpretation is that *aucun* does not need to be licensed by a c-commanding negation. In turn, that conclusion is supported by the contrast between the impossible (31) and the perfectly acceptable (34):

14. See following note 42. The text idealizes the data concerning *combien* somewhat; Obenauer (1976, 20ff.) reports on speakers who may reject cases like (a), for example:

(i)   ??Combien ont rouspété d'amis? ('how-many have grumbled of friends')

We will not be able to study these subtle differences among speakers here.

15. With some uncertainty about which negative element is more crucial, see Kayne (1981a, note 12), Pollock (1989, 414–415), and Rowlett (1998).

(34)   Aucun linguiste n'a vu Jean. ('no linguist neg. has seen J')

Before turning back to the leftward movement of the SI subject out of IP, we can briefly note another way in which c-command bears on the position of that subject. There is widespread agreement that reflexives must be c-commanded by their antecedent, as in the reflexive clitic example:

(35)   Jean-Jacques s'est insulté. ('J refl. is insulted' = J insulted himself.)

If the postverbal SI subject is in a high position above IP, and if it has had IP move leftward past it, then it is not surprising that the reflexive clitic can be carried along as part of IP and end up to the left of its subject antecedent:

(36)   le jour où s'est insulté Jean-Jacques ('the day when . . .')

The acceptability of (36) would be more surprising if the postverbal SI subject were in object position, since an object in French can never be the antecedent of a reflexive clitic.[16]

1.5.   Leftward raising of the SI subject out of IP

The picture that we have so far of SI is that it involves leftward IP movement past the subject DP that has itself been raised out of IP into a higher Spec,FP.

The idea that the SI subject, though in a high position, is not in ordinary subject position is supported by a variety of further considerations not yet taken up.

Let us turn first to the fact that SI is sensitive to the person feature of the subject:[17]

(37)   a. Qu'a mangé LUI? ('what has eaten he/him' = What has HE eaten?)
        b. Quand ont téléphoné EUX? ('when have telephoned they/them')

LUI and *EUX* can also surface in preverbal position:

(38)   a. LUI a téléphoné. ('he/him has telephoned')
        b. EUX ont téléphoné. ('they/them have telephoned')

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16. See Kayne (1975, sec. 5.5), Burzio (1986, sec. 6.1), and Rizzi (1986).

17. Postverbal strong pronouns in SI must be deictic (see Kayne 1972, 103, note 2). We use capitals for strong deictic pronouns throughout.

Elle (3fem.sg.), *nous* (1pl.), and *vous* (2pl./polite 2sg.) are orthographically ambiguous and can be either nominative clitics or strong deictic pronouns. Strong pronouns in French show no morphological Case distinctions.

As strong deictic pronouns, *EUX*, *NOUS*, and *VOUS* are incompatible with "liaison," so except for *ELLE* versus *elle*, in principle, strong deictic pronouns can be distinguished phonetically from weak nominative clitic pronouns. See also note 18 and the corresponding text.

The first-/and second-person strong pronons, however, are excluded both in postverbal SI and in preverbal position—for example:[18]

(39)   a. *Quand ai téléphoné MOI? ('when have telephoned I/me')
       b. *Qu'as mangé TOI? ('what have eaten YOU')
       c. *Quand avez téléphoné VOUS? ('when have telephoned you')
       d. *Qu'avons mangé NOUS? ('what have eaten we/us')

(40)   a. *MOI ai téléphoné hier. ('I/me have telephoned yesterday')
       b. *TOI as mangé un gâteau. ('you have eaten a cake')
       c. *VOUS avez téléphoné hier. ('you have telephoned yesterday')
       d. *NOUS avons mangé un gâteau. ('we/us have eaten a cake')

(On the last two, see note 18 to this chapter.)

The contrast between (37) and (39) is paralleled by facts found with coordination, as in the following (brought to our attention by Dominique Sportiche):[19]

(41)   le jour où ont téléphoné et Jean et elle ('the day when have telephoned and J and she/her')

(42)   a. *le jour où avons téléphoné et Jean et moi ('the day when have telephoned and J and I/me')
       b. *le jour où avez téléphoné et Jean et toi (' . . . and J and you')

Our proposal concerning these contrasts is based in part on the observation that (40) has an acceptable counterpart with an overt (nominative) subject clitic:

(43)   a. Moi, j'ai téléphoné hier. ('I/me I have telephoned yesterday')
       b. Toi, tu as mangé un gâteau. ('you you have eaten a cake')
       c. Vous, vous avez téléphoné hier. ('you you have telephoned yesterday')
       d. Nous, nous avons mangé un gâteau. ('we/us we have eaten a cake')

The preverbal third-person strong pronouns of (38), although they do not need to cooccur with a subject clitic, can do so:

(44)   a. Lui, il a téléphoné. ('he/him he has telephoned')
       b. Eux, ils ont téléphoné. ('they/them they have telephoned')

Example (38) is standard, somewhat "recherché," French, whereas (44) is more colloquial. The sociolects that have (38) also have SI; those that have only (44) (cf. Zribi-Hertz 1994) seem not to have SI at all, like Quebec French.

18. The liaison -s of VOUS and NOUS in (40c,d) must *not* be pronounced. If it is, those examples become irrelevantly acceptable, with *nous* and *vous* then the stressed variants of the weak nominative clitics.

19. Without the first *et* ('and'), (41) is less than fully acceptable, though it remains better than (42) without the first *et*, which is impossible.

Our proposal, more specifically, is that (38) contains a subject clitic, just as (44) does. The difference between them is that the subject clitic of (44) is overt, while that of (38) is phonetically unrealized.

The reason for the impossibility of (40)—that is, for the contrast between (38) and (40)—is (45):

(45)   Silent clitics in French are limited to the third person.

(This restriction, in turn, is related to the fact that various instances of *pro* in French, Italian, and English are also limited to third person; for relevant discussion, see Kayne 2001a.)

The contrast between (37) and (39), along with that between (41) and (42), can now be understood in terms of the following:

(46)   SI sentences necessarily contain a silent (preverbal) subject clitic.

Since the SI examples (37) and (41) both have third-person subjects, they can without difficulty contain such a clitic. The problem with the SI examples (39) and (42) is that they have a first- or second-person DP subject. Consequently, any subject clitic they might contain would have to be first or second person (as in (43)). But silent subject clitics, by (45), cannot be first or second person, so that (39) and (42) necessarily run afoul of (46).

Varieties of French that lack (38) have the property that they do not allow silent argumental subject clitics at all. Given (46), it follows that such varieties of French will lack SI entirely, as desired.

The proposal in (46) itself is clearly related to our earlier suggestion that SI involves leftward movement of the subject out of IP to the Spec of a higher FP. What (46) implies is that that movement "leaves behind" a silent subject clitic.

Adapting ideas about complex inversion in Kayne (1972) (see also Kayne 1994, Pollock 1998, and Sportiche 1995c on clitic doubling in other contexts), let us propose that the postverbal SI subject starts out as the DP specifier (see Uriagereka [1995, 81]) of a silent subject clitic that heads a larger DP. Once that larger DP reaches Spec,IP, its DP specifier moves out into the Spec of FP.

Subsequent to that, IP itself moves past Spec,FP to a still higher Spec (of another functional category—call it GP—in the Comp area, in Rizzi's 1997 sense). Abstracting away from the Wh-phrase and representing the silent subject clitic as SCL, we have, for (47), the partial derivation in (48):[20]

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20. The derivation in (48) is an instance of remnant movement in the sense of den Besten and Webelhuth (1987; 1990); compare Kayne (1998a, note 13 and corresponding text).

If SCL is overt, we derive:

(i)   le jour où il a téléphoné(,) Jean

There may be a link to Cecchetto (1999) and Villalba (1999) on right-dislocation; see also Lanly (1962) on North African French.

(47)   le jour où a téléphoné Jean ('the day when has telephoned J')

(48) $[_{IP}$ Jean-SCL a téléphoné$]\rightarrow$
       $[_{FP}$ Jean$_i$ F^0 $[_{IP}$ t$_i$-SCL a téléphoné$]$ $]\rightarrow$
       $[_{GP}$ $[_{IP}$ t$_i$-SCL a téléphoné$]_j$ G^0 $[_{FP}$ Jean$_i$ F^0 t$_j$$]$ $]$

The second consideration supporting the idea that the postverbal SI subject is not in ordinary subject position (though it is in a high position, in fact above IP) comes from the counterindefiniteness effect originally noted by Cornulier (1974):

(49)   a. *Quel gateau a mange quelqu'un? ('what cake has eaten someone')
       b. *Quel article critiquera quelqu'un? ('what article will-criticize someone')

In many cases, the SI subject cannot felicitously be a nonspecific indefinite.[21] Another example is:

(50)   *Je te dirai quand sera venu la voir un ami quelconque. ('I you will-tell when will-be come her to-see a/some friend or other')

_____

In the spirit of Chomsky (1977), one might consider generating *Jean* in (47) and (48) directly in Spec,FP, which would probably not change much with respect to SI. But it is not clear that UG should ever allow DPs to be merged above IP. See Kayne (1994, 82) on a movement approach to CLLD.

21. Probably akin to (49) and (50) is:

(i)   *le jour où ont téléphoné trois ('the day when have called three')

given the impossibility of (ii), like that of (52) and (53):

(ii)   *Trois ils ont téléphoné. ('three they have called')

Legendre (1998) has suggested that the SI subject must be focus. This does not seem correct since postverbal subjects in Qu-triggered cases of SI can be discursive topics, as shown by (iii):

(iii) a. Une nouvelle loi vient d'être votée par le parlement. ('a new law comes from being voted by the parliament')
       b. Et que dit/promulgue la dite loi/cette loi? ('and what says/promulgates the said law / that law')
          Et quand sera mise en application la dite loi/cette loi? ('and when will-be put into effect the said law / that law')

In (iv) the SI subjects seem like contrastive topics:

(iv)   Je sais à qui a parlé Jean, mais je ne sais pas à qui a parlé sa femme. ('I know to whom has spoken J but I neg. know not to whom has spoken his wife')

Probably related to (iv) is (v):

(v)   a. A qui a parlé qui? ('to whom has spoken who')
       b. Sur qui est tombé quoi? ('on whom is fallen what')

Whether the SI subject can be focus (and if it can, in what sense of the term) is a separate question that we will leave open.

Kupferman (1983) indicates that an inverted subject NP must have specific reference. Note further that the noninverted counterpart (i.e., without SI) of (50) is fine:[22]

(51)   Je te dirai quand un ami quelconque sera venu la voir.

Now our analysis of SI involves extracting the subject to Spec,FP (above IP) and leaving behind a silent subject clitic. Furthermore, indefinites do not like being in that kind of position in the presence of an overt subject clitic, as illustrated in (52):

(52)   *Quelqu'un, il mangera ce gâteau. ('someone he will-eat that cake')

(53)   *Un ami quelconque, il viendra la voir demain. ('a/some friend or-other he will-come her to-see tomorrow')

Consequently, it is plausible that our analysis of SI, summed up in (48), will provide an account of (49) and (50) by reducing their ill-formedness to that of (52) and (53).[23]

The third and final consideration at this point concerns the fact that the postverbal SI subject cannot itself be a subject clitic:[24]

22. Although intuitions are sometimes less sharp than they indicate and seem open to some variation, there is no doubt that Cornulier's (1974) and Kupferman's (1983) observations are basically correct (in particular, if indefinite generics—and some unaccusatives; see note 9—are set aside). Because *quelqu'un* ('someone') is very hard to interpret as generic, there is general agreement on Cornulier's original observations. When *quelque chose* ('something') is more or less acceptable in SI, as (i) would be for Pollock (vs. Kupferman), we suspect that it is being reinterpreted as a shifted topic—that is, as denoting one of a previously identified set of possible occurrences:

(i)   */?Dis-moi quand se passera quelque chose de passionnant. ('tell me when refl. take-place something of interesting')

This is more readily available when a fairly unspecific verb like *se passer* is chosen, which may account for why Pollock finds a perceptible difference between (ii) and (iii):

(ii)   *Dis-moi quand se deroulera quelque chose. ('tell me when refl. will-unfold something')
(iii)   ?Dis-moi quand se passera quelque chose. ('tell me when will-take-place something')

23. It remains to be understood why complex inversion, as illustrated below, seems to impose no restriction against indefinite subjects:

(i)   a. Quel gâteau quelqu'un a-t-il mangé? ('what cake someone has he eaten')
       b. Quel article quelqu'un critiquera-t-il? ('what article someone will-criticize he')

24. Somewhat similar to (55b) is the grammatical:

(i)   Quand a-t-il téléphoné?

This is an instance of subject clitic inversion, which differs from SI in a number of ways (see Kayne 1972), the most important of which, apart from the difference in position of the subject seen in (i) versus (55), is perhaps that subject clitic inversion is limited to root sentences:

(ii)   Je sais quand a téléphoné Jean. ('I know when has telephoned J')
(iii)   *Je sais quand a-t-il téléphoné.

It may well be, nonetheless, that there is a level of abstraction at which SI and subject clitic inversion share some significant property (see Munaro et al. 2001).

(54) a. le jour où téléphonera Jean ('the day when will-telephone J')
      b. *le jour où téléphonera il ('. . . he')

(55) a. Quand a téléphoné Jean? ('when has telephoned J')
      b. *Quand a téléphoné il?

From the perspective developed so far, there is a straightforward account. The SI examples (54a) and (55a) contain a silent subject clitic in addition to the postverbal lexical subject. The cooccurence of lexical subject and subject clitic is also found with overt subject clitics:

(56) a. Jean, il mangera ce gâteau. ('J he will-eat that cake')
      b. Il mangera ce gâteau, Jean.

But replacing the lexical subject itself in (56) by a subject clitic is not possible:

(57) a. *Il, il mangera ce gâteau.
      b. *Il mangera ce gâteau, il.

It is therefore plausible to attribute the unacceptability of (54b) and (55b) (which contain two subject clitics, one silent) to the same factor that excludes (57).

    As for what this factor might be, consider the following sharp contrast:

(58) a. Jean ayant dit la vérité, tout va bien. ('J having told the truth, all goes well')
      b. *Il ayant dit la vérité, tout va bien. ('he . . .')

The gerund form of the verb in -*ant* allows lexical subjects but not clitic subjects.[25] Let us express this by saying that French subject clitics must check some feature (perhaps nominative) in Spec of a finite Infl, which is lacking in (58). On the assumption that (57) contains only one finite Infl, one of the two subject clitics will remain with an unchecked feature and will be excluded. Since (54) and (55) also contain two subject clitics, they will, assuming silent subject clitics to require checking of the same feature as overt subject clitics, be excluded in the same fashion.

    In conclusion to this section, then, facts concerning person ((37)–(44)), indefiniteness ((49)–(53)), and subject clitics ((54)–(58)) converge in support of the analysis summarized in (46) and (48): the postverbal SI subject has moved leftward out of IP (leaving behind a silent subject clitic), subsequent to which IP itself has moved even further leftward, to a still higher Spec position.

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    25. This is so despite the fact that -*ant* forms and finite verbs behave similarly with respect to the placement of adverbs. See Kayne (1975, sec. 1.3) and Pollock (1989, 408).
        Note that in the Italian counterpart of (58) a pronominal (non-clitic, non-initial) subject would have nominative Case.

1.6.   Non-Wh-SI with indicatives

The instances of SI discussed so far have all involved Wh-environments such as interrogatives and relatives. There are also cases of what look like postverbal SI subjects in non-Wh-environments. We suggest that these should be analyzed to a large extent in a way parallel to the analysis sketched above; in particular, they should be taken to have the subject DP move leftward out of IP (leaving behind a silent subject clitic) and to have IP then move still further leftward.

It is well known that subjunctives allow postverbal subjects, as in:

(59)   Il faut que parte Jean. ('it is-necessary that leave J')

Such postverbal subjects are also very marginally possible in certain indicative contexts, for example:

(60)   a. Je crois que Jean est parti. ('I think that J is(has) left')
       b. ???Je crois qu'est parti Jean.

Let us begin with these.

There are some contrasts with indicatives that make them of interest despite their marginality. The simplest is that the inversion seen in (60b) is not possible in a non-embedded indicative:

(61)   *Est parti Jean.

Nor is it possible with an embedded indicative if the embedded indicative is an interrogative introduced by the complementizer *si* ('if'):

(62)   a. Je ne sais pas si Jean est parti. ('I neg. know not if J is(has) left')
       b. *Je ne sais pas si est parti Jean.

Most surprising is the contrast between (60) and the following:

(63)   a. Il est évident que Jean est parti. ('it is evident that . . .')
       b. *Il est évident qu'est parti Jean.

The question is how to (marginally) allow for the postverbal subject in (60b), and how best to understand the contrast with the impossible (61), (62b), and (63b).

As in our earlier discussion of the Wh-cases of SI, we start from the restrictive assumption that UG disallows rightward adjunction and right-hand Specs. We then ask whether the postverbal subject in (60b) is in a high or low (left-hand) Spec position. Following the reasoning of sections 4 and 5 above, we interpret the following restrictions as indicating that the postverbal subject is not in a low, object-like position:

(64) a. ???Je crois que sont arrivés trois linguistes. ('I think that are(have) arrived three
          linguists')
      b. *Je crois qu'en sont arrivés trois. ('I think that of-them . . .')

(65) a. ???Je crois qu'ont émigré trop de linguistes. ('I think that have emigrated too-
          many of linguists')
      b. *Je crois qu'ont trop émigré de linguistes.

(66) *Je crois que n'ont pas émigré de linguistes. ('I think that neg. have not emigrated
      of linguists')

Unlike objects (cf. (17), (24), and (30)), the postverbal subject in these embedded
indicatives disallows the extraction of the clitic *en* and disallows the "quantifier-at-
a-distance" construction involving *de*-NP.

    In addition, as in (39) and (42), the postverbal subject cannot be first or second
person:

(67) a. *Je croyais qu'étais parti TOI. ('I thought that were(had) left you')
      b. *Elle croyait qu'étais arrivé MOI. ('She thought that was(had) arrived I/me')

(68) a. *Je croyais qu'étiez partis et toi et Jean. ('I thought that were(had) left and you and J')
      b. *Elle croyait qu'étions arrivés et moi et Jean. ('she thought that were(had)
          arrived and I/me and J')

As in the Wh-cases, we take this to indicate not only that the postverbal subject here
is in a high position, but also that it has moved out of IP to a higher Spec and has left
behind a silent subject clitic (limited to third person).

    A counterindefiniteness effect of the sort seen for the Wh-cases in (49) and (50)
is also found in these indicative cases:

(69) a. ???Je crois que l'appelera Jean-Jacques. ('I think that her will-call J-J')
      b. *Je crois que l'appelera quelqu'un. ('. . . someone')

Finally, the restriction prohibiting postverbal SI subjects from being themselves sub-
ject clitics is found with indicatives, too:

(70) *Je crois qu'est parti il. ('. . . he')

    The conclusion that we draw from this set of similarities is that the postverbal
subject of (60b), (64a), (65a), and (69a) is a postverbal SI subject, in the sense that it
comes to be postverbal in essentially the same way as the postverbal SI subject in
Wh-constructions—namely, by moving leftward out of IP (leaving a silent subject
clitic behind) and then having IP move past it.

    That (60b), (64a), (65a), and (69a) should be considered a subvariety of SI is
further supported by the fact that they are limited to noncolloquial French (since

colloquial French lacks silent subject clitics associated with arguments in this way; see the discussion following (44)).[26] Moreover, the indicative and Wh-subvarieties of SI share the property that the finite verb agrees with the postverbal subject:

(71)   ???Je crois que sont/*qu'est partis les linguistes. ('I think that are/is left the linguists')

(72)   Quand sont/*est partis les linguistes? ('when . . .')

In our analysis, this is straightforward, since the postverbal SI subject in both types passes through ordinary subject position before raising out of IP.[27]

1.7.   An ECM effect

As for the question of (60b) versus (61),/ (62b),/ and (63b), there seems to be an exceptional case marking (ECM) effect at issue, as suggested especially by (60b) versus (63b) and by the resemblance between that contrast and the following English one:

(73)   the person whom I think is intelligent

(74)   *the person whom it is obvious is intelligent

Example (73), which is acceptable in some varieties of English, was taken by Kayne (1980) to involve Case assignment into Comp. An updating of that proposal would

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26. Colloquial French does allow what is probably a silent expletive subject clitic in:

(i)   Faut pas qu'il fasse ça. ('is-necessary not that he do that')

27. Were one to claim that the postverbal SI subject is in a low position throughout the derivation, one would have to allow verb agreement in French to be determined by a lower DP (cf. Chomsky [2000, 122]). That would create problems for past participle agreement:

(i)   *Jean a repeintes les tables. ('J has repainted the tables')
(ii)   *Il a été repeintes plusieurs tables. ('it has been repainted several tables')

A past participle can agree neither with a lower direct object, as seen in (i), nor with a lower "associate" in the expletive construction illustrated in (ii).

Whether the text approach can be generalized to English expletive constructions, which appear to allow agreement with a lower DP, is left open here. The question is whether in (iii) *five tables* is not at some point (in a derivation akin to that of SI) actually above the agreeing verb (prior to some version of IP movement):

(iii)   There are five tables in the garage.

The absence of downward verb agreement would be expected if verb agreement (of all types) is akin to an antecedent–pronoun relation (cf. Fauconnier 1974) and if antecedent–pronoun relations of this sort are reducible to movement of the antecedent, away from the pronoun double, as in chapter 6.

From this perspective, verb agreement, as opposed to clitic doubling—see the discussion following (46)—would not be a primitive of UG.

have *whom* moving into the matrix in ECM fashion;[28] that is, *whom* would have its Case checked in a Spec above *think*.[29] In the relevant varieties of English, this would be possible even though *whom* also passes through the embedded subject position (as reflected by the agreement of the embedded verb). (It must be, then, that these varieties allow double Case or else that they allow nominative in the embedded sentence to be suspended.) The fact that (74) is not possible would be due to the fact that adjectives, at least when they have an expletive subject,[30] cannot successfully check Case:

(75)   *It is obvious John's qualities.

    Returning to French, (60b) versus (63b) might then be thought of in similar terms: the former would be an instance of ECM, but the latter could not be, for the same reason as (74). The fact that (61) is impossible would then be due to the absence of any higher predicate there (but see (92) below). What still remains to be elucidated is why the indicative subtype of SI is subject to an extra Case requirement in the first place.
    Before attempting to answer that question, we need to look a bit more at subjunctive SI.

1.8.   Subjunctive SI

We noted above at (59) the following example of subjunctive SI:

(76)   Il faut que parte Jean. ('it is-necessary that leave J')

This type of SI is not marginal in the way that indicative (non-Wh) SI is, but it is limited to noncolloquial registers, as are both the indicative and the Wh-types of SI.

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    28. See Postal (1974).
    29. See Chomsky (1995).
    30. Adjectives with a thematic subject act differently; thus (i) is closer in status to (73) than to (74):

(i)   (?)the person whom I'm sure is intelligent

Similar, now, is the fact that (ii) seems closer to (60b) than to (63b):

(ii)   ???Je suis sûr qu'est parti Jean. ('I am sure that is(has) left J')

In this regard, adjectives in other Germanic languages differ sharply from nouns in those languages, in that adjectives can have nonprepositional objects (with visibly oblique Case if Case is morphologically expressed). See Holmberg and Platzack (1995, 150).
    It remains to be understood why, alongside (i), there are in English no examples like:

(iii)   *I'm sure John to be intelligent.

That (iii) is actually not a simple fact about adjectives is suggested by the apparently parallel contrast in Kayne (1980, sec. 1.3):

(iv)   (?)John, whom I assure you is intelligent, . . .
(v)   *I assure you John to be intelligent.

This limitation to the noncolloquial suggests, given previous discussion (see text to note 26), that subjunctive SI, too, involves a silent subject clitic.

   Although the present subjunctive shows an orthographic distinction between 3rd singular, as in (76), and 3rd plural, as in (77), the pronunciation is identical:

(77)   Il faut que partent les enfants. ('it is-necessary that leave the children')

It is thus not immediately clear whether these subjunctives have agreement. That they do (and that the lack of phonetic distinction is accidental, syntactically speaking) is suggested by the fact that the past subjunctive (though no longer used in spoken French) does show a phonetically realized agreement distinction in some cases:

(78)   a. Il aurait fallu que vînt l'enfant. ('it would-have been-necessary that come the child')
       b. Il aurait fallu que vinssent les enfants. ('. . . come the children')

As in the discussion of (71) and (72), this suggests that the postverbal SI subject in subjunctives has also passed through ordinary subject position.

   That this ultimately postverbal subject raises leftward from ordinary subject position out of IP and, as in the other cases of SI, leaves behind a silent subject clitic is suggested by the now familiar limitation to third-person subjects (see the discussion of (67) and (68)):

(79)   *Il faut que partes TOI. ('it is-necessary that leave you')

(80)   *Il faut que partions et moi et Jean. ('. . . leave and I/me and J')

   As in the discussion of (54) and (55) and (70), the movement out of IP and leaving behind of a silent subject clitic is further supported by the fact that the postverbal SI subject cannot itself be an overt subject clitic:

(81)   *Il faut que parte il. (' . . . he')

   If we now look at instances of subjunctive SI with an embedded transitive verb,[31] we find very clear parallels with other aspects of SI previously noted for the Wh-

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31. See the discussion of (7)–(16) above, especially note 7.
   For many speakers, the unaccusative counterparts of (84) and (85b) (and similarly for verbs like *téléphoner*), although deviant, are less so, especially the negation example in (i), than in the transitive cases:

(i)   ?Je doute que ne soient pas entrés de linguistes dans cette piece depuis ce matin. ('I doubt that neg. be(subjunc.) not entered of linguists into this room since this morning')
(ii)   ?Il aurait été souhaitable que soient beaucoup partis de linguistes. ('it would-have been desirable that be(subjunc.) many gone of linguists')

For some of these speakers, (i) and (ii) are fully acceptable. At the same time, for such speakers, the unaccusative counterpart of (83) is less acceptable than (i) and (ii):

and indicative cases. First, the clitic *en* cannot be extracted from the postverbal subject in cases like the following (cf. (19), (21), and (64)):[32]

(82)   Je doute que m'aient vu beaucoup de linguistes. ('I doubt that me have-pl.-subj. seen many of linguists')

(83)   *Je doute que m'en aient vu beaucoup. ('. . . me of-them have-pl.-subj. seen many')

Second, negation does not license a postverbal subject *de*-NP (cf. (32) and (66)):

(84)   *Je souhaiterais que ne te critique pas de linguistes. ('I would-wish that neg. you criticize not of linguists'; 'linguists' = subject)

Nor, especially if we avoid interference from adverbial interpretations,[33] does a quantifier (cf. (27) and (28) and (65b)):

(iii)   ??Je doute qu'en soient entrés vingt-cinq. ('I doubt that of-them be-subj. entered twenty-five')

The deviance is sharper still if the numeral or quantifier is not pronounced; thus (v) contrasts with (iv), even for the speakers in question:

(iv)   Elle en a vu. ('she of-them has seen' = She has seen some.)
(v)   *?Je doute qu'en soient entré(s). ('I doubt that of-them be entered')

How best to account for these gradations—(iii) and (v) would be '?' and '??' for those who accept (i) and (ii)—is left an open question.

    Even taking into account the graded judgments of this note, the subjunctive SI facts of (i)–(iii) and (v) are substantially different from the facts concerning expletive *il*, which allows all of the following, for all speakers, with the caveat that speakers who do not fully accept displaced quantifiers in general will not fully accept (vii):

(vi)   Il n'est pas entré de linguistes dans cette pièce. ('it neg. is not entered of linguists in this room')
(vii)   Il est beaucoup parti de linguistes. ('it is many left of linguists')
(viii)   Il en est venu vingt-cinq. ('it of-them is come twenty-five')
(ix)   Il en est venu.

In addition, the expletive *il* construction does not show agreement with the postverbal DP, as opposed to SI. It further differs from SI in showing a definiteness effect—that is, a preference for the postverbal DP to be indefinite—whereas SI shows the opposite preference.

    We conclude, contrary to Kayne and Pollock (1978, 611), that no instance of SI is an expletive *il* sentence with *il* unpronounced. (The silent subject clitic that SI sentences do contain differs from expletive *il* in always being doubled by a DP, which can marginally itself be unpronounced, in the special case of (v), with an abstract quantifier.)

    32. On the so-called adnominal *en* that in part behaves differently, see Pollock (1998).

    33. Less bad than (85b) is:

(i)   ??Je doute que m'aient beaucoup vu de linguistes. ('I doubt that me have many seen of linguists')

For relevant discussion of the interpretation of displaced *beaucoup*, see Obenauer (1994).

(85) a. ?Cette idée, je doute que l'aient eue beaucoup de linguistes. ('this idea I doubt
          that it have-subj. had many of linguists.')
      b. *Cette idée, je doute que l'aient beaucoup eue de linguistes.

These parallels, as in our earlier discussion, support the claim that the postverbal SI
subject is not c-commanded by the position of *en* in (83), of negation in (84), or of
displaced *beaucoup* in (85b).

    The conclusion, then, is that subjunctive SI is like Wh- and indicative SI in in-
volving leftward IP movement past the (leftward) raised subject.

1.9.   Subjunctives versus indicatives

Why is indicative SI marginal in a way that subjunctive SI is not?

(86)   ???Je crois qu'est parti Jean. ('I think that is left J')

(87)   Il faut que parte Jean. ('it is-necessary that leave J')

We suggest that this contrast between indicative and subjunctive is related to the well-
known fact that subjunctives are cross-linguistically often more permeable to extrac-
tion than are indicatives.[34] Within French itself, this difference can be seen with
quantifier extraction:

(88) a. Il faut que je leur enlève tout. ('it is-necessary that I them take-off everything')
      b. ?Il faut tout que je leur enlève.

(89) a. Ils croient que je leur enlève tout. ('they think that I them am-taking-off
          everything')
      b. *Ils croient tout que je leur enlève.

    Let us adopt the usual approach to complementizers and take *que* in (86)–(89)
to form a constituent with IP.[35] The question is then whether SI (i.e., subject raising
followed by IP preposing) in (87) and (marginally) in (86) "applies at the IP level"—
that is, applies before *que* is introduced, or not. Let us consider, in fact, the possibil-
ity that SI is actually prohibited from applying "at the IP level." Then subject raising
out of IP (leaving an empty subject clitic behind) must apply after *que* enters the
derivation. The landing site of the subject might be within the matrix IP or above it.
Assume the latter. Then the derivation of (87) looks like this (SCL is the silent sub-
ject clitic):

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34. Sometimes conditional (and future) act like subjunctive more than like present and past
indicative; see Poletto (2000).
35. If Kayne (1998b; 1999) is on the right track with regard to complementizers, the text
proposal that follows will need to be recast.

(90)   il faut que Jean-SCL parte → subject raising to Spec,F

   Jean$_i$ F^0 [$_{IP}$ il faut que t$_i$-SCL parte] → IP preposing to Spec,G

   [$_{IP}$ il faut que t$_i$-SCL parte]$_j$ G^0 Jean$_i$ F^0 t$_j$

Assume, now, that this subject raising is not available out of indicatives, just as quantifier raising in (89b) is not.[36] Then (86) is not derivable in a way that would mimic the derivation of (87), a desirable result.

It remains to be understood why indicative SI is sometimes marginally possible, and why it is not always possible to the same marginal degree. Let us begin with the sharp impossibility of SI in root sentences like:[37]

(91)   *Est parti Jean.

This recalls the proposal just made concerning the "inapplicability" of SI "at the IP level." We can unify the two by adopting:

(92)   SI subject raising cannot target a Spec,FP immediately above IP.

To a certain extent, (92) recalls both Rizzi's (1982, 152) argument against short subject Wh-movement in Italian and various proposals prohibiting "vacuous" movement in general. Keeping in mind, though, that SI subject raising leaves behind a silent pronominal clitic, a still closer fit may be with the restriction in Hebrew and Irish against resumptive pronouns in highest subject position.

Aoun (1985), Borer (1984, 252), and McCloskey (1990, 215) have assimilated that (sort of) restriction to (a generalized) binding theory,[38] and in particular to a generalized Condition B.[39] From this perspective, (92) says that the silent subject clitic left behind by SI subject raising cannot be too close to its antecedent. Let us, then, think of (92) as a special case of this generalized Condition B (GCondB).

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36. These two operations differ from Wh-movement, to which indicatives are permeable, in not involving Comp; see Chomsky (1973) and Kayne (1981b, sec. 2).

37. Example (91) is to be read here without strong contrastive focus on the postverbal subject, which would allow it to fall under the *ne . . . que* subtype of SI, to be discussed below.

38. For a different approach, see Shlonsky (1992).

39. See also chapter 6.

Short subject Wh-movement in French (Rizzi 1982, 152) will be allowed as long as it need not involve a (silent) subject clitic. The Italian ban on short Wh-movement of the subject may be (virtually) identical to the Hebrew facts, if Italian null subject sentences necessarily contain a pronominal subject—*pro* in the third person, a verbal suffix in the first and second, if Kayne (2001a) is correct.

As for subject CLLD (see note 20) in French:

(i)   Jean, il est parti. ('J he is gone')

it may be that French overt subject clitics are to both French silent subject clitics and Hebrew subject pronouns as English reflexives with *-self* are to English simple pronouns. Similarly for Italian null subject CLLD, as in (ii) (and in all likelihood for Italian sentences with postverbal subjects), on the assumptions of the preceding paragraph:

(ii)   Gianni, è partito.

Proposal (92)/GCondB excludes (91) by prohibiting the subject raising step that is a necessary precursor to IP preposing (see the discussion following (23) above). At the same time, it correctly allows the derivation in (90), since there subject raising is "long-distance."[40]

We note in passing that (92) has a significant effect on the Wh-subtype of SI:

(93)   Quand téléphonera Jean? ('when will-telephone J')

If (92) holds, then in (93) subject raising cannot precede Wh-movement.[41] The derivation of (93) must therefore proceed as in:

(94)   Jean-SCL téléphonera quand $\rightarrow$ Wh-movement
        quand$_i$ X^0 [$_{IP}$ Jean-SCL téléphonera t$_i$] $\rightarrow$ subject raising
        Jean$_j$ F^0 [$_{XP}$ quand X^0 [$_{IP}$ t$_j$-SCL téléphonera t$_i$]]

The raised subject must move past the landing site of the previously moved Wh-phrase.[42]

That is, the Italian null subject (or agreement suffix) will have the status of overt French subject clitics.

English topicalization may be relevant, too, if (iv) cannot be pronounced with the same intonation as (iii):

(iii)   JOHN, Mary has always liked.
(iv)   MARY has always liked John.

See Nelson (1997) on English exclamatives.

As for (38) above, on the assumption that it contains a silent subject clitic (as we have argued), it must be either the pronominal status of *lui/eux* or the strong contrastive stress (see the *ne . . . que* case discussed below) that make it compatible with (92), in a way that needs to be made precise.

40. Subjunctive SI is possible in "topic sentences" (see Pollock 1986), for example:

(i)   Que partent ces linguistes, ça vous laisse indifférent? ('that leave-subj. those linguists, that you leaves indifferent)

It might be that subject raising moves *ces linguistes* in (i) to a position just above *que*, as seems called for in any event in:

(ii)   Que partent ces linguistes! ('that leave those linguists' = May/let those linguists leave!)

Alternatively, subject raising in (i) might take place prior to the preposing of *que partent ces linguistes*—that is, at a point in the derivation that looks like:

(iii)   Ça vous laisse indifférent que ces linguistes partent?

Especially if this is so, subject raising might, in the derivation of (i), move *ces linguistes* to a position above the matrix IP.

41. This is assuming that there cannot be any unfilled projections between FP and IP.

42. This is also the case when the Wh-phrase corresponds to part of the subject:

(i)   combien de linguistes-SCL ont téléphoné $\rightarrow$ Wh-movement
       combien$_i$ X^0 [$_{IP}$ t$_i$ de linguistes-SCL ont téléphoné] $\rightarrow$ subject raising
       de linguistes$_j$ F^0 [$_{XP}$ combien$_i$ X^0 [$_{IP}$ t$_i$ t$_j$-SCL ont téléphoné]]

IP preposing followed by a second movement of *combien* (see note 43) will yield:

(ii)   Combien ont téléphoné de linguistes? ('how-many have called of linguists')

Derivation (94) might then continue in one of two ways. On the one hand, IP might prepose to the left of *Jean*, followed by a second movement of *quand*. On the other hand, XP might prepose to the left of *Jean*, followed or not by a second movement of *quand*. In what follows, we adopt the first sort of continuation in preference to the second.[43]

Returning to indicatives, the problem is how to allow for the marginal acceptability of (86). Our proposal is that, although (86) cannot mimic the derivation given in (90), it does have (marginal) access to a derivation with "shorter" subject raising than in (90), one in which the embedded subject raises to an ECM-like position within the matrix, before raising to a position above the matrix IP:[44]

(95)   je crois que Jean-SCL est parti → first subject raising step
      je crois Jean$_i$ que t$_i$-SCL est parti → second subject raising step
      Jean$_i$ F^0 [$_{IP}$ je crois t$_i$ que t$_i$-SCL est parti] → IP preposing
      [$_{IP}$ je crois t$_i$ que t$_i$-SCL est parti]$_j$ G^0 [$_{FP}$ Jean$_i$ F^0 t$_j$]

1.10.   Quirky subjects

French has impersonal passives with expletive *il*, as in:

(96)   Il a été procédé au réexamen de la loi. ('it has been proceeded to-the reexamination of the law')

In SI contexts, impersonal passives can be found without *il*:

(97)   Quand a été procédé au réexamen de la loi? ('when has been . . .' = When was the new law examined?)

43. We are thinking in particular of (146) below. Having (the option of) two Wh-movements in one "simple" sentence is motivated by Munaro et al. (2001).

44. Subjunctive SI does not show the ECM-like effect (illustrated by (86) versus (63b)) found with indicatives; that is, (i) is possible in addition to (87) (see also examples (i) and (ii) of note 40):

 (i)   Il est souhaitable que parte Jean. ('it is desirable that leave J')

Whether subjunctives themselves have access to an ECM-like derivation, in addition to (90), is left an open question.

The two-step subject-raising derivation illustrated in (95) will also (less the IP preposing step) hold for (73) above (see also Pollock 1985). In addition, it probably (again without IP preposing) holds for:

 (ii)   ?the people who John think should be invited

On this construction, in which *think* agrees with *who*, see Kimball and Aissen (1971) and Kayne (1995).

As for the impossibility of (62b), it must be that *si* ('if') blocks subject raising. This is as if *que* (as opposed to *si*) were not present at the first subject raising step, a possibility probably compatible with Kayne (1998b; 1999).

Sentences like (97) seem deprived of any lexical subject, DP or clitic. One could envision positing that the Wh-phrase of (97) somehow licenses a null expletive subject. However, this does not seem very promising, given the sharp ungrammaticality of (98); if there were a null expletive in (97), why couldn't there be one in (98), parallel to *il* in the perfect (99)?[45]

(98)   *Au réexamen de quelle loi a été procédé? ('to-the examination of what law has been proceeded')

(99)   Au réexamen de quelle loi a-t-il été procédé? ('. . . has it been . . .')

What we suggest instead is that in (97) the phrase *au réexamen de la loi* first moves to Spec,IP (thus satisfying the EPP)[46] and then moves up via subject raising, before IP (XP) preposing applies. The derivation we have in mind proceeds as in (100):[47]

(100)   a été procédé au réexamen de la loi quand $\rightarrow$ Movement to Spec,IP
         [au réexamen de la loi]$_i$ a été procédé t$_i$ quand $\rightarrow$ Wh-movement
         quand$_j$ X^0 [$_{IP}$ [au réexamen de la loi]$_i$ a été procédé t$_i$ t$_j$] $\rightarrow$ subject raising $\rightarrow$
         [au réexamen de la loi]$_i$ F^0 [$_{XP}$ quand$_j$ X^0 [$_{IP}$ t$_i$ a été procédé t$_i$ t$_j$]]

At this point, what happens is that IP preposes, followed by a second instance of Wh-movement, as discussed above for (94). This yields the desired word order:[48]

45. See also the objections to null expletives raised in note 31 above. In addition, note the similarity between (60b) versus (63b) and (i) versus (ii):

(i)   ???Je crois que sera procédé au réexamen de la loi. ('I think that will-be proceeded to-the reexamination of the law')

(ii)   *Il est évident que sera procédé au réexamen de la loi. ('it is obvious that . . .')

Furthermore, much as (87) is substantially better than (86), so is (iii) substantially better than (i):

(iii)   Je veux que soit procédé au réexamen de la loi. ('I want that . . .')

Thus, there are several reasons for taking the *procédé* cases to be a somewhat special subvariety of SI.

46. Similarly for *à la guerre* and *de ces amendements* in examples like (i) and (ii):

(i)   Quand sera mis fin à la guerre? ('when will-be put end to the war')

(ii)   Quand sera tenu compte de ces amendements? ('when will-be taken account of these amendements')

In these, *fin* and *compte* are not subjects but, rather, idiomatic objects, much as *advantage* in English examples like:

(iii)   John has been taken advantage of.

47. If Kayne (1998b; 1999) is on the right track about prepositions, this derivation will need to be partly recast.

48. It should be noted that parallel derivations with certain other PPs yield ungrammatical sentences:

(i)   a. *Quand sera voté contre/pour Clinton au Sénat? ('when will-be voted against/for C in the S')
       b. *Quand sera nettoyé dans la maison? ('when will-be cleaned in the house')
       c. *Quand a été tiré sur le bâteau? ('when has been shot on the boat')

→ IP preposing → [$_{IP}$ t$_i$ a été procédé t$_i$ t$_j$]$_k$ Y^0 [$_{FP}$ [au réexamen de la loi]$_i$ F^0
[$_{XP}$ quand$_j$ X^0 t$_k$]] →
Wh-movement
quand$_j$ [$_{IP}$ t$_i$ a été procédé t$_i$ t$_j$]$_k$ Y^0 [$_{FP}$ [au réexamen de la loi]$_i$ F^0 [$_{XP}$ t$_j$ X^0 t$_k$]]

The preceding amounts to claiming that examples like (97) are French counterparts to Icelandic "quirky subjects,"[49] except that in French such quirky subjects are only accceptable when, as in SI, they move further up.

This might follow from the fact that a phrase above IP can normally bear any case (or be of any category it likes), while a constituent in the Spec of finite inflection must be nominative (in French, as opposed to Icelandic), or at least is prohibited from being a PP at spellout.[50]

Returning to the unacceptability of (98), we note the contrast between it and the following:

(101)   Quel linguiste a écrit cet article? ('what linguist has written this article')

Example (101) is intended to indicate that ordinary subjects in French are (as Rizzi 1982 argued) readily subject to short Wh-movement.[51] At the same time, the quirky subject in (98) is not.

It may be that Case theory restricts the first step of (100) to DPs associated with the prepositions *à* and *de*—that is, to DPs with prepositions that have often been argued in the literature to be genuine "(oblique) Case-markers."

Furthermore, theta-theory may restrict such oblique subjects to DPs that can be interpreted or reinterpreted as receiving an internal theta-role from a complex predicate: *procéder au réexamen de la loi = réexaminer la loi; mettre fin à la guerre = finir la guerre*; and so on. This would yield an account of (ii) if *renvoyé à cet article* could not be so reanalyzed:

(ii)   *Depuis quand est renvoyé à cet article dans LI? ('since when is referred to this article in LI')

49. See Zaenen et al. (1985); see also Belletti and Rizzi (1988) on *piacere* ('please-infin.').

50. In (i), *under the bed* may well be associated with or preceded by an unpronounced noun akin to *place*:

(i)   I consider under the bed a good hiding place.

Similarly for (ii):

(ii)   John came out from under the bed.

The presence of this abstract element (*from PLACE under the bed)* might account for the deviance of:

(iii)   *Under which bed did he just come out from?

Compare:

(iv)   *Under which bed did he just come out from someplace?
 (v)   *Someplace under which bed did he just come out from?

51. A separate question is whether French ever has recourse to a true in situ Wh-strategy. It certainly appears to:

(i)   Tu as fait quoi? ('you have done what')

We take (101) to be compatible with GCondB by virtue of (101) not containing any subject clitic, not even a silent one.[52] We nonetheless attribute the ill-formedness of (98) to a violation of that very condition, by claiming that (98) must, contrary to the general case of interrogatives, in fact contain a (silent) pronominal clitic (in subject position). If it does, then (98) will violate GCondB, just as SI does in (91).

As for why (98) must contain a silent clitic, we guess that it has to do with the presence of the preposition, the idea being that the presence of the overt preposition *à* in (97) and (98) would prohibit satisfaction of the EPP. By containing a (silent) clitic double (probably a silent counterpart of the locative or oblique clitic *y*) that is associated directly with no overt preposition, both (97) and (98) do satisfy the EPP. Example (97) is in addition compatible with GCondB, since, as seen in (100), the subject raising step places '[au réexamen de la loi]$_i$' to the left of the separate Wh-phrase *quand* (the assumption being that the intervening *quand* creates the necessary distance between '[au réexamen de la loi]$_i$' and the silent clitic). In (98), in contrast, GCondB is violated.[53]

There is a sharp and surprising contrast between (98) and (102):

(102)   Au réexamen de quelle loi souhaiterais-tu que soit procédé? ('to-the rexamination of which law would-wish you that be-subj. proceeded')

The way to understand it is to bring to bear the well-formedness of the following (cf. (iii) of note 45):

(103)   Je souhaiterais que soit procédé au réexamen de cette loi. ('I would-wish that be-subjunctive proceeded to-the reexamination of that law')

Example (103) illustrates subjunctive SI (cf. (87)) with a quirky subject. Its derivation is much as in (90), apart from the quirky subject (which we will shorten to *au réexamen*):

(104)   soit procédé au réexamen-CL → movement to Spec,IP
au réexamen-CL soit procédé (trace omitted) → further merger
je souhaiterais que au réexamen-CL soit procédé → subject raising to (matrix) Spec,F
au réexamen$_i$ F^0 [$_{IP}$ je souhaiterais que t$_i$-CL soit procédé] → IP preposing to Spec,G
[$_{IP}$ je souhaiterais que t$_i$-CL soit procédé]$_j$ G^0 au réex.$_i$ F^0 t$_j$

We suspect, however, that (i) does not really have *quoi* in situ. See Munaro et al. (2001, sec. 6). On yes- no questions from a similar perspective, see Sportiche (1995c, 388).

52. We are setting aside here the question why UG imposes on SI the presence of a (silent) subject clitic.

53. For some speakers there is a weak contrast between (98) and (i):

(i)   ??Au réexamen de la loi sera procédé demain. ('to-the examination of the law will-be proceeded tomorrow')

(The status of (i) is hard to assess, in part because such sentences all have a very literary ring to them—that is, they sound dated.) The question is why, for those speakers, (i) does not violate GCondB more strongly. Perhaps (i) is a marginal case of the PP actually being able to remain in subject position.

At this point (in a derivation with a Wh-phrase in place of *cette loi*), Wh-movement can apply to *au réexamen . . .* , yielding (102).

In other words, if (102) derives from a structure corresponding to (103), (102) will create no violation of GCondB, since it will involve long Wh-movement of *au réexamen de quelle loi*, not short Wh-movement of the sort that (98) must avail itself of. (For (98) to avail itself of long Wh-movement, it would have to skip the preposing-to-Spec,IP step, which would lead to an EPP violation.[54]) Thus (98) versus (102) is by and large identical to the picture drawn by Rizzi (1982, 152) for subject Wh-movement in Italian (allowing for the fact that (102) is a case of long Wh-movement of a quirky subject).[55]

1.11.   Expletives

Our analysis of (97), (102), and (103) involves no use of a null expletive and thus converges with our earlier proposals concerning SI with ordinary (non-quirky) subjects (see especially note 31). The absence of recourse to null expletives has a very specific further advantage, in that it accounts directly for the contrast between (97), (102), and (103), on the one hand, and (105)–(107), on the other:

(105)   *Quand a neigé? ('when has snowed')

(106)   *Quand souhaiterais-tu que pleuve? ('when would-wish you that rain-subjunc.')

(107)   *Je souhaiterais que pleuve demain. ('I would-wish that rain-subjunct. tomorrow')

The expletive *il* found with weather verbs cannot be absent in SI contexts, as expected, given the general absence (in French, at least) of null subject expletives.

The contrast between these weather verbs and the impersonal passive cases (with *soit procédé*) just discussed is due to the fact that in the impersonal passive cases there is a subject, albeit a quirky one, that can satisfy EPP.[56] In (105)–(107) there is

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54. That EPP violation could be neutralized by having expletive *il* in subject position, as in (99) above; thus long Wh-movement of *au réexamen de quelle loi* is in fact available in (99).

55. And for the fact that French does not allow Wh-movement to apply to a structure like (87), yielding:

(i)   *Qui faut-il que parte? ('who is-necessary it that leave')

The contrast between (i) and (102) is probably related to the fact that (102) lacks a silent subject clitic, as opposed to a silent locative or oblique clitic, but the exact reason for the impossibility of (i) needs to be made more precise.

56. This is so with the restrictions mentioned in note 48. Similarly, (i) is like (105)–(107) despite having a PP complement:

(i)   *Quand s'agira de lui?

Well-formed, with an overt expletive, is:

(ii)   Quand s'agira-t-il de lui? ('when refl. will-act it-expl. of him' = When will he be at issue?)

no such subject, and hence there is an EPP violation. (The silent subject clitic is not able to satisfy EPP by itself; see the latter part of note 31.)

Not surprisingly, adding an overt expletive *il* to (105)–(107) yields a grammatical result:

(108)   Quand a-t-il neigé?

(109)   Quand souhaiterais-tu qu'il pleuve?

(110)   Je souhaiterais qu'il pleuve demain.

Notable, in contrast, is the fact that some weather verbs can fail to show an expletive in causative contexts:[57]

(111)   Les scientifiques sont capables de faire pleuvoir. ('the scientists are capable of making rain-infin.')

If there is no EPP requirement in French causatives, then it is plausible to claim that (111) does contain an empty expletive (with accusative Case) and that the unavailability of empty subject expletives in finite contexts (such as (105)–(107)) is specifically due to their being unable to satisfy the EPP (in French, at least).

1.12.   SI "triggers"

In Kayne and Pollock (1978) SI was thought of in terms of "triggers": that is, SI was said to be "triggered" in certain contexts such as Wh-contexts and subjunctive contexts. In more current terminology, one could speak of "licensing" contexts for SI. But the question of interest was, and is, Why these contexts, as opposed to others, or as opposed to all contexts?

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57. Example (111) seems similar to (i), which contrasts with English:

  (i)   Ça fait rire. ('that makes laugh-infin.')
  (ii)   That makes *(one) laugh.

In (i), there is presumably a silent generic subject, which like the expletive of (111), cannot appear in finite contexts:

  (iii)   *Quand rit? ('when laughs')
  (iv)   *Je souhaiterais que rie. ('I would-wish that laugh-subj.')

    However, (111) contrasts with:

  (v)   *Les scientifiques sont capables de faire faire froid. ('. . . Of making do(be) cold')

This is probably related to (vi) versus (vii):

  (vi)   Ça pleut. / Ça neige. ('that rains / that snows')
  (vii)   *Ça fait froid.

The approach to SI based (in part) on (92) (whether or not (92) is best interpreted in terms of a GCondB)) has already provided the beginning of an answer to this old question. Consider the contrast:

(112)   *Est parti Jean. ('is(has) left J')

(113)   Quand est parti Jean? ('when . . .')

The proposal made in (92) accounts for this pair by requiring that the SI subject-raising operation (that precedes leftward IP/XP movement) not be "too local." In (112), it is, since there is nothing else to the left of and above IP that could be taken to intervene between the landing site of *Jean* and subject position. In (113), however, the interrogative Wh-phrase can have that role and create more "distance" between the landing site of *Jean* (above the interrogative phrase) and subject position (see the derivation illustrated in (94)).

From this perspective, there are no real external "triggers" or "licensers" for SI at all.[58] SI is possible whenever there happens to be something above IP that allows SI subject raising not to be "too local" or "vacuous." That "something" can be a phrase, like *quand* in (113), or matrix material that is not even a phrase, as in the subjunctive cases like:

(114)   Il faut que parte Jean. ('it is-necessary that leave J')

Here, as illustrated in the derivation given in (90), *Jean* raises across *il faut que*, which is not a phrase, but whose presence suffices for avoiding a violation of (92). From a trigger perspective, Wh-phrases and subjunctives have essentially nothing in common; from the perspective of (92), however, their common effect on SI can be made sense of.

There is a well-known contrast between (113) and apparently similar sentences where the interrogative phrase is *en quel sens* (in one of its uses; see Cornulier [1974, 142]):[59]

(115)   ?* En quel sens parlent les fleurs? ('in what sense speak (the) flowers')

Possible without SI is:[60]

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58. A separate question is whether the silent subject clitic that we have postulated should be taken to be an "internal trigger." That is, could it be that DPs in French are optionally introduced in conjunction with a doubling clitic, and that, when such a clitic is present and silent and in a nominative subject position, SI subject raising must take place?

As for the question of what would compel such movement (and somewhat similarly in the case of object clitic doubling), Moro (2000) may be relevant.

59. When argumental, *en quel sens* is compatible with SI, as in:

(i)   En quel sens a tourné la voiture? ('in what direction has turned the car')

60. In standard French, sentences such as (116) are not possible with most Wh-phrases; see Munaro et al. (2001) for relevant discussion.

(116)   En quel sens les fleurs parlent?

Example (116), like English *In what sense do flowers speak?*, has an interpretation akin to that of:

(117)   In what sense can one say that flowers speak?

Assume that (115) actually contains an abstract verb corresponding to *say* (Ross 1970), and that *en quel sens* enters the derivation after that abstract verb does. Then (115) is not derivable, as desired. At the point at which the derivation reaches the embedded IP, SI subject raising cannot apply because it would violate (92)/GCondB; at the point just after *en quel sens* is introduced, SI subject raising cannot apply because it would require extracting the subject out of an indicative IP into the domain of a higher verb (here, the abstract *say*, French *dire*), but that would violate the constraint seen in the discussion of (86)–(95).[61]

Almost certainly related to (115) is the status with respect to SI of *pourquoi* ('why'):[62]

(118)   a. ?*Pourquoi parle Pierre? ('why speaks P')
        b. ?*Pourquoi travaillent les linguistes? ('why work (the) linguists')

Rizzi (1990, 47) suggested that *pourquoi* is merged outside of IP. If we interpret this to mean that there is an abstract higher verb in (118), then (118) reduces to (115).

(Alternatively—and this could be true for *en quel sens*, too—*pourquoi* in (118) is merged outside IP, with the property [to be explained] that SI subject raising cannot cross it.)

French allows topicalization of PPs:

(119)   A Jean, Marie ne parle jamais. ('to J M neg. speaks never')

This topicalization provides a contrast with Wh-movement, as far as SI is concerned:

(120)   *A Jean ne parle jamais Marie.

(121)   A qui ne parle jamais Marie? ('to whom . . .)

In the derivation of (121), the Wh-phrase *à qui* preposes, following which the subject *Marie* preposes to the left of *à qui*. (Subsequently, *ne parle jamais* moves to the left of *Marie*, and *à qui* moves a second time; cf. (94) above.)

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61. The fact that (115) is less than a full star may be linked to the marginal availability of (86) and (95).

62. The unacceptability of (118) is somewhat less sharp than that of (62b) above, indicating that *si* ('if') is not a Wh-phrase at all (Kayne 1991, sec. 2) (also, that if there is an abstract Wh-phrase in (62b), it must be high enough that the embedded subject cannot cross it).

The question is why a parallel derivation with topicalization in place of Wh-movement is not legitimate.[63] For it to be so, *Marie* would have to be able to raise to the left of preposed *à Jean*, just as it does across *à qui* in (121). Let us propose, then, that a preposed topic (as opposed to a preposed Wh-phrase) blocks SI subject raising across it.

This difference between preposed topics and preposed Wh-phrases recalls the fact that topics create islands to a greater degree than do Wh-phrases themselves. This is quite clear in French, in particular, since Wh-islands in French are more permeable than in English.[64] For example, the following extraction from a Wh-island is fully acceptable:

(122)   A qui ne sais-tu pas quoi dire? ('to whom neg. know you not what say-infin.')

An example of an island effect created by topicalization is:[65]

(123)   *Quel livre, à Jean, veut-elle donner?

The idea that (120) is excluded as the result of an island effect created by topicalization carries over to clitic left dislocation (CLLD; Cinque 1990):

(124)   a. Ce livre-là, Marie l'a lu. ('that book there M it has read')
         b. *Ce livre-là l'a lu Marie.

Example (124b) contrasts with interrogatives:

(125)   Quel livre a lu Marie? ('what book has read M')

The sharp deviance of (124b), which goes well beyond the slight deviance of SI with accusative clitics in general (see note 7 above), indicates that a CLLD phrase is not

63. There are acceptable sentences like:
 (i)   A Jean correspond Pierre. ('to J corresponds P')
These differ from (120) is not having a noninverted counterpart—that is, (ii) contrasts with (119):
 (ii)   *A Jean Pierre correspond.
Conceivably, (i) has an in situ quirky subject; see note 53 above.
        The contrast between (120) and (121) suggests that Chomsky's (1977) abstract Wh-phrase analysis of English topicalization, whether or not correct for English, should not be transposed to French (as suggested also by the fact that French by and large disallows topicalization, but not Wh-movement, of a direct object).
        64. See Sportiche (1981) and Godard (1988).
        65. Contrasting with:
(i)   J'aurais, à Jean, donné un livre de linguistique. ('I would-have to J given a book of linguistics')
in which what has moved past *à Jean* is a rather different constituent, probably a remnant IP.
        The island effect induced by topicalization may be weaker when what is crossing the topic is a PP; see Rizzi (1997, 306). Example (123) constitutes a closer match with (nonprepositional) SI subject raising.

a "licenser" for SI. In our terms, this means that a CLLD phrase blocks SI subject raising—in other words, that subsequent to the preposing of *ce livre-là* in (124),[66] *Marie* is unable to raise higher (unlike (125), where *Marie* can raise past *quel livre*).

Independent evidence that a CLLD phrase blocks subject raising (in this case of the interrogative subject *qui* ['who']) comes from:[67]

(126) a. Ce livre-là, qui l'a lu? ('that book there who it has read')
       b. *Qui, ce livre-là, l'a lu?

Evidence that what is at issue is a blocking effect (on SI subject raising) produced by the CLLD phrase in (124b) (and by the topicalized phrase in (120)), rather than simply the absence of an appropriate licenser, comes from examples with two phrases visibly to the left of IP, one of which is a potential licenser and the other is not. Consider the following:

(127) a. ?le jour où, ce livre-là, Marie l'a lu ('the day when that book there M it has read')
       b. ?le jour où, cette fille-là, Jean lui a téléphoné ('the day when that girl there J her has telephoned')

In these relative clauses, the adjunct Wh-phrase *où* ('when'; literally 'where') has moved across the CLLD phrase, with no strong blocking effect (for reasons that we will not attempt to elucidate here). Thus (127) has two phrases to the left of the relative IP: one CLLD phrase and, preceding it, one Wh-phrase.

Now the Wh-phrase by itself would license SI:

(128) a. ?le jour où l'a lu Marie ('the day when it has read M')
       b. le jour où lui a téléphoné Jean ('the day when her has called J')

(On the fact that (a) is less good than (b), see the text to note 7 above.) Yet SI in (127) is impossible:

(129) a. *le jour où, ce livre-là, l'a lu Marie
       b. *le jour où, cette fille-là, lui a téléphoné Jean

The reason is that for SI to be well-formed, the subject phrase must have some phrase above it that it can raise across. CLLD phrases, though, block the required subject raising, as seen in (124b). Therefore, they will block it in (129), too. The fact that in (129) there is another phrase (the Wh-phrase) that by itself would have allowed the subject (*Marie* or *Jean*) to move across it (as seen in (128)) is not sufficient, since for the subject in (129) to cross the Wh-phrase, it would also have to cross the CLLD phrase, which it cannot do.

One might expect the combination of Wh-phrase and CLLD to be compatible with SI if SI subject raising could move the subject across the Wh-phrase before CLLD

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66. On CLLD as preposing, see Dobrovie-Sorin (1990, 394) and Kayne (1994, 82).
67. On (126b), see Rizzi (1997, 306).

preposing applied. In fact, this may well be what transpires in some derivations, such as that of (130), but the word order produced will not be that of (129):

(130)   a.   ?Ce livre-là, quand l'a lu Marie? ('that book there when . . .')
        b.   Cette fille-là, quand lui a téléphoné Jean?

These contrast minimally with (131), which is essentially the same as (129):

(131)   a.   *Quand, ce livre-là, l'a lu Marie?
        b.   *Quand, cette fille-là, lui a téléphoné Jean?

   Abstracting away from movement of the object clitic (and setting aside the question of what allows the preposition *à* to fail to appear before *cette fille-là*,[68] as well as various questions concerning clitic doubling), the derivation of (130b), for example, is:

(132)   Jean-SCL lui a téléphoné cette fille quand → Wh-movement
        quand$_i$ X^0 [$_{IP}$ Jean-SCL lui a téléphoné cette fille t$_i$] → subject raising (possible since CLLD preposing has not yet applied)
        Jean$_j$ F^0 [$_{XP}$ quand$_i$ X^0 [$_{IP}$ t$_j$-SCL lui a téléphoné cette fille t$_i$]] → IP-preposing (see the discussion of (94))
        [$_{IP}$ t$_j$-SCL lui a téléphoné cette fille t$_i$]k Y^0 [$_{FP}$ Jean$_j$ F^0 [$_{XP}$quand$_i$ X^0 t$_k$]] → second Wh-movement
        quand$_i$ Z^0 [$_{IP}$ t$_j$-SCL lui a téléphoné cette fille t$_i$]$_k$ Y^0 [$_{FP}$Jean$_j$ F^0 [$_{XP}$ t$_i$ X^0 t$_k$]]

Only at this point does CLLD preposing apply to yield (130b).

1.13.   SI and post-subject complements

There are cases in which the SI subject can be followed by a verbal complement:

(133)   Qu'a dit Jean à Marie? ('what has said J to M')

Although (133) is fully acceptable, there are restrictions that severely limit the class of such sentences. No doubt, the clearest has to do with direct objects, which can never follow the subject:[69]

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68. Some French speakers allow:

(i)   A cette fille-là, quand lui a téléphoné Jean?

   69. This is to be kept separate from the question whether the subject can immediately follow a direct object, because there things are appreciably less black and white. Compare (9) and (15c) above, which are completely impossible with the order verb–subject–object:

(i)   *Depuis quelle heure ont les enfants faim? ('since when have the children hunger')
(ii) *la fille à qui laissera sa grand'mère quelque chose ('the girl to whom will-leave her grandmother something').

(134)   *A qui a dit Jean tout cela? ('to whom has said J all that')

Nor can APs that are part of a small clause complement of the verb follow the subject:

(135)   *Quand est devenu Jean célèbre? ('when is become J famous')

With PPs, the result is sometimes fully acceptable, as in (133), sometimes less so:

(136)   ?Quand a parlé Jean à Marie? ('when has spoken J to M')

The kind of derivation we have proposed for SI does not immediately allow for sentences like (133). What we would so far expect, in the presence of a complement like *à Marie* is the following (simplified):

(137)   Jean a dit que à Marie → Wh-movement
        que Jean a dit à Marie → SI subject raising
        Jean que a dit à Marie → IP preposing
        a dit à Marie Jean que → second Wh-movement
        que a dit à Marie Jean

The IP-preposing step will move IP to the left of the subject, carrying along the complement, which will consequently find itself preceding the subject:

(138)   ?Qu'a dit à Marie Jean?

This kind of sentence, which is awkward (but improves if the subject is made heavier), is also possible in some of the cases where the order ". . . V S complement" is impossible. For example, (139) is appreciably better than (135):[70]

(139)   ?Quand est devenu célèbre Jean?

The question, then, is how to derive (133) (and (136)) while at the same time excluding (134) and (135).

There is reason to think that the complement *à Marie* in (133) has been topicalized (as opposed to being in situ). In particular, as pointed out by Cornulier (1974, 157), the post-subject complement in (133) is subject to a counterindefiniteness effect:[71]

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70. This contrast is unexpected from the Emonds and Legendre perspective mentioned above in the discussion of (7) and (8), especially since in non-SI contexts the more normal order is V DP AP:

 (i)   Cela a rendu Jean célèbre. ('that has made J famous')
 (ii)   ?Cela a rendu célèbre Jean.

71. The subject clitic inversion construction mentioned in note 24 above does not show any comparable restriction:

(i)   Qu'a-t-il avoué à quelqu'un? ('what has he confided to someone')

(140)   a. ?*Qu'a avoué Pierre à quelqu'un? ('what has confided P to someone')
        b. Qu'a avoué Pierre à Jean-Jacques? ('what has confided P to J-J')

This recalls restrictions often found with familiar instances of topicalization:

(141)   a. ?*A quelqu'un, Pierre a tout avoué. ('to someone P has everything confided')
        b. A Jean-Jacques, Pierre a tout avoué.

However, (120) above showed that, in fact topicalization is incompatible with SI, which we interpreted in terms of a blocking effect on SI subject raising due to the topicalized phrase. A way out of this apparent paradox is suggested by the surprising fact discovered by Kampers-Mahne (1998) that ". . . V subject complement" is not possible in subjunctive SI; that is, there is a clear contrast between (133) and (136) and the following subjunctive SI examples:

(142)   *Il faut que le dise Jean à Marie. ('it is-necessary that it say J to M')

(143)   *Je doute qu'ait parlé Jean à Marie. ('I doubt that has spoken J to M')

This suggests that the post-subject position of *à Marie* in (133) and (136) is somehow "parasitic" on Wh-movement (despite the fact that *à Marie* and the Wh-phrase do not end up next to one another). Consider, then, the following (simplified) derivation (for (133)):

(144)   Jean a dit que à Marie → Wh-movement with pied-piping of small clause
        [que à Marie] Jean a dit → SI subject raising
        Jean [que à Marie] a dit → IP preposing
        a dit Jean [que à Marie] → second Wh-movement step (no pied-piping)
        que a dit Jean à Marie

By the pied-piping hypothesis reflected in the first step of (144), *que à Marie* is a Wh-phrase, not a topicalized phrase; therefore, *Jean* is allowed to move across it.

In a subjunctive context, in contrast, pied-piping would not be available, so that for *à Marie* to topicalize in such a context it would have to do so on its own, with the result that SI subject raising of *Jean* (in, e.g., (142) or (143)) would (as in (120)) be blocked by *à Marie*, as desired.

From this perspective, the preference for definites seen in (140) must indicate that the pied-piped phrase *à Marie* in (144) is interpreted as a topic, despite not having been topicalized "on its own."

Let us return now to the contrast between (133) and (136)—that is, to the fact, from the perspective of (144), that pied-piping of PP by a Wh-phrase is not uniformly successful. Korzen (1983) proposed that the well-formedness in Wh-based SI of "V subject complement" was keyed to the question of whether the Wh-phrase is closer to the verb than to the complement. In (133), the Wh-phrase *que* ('what') is a direct object, and the complement is a PP. Since direct objects are closer to the verb in a familiar sense than PPs are, (133) is acceptable. In (136), in contrast, the Wh-phrase

is an adjunct *quand* ('when'), which is generally assumed to be less close to the verb than a PP complement; therefore, (136) is less acceptable.

We take Korzen's characterization of the (133) and (136) contrast to be on the right track, and here we attempt to give it a theoretical interpretation in terms of the derivation in (144). The corresponding derivation for (136) would begin with:

(145)   [Jean a parlé à Marie quand]

The order of constituents here reflects standard assumptions. To proceed as in (144) Wh-pied-piping would have to move *à Marie quand*. But here the Wh-phrase is not initial in the small clause. Let us therefore propose:

(146)   Wh-pied-piping of the sort necessary in (144) (to avoid the blocking effect of pure topicalization) is available only if the Wh-phrase is initial (highest) in the small clause.

Now (146) is, if we set aside cases of prepositional pied-piping such as *To whom were you speaking*, already familiar, in particular from Webelhuth's (1992, chap. 4) work on pied-piping. He noted that (apart from the *to whom* type) the Germanic languages other than English respect something similar to (146). Let us give an English example, since in some contexts English respects something like (146), too:

(147)   a. I wonder whose article they're reading.
         b. *I wonder the/an article by whom they're reading.

Although it remains to be determined how to characterize the cases in English (French has some similar cases) in which (146) can be ignored,[72] we take (146) to hold for SI derivations and thus to prevent pied-piping from moving *à Marie quand*.

However, (136) is not strongly deviant. Let us therefore take (148) to be (marginally) available as input to a derivation of type (144):

(148)   [Jean a parlé quand à Marie]

Recall now that, in fact, the deviance of (134) and (135) is sharp. They would correspond to the following inputs to (144):

(149)   a. [Jean a dit tout cela à qui]
         b. [Jean est devenu célèbre quand]

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72. This is so, for example, in (literary) relatives:

(i)   the linguist a statue of whom is standing in the parlor

For relevant discussion, see Kayne (1983a, (42)–(79)), Cinque (1982), and Obenauer (1994).

But to derive (134) and (135), one would have to move, by Wh-pied-piping, *tout cela à qui* in (a) and *célèbre quand* in (b), in violation of (146). Thus we have an account of the ungrammaticality of (134) and (135).

It remains to be understood why those are more strongly deviant than (136). The answer must be that in those cases the counterpart of (148) is not available as input to Wh-pied-piping:

(150)   a.   [Jean a dit à qui tout cela]
        b.   [Jean est devenu quand célèbre]

Presumably there is, VP-internally, some flexibility in ordering such that (148) is marginally available to the PP *à Marie*,[73] whereas DPs and small clauses have no comparable flexibility.

1.14.   SI with more than one verb

We have not yet given an explicit analysis of the sharp contrast:

(151)   a.   A qui a téléphoné Jean? ('to whom has telephoned J')
        b.   *A qui a Jean téléphoné?

Let us approach (151b) much as we did (134) and (135), starting from the derivation of (151a):

(152)   Jean a téléphoné à qui → Wh-movement
        à qui Jean a téléphoné → SI subject raising
        Jean à qui a téléphoné → IP preposing
        a téléphoné Jean à qui → second Wh-movement
        à qui a téléphoné Jean

The IP preposing step in (152) brings both auxiliary and participle to the left of *Jean*. The participle could fail to be preposed as part of IP if it had previously been topicalized as part of Wh-pied-piping (as is *à Marie* in (144)). But by (146) pied-piping movement of *téléphoné à qui* is excluded.

Nor can we have recourse to an input structure like (148) (leading to (136)), since in the case of (151b), that input structure would have to be:

(153)   [Jean a à qui téléphoné]

On the plausible assumption that whatever allows *quand à Marie* in (148) does not extend to *à qui téléphoné*, (153) is not available and, hence, no derivation at all can lead to (151b).

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73. This is perhaps related to the proposals concerning prepositions made in Kayne (1998b; 1999).

Similarly for:

(154)   a. A qui voulait téléphoner Jean? ('to whom wanted tel-infin. J')
         b. *A qui voulait Jean téléphoner?

IP-preposing will move along both main verb and infinitive. Pied-piping of *téléphoner à qui* is prohibited by (146), furthermore, (155) is an unavailable input structure to Wh-movement, just like (153):

(155)   [Jean voulait à qui téléphoner]

In (151a) and (154a), IP preposing carries along two verbs. In (156) it carries along "main verb + complementizer *de* + infinitive":

(156)   Quelle maison envisage d'acheter Marie? ('what house plans *de* buy-infin. M')

In (157), it carries along "main verb + complementizer + embedded finite (subjunctive) sentence (less Wh-phrase)":[74]

(157)   Quelle maison veut que j'achète Jean-Jacques? ('what house wants that I buy J-J')

The (simplified) derivation of (157) is:

(158)   J-J veut que j'achète quelle maison → Wh-movement
         quelle maison J-J veut que j'achète → SI subject raising
         J-J quelle maison veut que j'achète → IP preposing
         [veut que j'achète] J-J quelle maison → 2nd Wh-movement → (157)

Now (159) shows that IP movement carrying along two verbs is compatible with having the subject followed by a complement:

(159)   Quel genre de cadeau veut offrir Marie à Jean-Jacques? ('what sort of gift wants offer-infin. M to J-J')

The derivation is as in:

(160)   M veut offrir quel cadeau à J-J → Wh-pied-piping
         [quel cadeau à J-J] M veut offrir → SI subject raising
         M [quel cadeau à J-J] veut offrir → IP preposing
         [veut offrir] M [quel cadeau à J-J] → Wh-movement → (159)

74. It remains to be understood why the counterpart of (157) with an embedded indicative is less good (though not impossible):
(i)   ?Quelle maison croit que tu achèteras Jean-Jacques? ('what house believes that you will-buy J-J')

Given the well-formedness of both (156) and (159), one might well expect to be able to combine them: that is, to have a sentence like (159) but with *envisage de* instead of *veut*. However, the result is surprisingly deviant:

(161)   ??Quel genre de cadeau envisage de donner Marie à Jean-Jacques? ('what sort of gift plans *de* give-infin. M to J-J')

The same holds if we try to "combine" (159) with (157):[75]

(162)   *?Quel genre de cadeau veut que j'offre Marie à Jean-Jacques? ('what sort of gift wants that I give M to J-J')

Why should this be so? Consider the derivation of (161) (and similarly for (162)):

(163)   M envisage de donner quel cadeau à J-J → Wh-pied-piping
[quel cadeau à J-J] M envisage de donner → SI subject raising
M [quel cadeau à J-J] envisage de donner → IP preposing
[envisage de donner] M [quel cadeau à J-J] → Wh-movement → (161)

We suggest that the difference between (160), which yields the well-formed (159), and (163), which yields the relatively ill-formed (161), should be attributed to the Wh-pied-piping step.

The idea that Wh-pied-piping (i.e., Wh-induced movement of a small clause) is what is responsible for the deviance of (161) is inspired by the observation that *envisager* ('plan') and *vouloir* ('want') differ from one another in a similar way in the case of leftward quantifier movement:[76]

(164)   Elle a tout voulu donner à Jean. ('she has everything wanted give-infin. to J')

(165)   ?Elle a tout envisagé de donner à Jean. ('she has everything planned *de* give-infin. to J')

Infinitives under verbs like *vouloir* are transparent to such extraction, whereas extraction is more difficult with verbs like *envisager*. The proposal, then, is that in a way at least partially similar to movement of *tout* ('everything'), Wh-piping of a small clause (as opposed to ordinary Wh-movement) is sensitive to this kind of island effect.

1.15.   SI and direct objects

In the discussion following (148), we proposed an account of the fact (illustrated in (134)) that the SI subject can never be followed by a direct object. In this sec-

75. Not surprisingly, given note 74, the indicative counterpart of (162) is strongly unacceptable:

(i)   *Quel genre de cadeau croit que tu offriras Marie à Jean-Jacques?

76. See, for example, Kayne (1975, chap. 1), Pollock (1978), Baker (1996, 150–151).

tion we return to the question of direct objects that precede the SI subject. The basic contrast is:

(166)   ?Qu'a donné à Marie Jean? ('what has given to M J')

(167)   *A qui a donné ce livre Jean? ('to whom has given that book J')

The SI subject can follow PP complements with some degree of awkwardness (which can be alleviated by having a heavy SI subject), but the corresponding sentence with a direct object preceding the SI subject is substantially worse.

On the other hand, we noted in (7)–(16) that there are various clear classes of exceptions: for example, (167) can be made acceptable to varying degrees by having the direct object be idiomatic, or cliticized, or Wh-moved, or a bare quantifier. The question nonetheless remains as to why (167) itself is unacceptable.

Let us begin with the derivation of (166). It might appear that (166) is a straightforward case of SI, with IP preposing carrying along the PP *à Marie*. But if that were true, it would be difficult to understand the contrast with (167). Let us propose a slightly different derivation, then, for (166):

(168)   J a donné que à M → Wh-movement
         que J a donné à M → SI subject raising
         J que a donné à M → topicalization
         à Marie J que a donné → IP preposing
         a donné à Marie J que → 2nd Wh-movement → (166)

In (168), IP preposing does not carry along the PP, which was, instead, topicalized just prior to the IP preposing step. Since topicalization in (168) follows SI subject raising, it cannot interfere with it, so the blocking effect that holds in (120) does not come into play here.

The next question is why (166) could not also avail itself of a derivation in which the PP was carried along by IP preposing. Let us propose, thinking of Koopman and Szabolcsi (2000) on Dutch and Hungarian:[77]

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77. The correct notion of "lexical" will want to distinguish:

 (i)   *A qui en a offert trois Jean-Jacques? ('to whom of-them has offered three J-J')
(ii)   (?)A qui en a offert Jean-Jacques?

On the presence of an abstract quantifier or numeral in (ii), see Kayne (1975, sec. 2.9) and Pollock (1998, 315).

The idiomatic objects of (9) and the bare quantifier objects of (15) must not count as lexical.

If *tous* ('all') did count as lexical in sentences like (iii), we could correctly account for the following (cf. Déprez [1990, 56]):

(iii)   a. le jour où tes amis ont (tous) téléphoné ('the day when your friends have all telephoned')
        b. le jour où ont (*tous) téléphoné tes amis

(169)   IP preposing results in a violation if IP contains a lexical argument.

Proposal (169) (which itself requires explanation) will force on (166) the derivation in (168). Why, then, can (167) not be derived in parallel fashion? The answer, we think, is that the topicalization step of (168) is not open to direct objects in French (as opposed to English):[78]

(170)   *Ce livre Jean a donné à Marie. ('that book J has given to M')

In other words, the unacceptability of (167) is due to the combination of (169) and (170).

There is a striking contrast between the following two examples:[79]

(171)   *?A qui voulait donner ce livre Jean-Jacques? ('to whom wanted give-infin. that book J')

(172)   A qui envisage de donner ce livre Jean-Jacques? ('. . . plans . . .')

There is probably a link here with . . . *l'un* . . . *l'autre* . . . constructions (Kayne 1975, sec. 1.9) and with gapping (Johnson 1994), which is beyond the scope of this essay.

A problem that may or may not be related to the question of (iii) is raised by (iv), in which *lui* and *Jean* cannot be coreferential:

(iv)   le jour où lui ont téléphoné les amis de Jean ('the day when him have phoned the friends of J')

Although this might look like a Condition C effect (which would be unexpected if *lui* is preposed as part of IP), it also appears in (v), where Condition C is less plausible:

(v)   le jour où ont voulu lui téléphoner les amis de J ('the day when have wanted him(dat.) phone the friends of J')

Nor is condition C likely to be at issue in (vi) (where *le* still seems non-coreferential with *Al Capone*), in particular given (172) below:

(vi)   le jour où ont envisagé de le descendre tous les voyous qu'avait engagés Al Capone ('the day when have planned *de* him shoot-down all the gangsters that had hired AC(subject)')

78. Compare note 40 and Cinque (1990, 71).
79. Like (171) is:

(i)   *Que veuillent écrire un livre beaucoup de linguistes, ça . . . ('that want-subj. write-infin. a book many of linguists, that . . .')

The contrast between (i) and (ii) (which is like (166)) supports the idea that subjunctive SI and Wh-SI are largely the same:

(ii)   ?Que veuillent parler à Marie beaucoup de linguistes, ça . . . ('that want-subjunctive speak-infin. to M . . .')

It remains to be understood why the counterindefiniteness effect of (49) is weak with subjunctives—why the following is fairly acceptable:

(iii)   Je souhaiterais que te critique quelqu'un. ('I would-wish that you(object) criticize someone(subject)')

Although one might try to accommodate (172) by revising (169) to include some notion of "not too deeply embedded," we prefer to treat (172) parallel to (166)—that is, by having the derivation of (172) contain a topicalization step (topicalization of the infinitive phrase *[de] donner ce livre*) that applies prior to IP preposing and removes the direct object from the domain of (169). (What we see in (166) and (172) is that although the direct object cannot topicalize by itself, it can escape (169) through topicalization of a larger constituent containing it.)

The substantial deviance of (171) suggests that the infinitival complement of *vouloir* can only very marginally be topicalized in French. If this is correct, then (171) is basically in violation of (169).

This property of (171) is presumably related to *vouloir* being one of the core restructuring verbs in Rizzi's (1982, chap.1) sense. That that is what is at issue rather than simply the absence of complementizer in (171) is supported by the following, which escape (169) via topicalization of an infinitive complement that lacks a (visible) complementizer:

(173)   a. A qui aurait aimé donner ce livre Jean-Jacques? ('to whom would-have liked
           give-infin. that book J-J')
        b. Où vont aller acheter des fruits les gens de Paris? ('where are-going-to go-infin.
           buy-infin. (some) fruit the people of P')

We note in passing that a direct object triggering a violation of (169) need not be adjacent to the SI subject. This is shown clearly by:[80]

(174)   a. ?Quel genre de divan t'a sommé d'acheter Jean-Jacques? ('what kind of sofa
           you has commanded *de* buy-infin. J-J')
        b. *Quel genre de divan a sommé Marie d'acheter Jean-Jacques? (= What kind of
           sofa has J-J commanded M to buy?)

In (174b), IP preposing has moved *a sommé Marie d'acheter*, violating (169), despite the fact that *Marie* is internal to the moved IP.

1.16.   Strong focalization SI

Pollock (1985) discussed a subcase of SI illustrated in (175):

(175)   Ne sont venus que Jean et Marie. ('neg. are come but J and M' = Only J and M
        have come.)

      80. This contrast is found in Italian, too:

 (i)   ?L'ha costretta ad andar via Gianni. ('her has forced to go away G')
 (ii)   *Ha costretto Maria ad andar via Gianni.

This suggests that Italian is subject to (169), too (and that Italian has IP preposing of the sort we have been discussing for French); see Belletti (2001).

This subcase of SI shares various of the properties discussed above (see (79) and (80)):

(176) a. Ne sont venus qu'eux. ('. . . them/they')
       b. *Ne sommes venus que nous. ('. . . us/we')

It differs sharply, however, in freely allowing a direct object to precede the subject:

(177) N'ont embrassé la jeune mariée que son père et ses frères. ('neg. have kissed the young bride but/only her father and her brothers')

This suggests a partial reinterpretation of the ban on French direct object topicalization. Let us propose that, although it is quite generally prohibited in French across an ordinary subject, direct object topicalization is, in fact, available if the crossed subject is strongly focused.

The (simplified) relevant part of the derivation of (177) is:[81]

(178) que X et Y n'ont embrassé la jeune mariée → topicalization of direct object
       la jeune mariée que X et Y n'ont embrassée → IP preposing → (177)

From this perspective, (177) is unusual (relative to French) in allowing direct object topicalization,[82] but it obeys (169) straightforwardly.[83]

1.17. Successive cyclicity

One of the main concerns of Kayne and Pollock (1978) was the case of SI involving an embedded subject, yet in which the licenser is in the matrix:

81. Derivation (178) seems to imply that *ne* need not c-command *que*, in which case the ungrammaticality of (i) must be due to another factor:

(i)   *Que Jean n'est venu.

On the fact that the second line of (178) does not itself correspond to a grammatical sentence, see Barbaud (1976) and Munaro et al. (2001).

82. See Ordóñez (1998) on Spanish scrambling.

83. Another question that arises with respect to (175) concerns IP preposing and subject raising. As indicated in (178), we take IP preposing to apply here just as in all other cases of SI. But we argue, at the end of section 4 (following example (23)), that for IP preposing to apply, the subject must have raised out of Spec,IP to a higher Spec position. In addition, we proposed in (92) that this higher Spec cannot be that of the projection immediately above IP. How is (175) compatible with this last requirement?

A detailed answer would take us too far afield, but it seems likely that it is the *que* itself that has an essential role, and similarly for the silent strong focalizing head in:

(i)   Ont embrassé la jeune mariée son père, ses frères et ses soeurs.

In particular, it may be that (92) applies only to F^0 and that the presence of a head like *que* makes (92) irrelevant to (175).

On the fact that English *only* and similar heads induce IP preposing themselves, see Kayne (1998a).

(179)   A qui crois-tu qu'a téléphoné Jean? ('to whom think you that has called J')

Here the Wh-phrase *à qui* is clearly playing the role of licenser, as shown by the sharp contrast with the following (cf. (86)):

(180)   ???Je crois qu'a téléphoné Jean. ('I think that . . .')

A qui can have this role only if it originates in the embedded sentence:

(181)   ???A qui as-tu dit qu'est parti Jean? ('to whom have you said that is(has) left J')

To the extent that (180) and (181) are (very) marginally acceptable, they are instances of indicative SI, with derivations like that in (95) above. Another type of derivation must evidently be available to (179).

Transposing the successive cyclicity proposal that we made in 1978 is straightforward. The (simplified) derivation of (179) will look like this:[84]

(182)   Jean a téléphoné à qui → Wh-movement
          à qui Jean a téléphoné → subject raising
          Jean à qui a téléphoné → IP preposing
          a téléphoné Jean à qui → 2nd Wh-movement (see note 43)
          à qui a téléphoné Jean → further mergers
          tu crois que à qui a téléphoné Jean → second cycle Wh-movement (plus root
          inversion) → (179)

1.18.   Conclusion

Theoretical and empirical considerations converge toward an analysis of French SI (nonclitic subject-related inversion) that has the following core properties: The lexical subject moves to a high position above IP, leaving behind a phonetically unrealized subject clitic. The (remnant) IP then moves leftward past the landing site of the subject.

The analysis proposed covers cases of SI involving Wh-movement, as well as cases involving subjunctives (and some marginal cases with indicatives). The notion of "trigger for SI" that seemed necessary in earlier work turns out to be superfluous, from our new perspective.

In addition, French turns out to have no null expletives in SI sentences, contrary to appearances, but it does have quirky subjects that in part resemble those of Icelandic.

84. SI subject raising on the lower cycle is compatible with (92) by virtue of the previous application of Wh-movement.

Having subject raising wait until after the Wh-phrase reaches the matrix is ruled out (modulo the '???' of (181)) by the indicative island effect discussed in the paragraph following (90).

The counterpart of (179) with an embedded subjunctive will have this option, though; see the discussion of (102).

The postverbal SI subject can sometimes be followed by a complement. That is due to the pied-piping of the complement as a side effect of Wh-movement, which accounts for a major difference between Wh SI and subjunctive SI.

When the postverbal SI subject is preceded by a complement, the position of the complement is due to topicalization (across the subject) prior to IP preposing. Such topicalization cannot apply to a direct object, except when the subject is strongly focused.

Multiple leftward movements are seen to interact in such a way as to provide accounts for various phenomena that were not understood in an earlier framework countenancing rightward movement.

2

On the Left Edge in UG

A Reply to McCloskey

2.1.   Uniform movement

In a recent article in *Syntax*, McCloskey (1999) suggested, on the basis of data from Irish, that our theory of universal grammar (UG) should countenance a class of rightward movements applying in the derivation of phonological form (PF) representations. As he notes, this might be compatible with the antisymmetry proposal of Kayne (1994) if that proposal were taken to hold only of "narrow" syntax. Whether McCloskey's suggestion would lead to a minor or to a major decrease in the restrictiveness of our characterization of UG is not easy to say.[1]

The idea that there is a class of PF movements that, to a significant extent, resembles the class of familiar syntactic movements, but differs from them in having in principle no effect on interpretation, is rather like the idea that there is a class of logical form (LF) movements that resembles familiar syntactic movements, while differing from them in having in principle no effect on pronunciation.

In Kayne (1998a), I argued that many analyses based on LF (covert) movement can and should be replaced by analyses using only overt movement. A parallel conclusion for PF would be that UG should not contain two classes of otherwise similar movement operations distinguished in principle by having or not having

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1. As he himself notes, "at present we have no theory whatsoever of what the properties of such [PF] movements might be" (p. 207).

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an effect on interpretation. If all syntactic movement operations[2] are uniform in feeding both phonology and interpretation, then McCloskey's suggestion that there are (rightward) PF movements in Irish could not be correct.[3]

2.2. Irish

The claim that McCloskey's proposal for rightward PF movement in Irish is unlikely to be correct must nevertheless be squared with his careful and important discussion of the Irish data. I begin by attempting to find, as far as is possible, English counterparts to the relevant Irish facts. This can be done to a significant extent, I think. There will remain a residue, which I will try to elucidate by bringing in other data from Amharic and Tigre.

McCloskey starts from the fact that the Irish counterpart of an English sentence like *Even if we left*, *he would stay* has, instead of *even if . . .* , *. . .* the equivalent of *if . . . even*, *. . .*—that is, Irish would have (abstracting away from the fact that Irish has VS where English has SV) the equivalent of **If we left even*, *he would stay* (which in English does not seem possible with the relevant interpretation).

The next point is that in Irish it is possible for certain material from within the *if*-clause to actually follow the word for *even*. Where English has:

(1)   Even if he bought a long book about linguistics, they would be unhappy.

Irish would normally have the equivalent of **If he bought a long book about linguistics even*, *they would be unhappy*. But Irish also allows, with the same interpretation, the equivalent (see McCloskey's (31)) of:

(2)   If he bought even a long book about linguistics, they would be unhappy.

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2. This formulation leaves open the possibility of a true phonological counterpart of movement such as metathesis or some version of metathesis.

3. Similarly for "stylistic" movement of the sort alluded to by Chomsky (2000, 144, note 44); for relevant discussion, see chapter 1 above, especially note 1).

Chomsky (2000, 146, note 68) suggests that head-adjunction might be part of the PF component; if this were restricted to head-adjunction, there would be no relevance to McCloskey's proposal, which appears to involve only phrasal phenomena. For head adjunction to systematically be part of PF, English *-n't* would have to be taken to originate above the final landing site of the subject in (ii), given:

  (i)   *Why did anybody help us?
 (ii)   Why didn't anybody help us?
(iii)   *I know why anybody didn't help us.

That there is no phrasal PF movement is supported by McCloskey's own footnote 6, citing Taraldsen (1981) (and Guéron and May 1984) on the fact that relative clause extraposition affects Condition C of the Binding Theory; see also Kayne (1994, 122–123). This is relevant since relative clause extraposition (see McCloskey's (38) and (39)) is one of the movement operations that McCloskey's general discussion leads him to classify as phonological.

In my English, (2) is not very natural, but in any case it does not seem to be able to have the interpretation of (1), contrary to Irish. (I return below to examples that for me are closer to what is possible in Irish.) McCloskey takes (2) in Irish to involve Heavy-NP Shift of the object of the embedded verb. The notable property of Irish here is that this moved object ends up to the right of *even*; that is, the moved object in (2) seems to have escaped from the conditional *if*-clause entirely.

McCloskey then notes (see his (52)) that conditional *if*-clauses are otherwise strong islands in Irish, for traditional leftward movements like Wh-movement and topicalization. For example, without a resumptive pronoun the following is strongly unacceptable in Irish (although it is marginally acceptable in English):

(3)   ??Who would you be unhappy if she criticized?

He concludes that the unacceptability of (3) in Irish makes it implausible to analyze (2) in Irish in terms of leftward movement, and he consequently concludes that (2) (in Irish) must involve rightward (PF) movement.

McCloskey is certainly correct to take (2) in Irish to be an instance of Heavy-NP Shift, and to take its interaction with Irish *if* and *even* to raise a notable challenge. However, I do not think that (3) bears all that directly on the analysis of (2), because (3) involves extraction out of the *if*-clause into the matrix sentence in a way that is not fully parallel to the movement of the embedded object in (2).

2.3.   *Too* and Heavy-NP Shift

It is useful, I think, to separate the question of *if* from the question of *even*, as far as Heavy-NP Shift is concerned. Let me begin with *even*, or rather with English *too*, which is like Irish *even* in necessarily following the element it focuses:

(4)   John, too, likes linguistics.

(5)   *Too John likes linguistics.

(6)   John$_i$ plays the piano; he$_i$ sings folk songs, too.

(7)   *John$_i$ plays the piano; he$_i$ too sings folk songs. (* with VP focus)

(8)   (?)I showed John, too, my article.

(9)   *I showed, too, John my article.

Consider now:

(10)   John likes linguistics, too. (OK with focus on *linguistics*)

(11)   *John likes, too, linguistics.

(13)   John likes, too, the type of linguistics that's no longer in fashion.

In (10) it is natural to take the preceding object to be focused by *too*. For *too* to focus the following object in (11) is quite unnatural (except, perhaps, with a decided pause and high stress reminiscent of list constructions). Whereas in (12), an interpretation in which the object is focus of *too* does seem reasonably natural.

   This suggests that (12) is the Heavy-NP Shift counterpart of (10): that (12) in English is significantly like (2) in Irish (although (12) lacks the *if*). In a less restrictive theory of UG than that of Kayne (1994), one could think of (12) in terms of rightward movement. If UG does not countenance rightward movement, however, one must think of (12) in terms of leftward movement, in a way that goes back to Larson's (1988; 1990) Light Predicate Raising. Thinking more specifically of den Dikken (1995) and Kayne (1998a, sec. 3.5), I assume that, in addition, Heavy-NP Shift involves leftward movement of the heavy NP—that is, of the object (in (12)).

   More specifically, I take (12) to have a (simplified) derivation involving the following steps:

(13)   . . . likes the type . . . too → object movement
       . . . [the type . . .]$_i$ likes t_i too → predicate raising
       . . . [likes t_i too]$_j$ [the type . . .]$_i$ t_j

Such a combination of two movements is what underlies Heavy-NP Shift in general. It is by no means automatically available. For example, German and Dutch generally lack Heavy-NP Shift of the English type; more precisely, they generally lack the possibility of having even a "heavy NP" to the right of the (non-V-2) verb—presumably because they lack predicate raising of the English sort (see Kayne 1998a, sec. 3.5). Even SVO languages can lack Heavy-NP Shift;[4] Haitian is one example (see Dejean 1993)—for reasons that remain to be elucidated.

   The specificity of (12) lies in the fact that, as illustrated in (13), predicate raising there carries along *too*. If *too* has a syntax of the sort proposed in Kayne (1998a), this implies that predicate raising in (13) moves a phrase with much more internal structure than just VP and that the landing site for object movement in (13) is higher than the projection headed by *too*.

   I conclude from this too brief discussion that (although there are many details yet to be worked out) sentences like (12) can, in fact, be taken to involve only leftward movements, and therefore they provide no compelling argument for rightward movement.

2.4.   Leftward movement past *if*

Returning to *if*, and now combining it with (English) *too*, consider:

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4. This is relevant to Saito and Fukui (1998), as is, in a different way, the existence of leftward scrambling in Russian.

(14)   We will be happy if John plays the piano, too.

I find this ambiguous, with (at least) the two readings corresponding to:

(15)   We will be happy, in addition, if John plays the piano [and not only if Bill sings a folk song].

(16)   We will be happy if, in addition, John plays the piano [in addition to, i.e. along with, Bill's singing a folk song].

In the first reading, corresponding to (15), *too* seems to have scope over *if*. In the second, corresponding to (16), *if* appears to have scope over *too*. I do not, however, find the following ambiguous:

(17)   We will be happy if John likes, too, the type of linguistics that's now out of fashion.

This has only the reading in which *if* has wider scope than *too*.
      A natural interpretation of this fact about (17), from a leftward movement perspective, is that the object preposing part of Heavy-NP Shift cannot move the embedded object in (17) past *if* and into the matrix: that is, it cannot move it completely out of the *if*-clause (if it could, then the preposing by predicate raising of . . . *happy if John likes too* would incorrectly be able to yield the unwanted interpretation of (17)).
      A more dramatic violation of this sort can be illustrated with preposed *if*-clauses. In (18) the *if*-clause can be interpreted as focused by *too*:

(18)   If John likes linguistics, we will be happy, too.

But the following, in which a heavy embedded object would have been preposed out of the *if*-clause (and the matrix IP then preposed past its landing site) is impossible:

(19)   *If John likes, we will be happy, too, the type of linguistics that's now out of fashion.

      The sharp deviance of (19) and the unavailability of the *too* > *if* reading of (17) recall Ross's (1967) Right-Roof Constraint. From the present perspective, though, they must be reinterpreted in terms of constraints on leftward movement and then arguably be related to the impossibility of (3) in Irish.
      We can now see in what way McCloskey's key Irish example, which resembles (2), is special. In effect, it is a close counterpart of (17), with the difference that Irish (2) has *even* where English (17) has *too*. The crucial empirical fact is that Irish (2) allows *even* to have scope over *if*, while English (17) does not allow *too* to have scope over *if*.
      In the spirit of Kayne (1998a, secs. 3.6–3.10), we would expect such cross-linguistic interpretive differences to follow from independent differences in overt

syntax. In the particular case at hand, what seems to be at stake (from my perspective) is whether or not Heavy-NP Shift can move the "heavy" DP leftward past *if*.[5]

English is not able to, as shown by (19) and by the limited interpretation of (17). McCloskey shows that Irish is not able to, either, in cases like (3), and he concludes that Irish (2) in the *even > if* interpretation cannot crucially involve leftward movement at all. I think, however, that if we look more closely at the notion "movement past *if*" we see that there is a vagueness there whose dissipation leads to a solution—more specifically, to a solution formulable entirely in terms of leftward movement.

With Rizzi (1997) in mind—in particular, his point that the projection containing interrogative phrases is not the highest projection within CP—it becomes possible to claim that "movement past *if*" covers two separate notions. On the one hand, it might mean "movement out of the minimal CP containing *if*"; on the other, it might mean "movement past *if* but remaining within the minimal CP containing *if*."

Let us now continue to assume, with McCloskey, that Irish has no "movement out of the minimal CP containing *if*," as shown by the unacceptability of (3) in Irish. My proposal for (2) in Irish is that it represents an instance of "movement past *if* but remaining within the minimal CP containing *if*." The contrast with English (17), unacceptable in the relevant *too > if* interpretation, is due to the fact that English lacks this movement option.

More specifically, I take Irish (2) to have a derivation involving (approximately) the following steps:

(20)   . . . if he bought a long book about linguistics . . . → heavy NP preposing
   . . . [[a long book about linguistics]$_i$ if he bought t$_i$] . . . → merger of *even*
   . . . even [[a long book about linguistics]$_i$ if he bought t$_i$] . . . → predicate phrase preposing
   . . . [if he bought t$_i$]$_j$ even [[a long book about linguistics]$_i$ t$_j$]

The first step of (20) reflects the hypothesis that Irish allows preposing past *if* but still within CP (the landing site of the heavy NP is the Spec of some projection within CP but higher than the interrogative one). The last step of (20) indicates that predicate preposing can (once the heavy NP has been moved past *if*) both carry along *if* and move past *even*.

Again, if the first step of (20) is unavailable in English, then (20) as a whole will be unavailable in English, with the desirable result that (17) will be unavailable in English with the *too > if* interpretation.

At least two principal questions remain. The first is, Is it plausible to have UG allow the movement indicated in the first step of (20)? I think the answer to this question is positive, quite independently of Irish, to judge by the way in which Amharic expresses clauses that in English and Irish begin with *if* or other subordinating conjunctions like *although*, *after*, and so on. According to Appleyard (1995,

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5. Similarly for (leftward, as in Duffield 1995) clitic movement in Irish, which McCloskey discusses in detail.

183–199), Amharic necessarily has, for *if John likes linguistics*, the equivalent of 'John linguistics if likes', with 'if' immediately preverbal.[6]

As McCloskey notes in a different context in his footnote 7, downward movement is hardly likely to be made available by UG. In particular, deriving the Amharic order by downward movement of *if* is with virtual certainty not a legitimate possibility. Amharic suggests, rather, that UG allows a derivation which, starting from a structure resembling the actual English one, involves preposing all the (non-clitic) arguments leftward past *if* (and similarly with other conjunctions). I now take the first step in (20) to be significantly similar to what takes place in a more systematic way in Amharic (see note 6).

This leads us to the second principal question remaining: Why does English not allow anything of the sort, and why does Irish not look exactly like Amharic (i.e., in part, at least, why must Irish follow the first step of (20) with predicate raising)?

Concerning the first half of this question, and taking the significant break here to be English versus Irish and Amharic, it may be that this property of Amharic and Irish is related to their "VSO-ness." This may seem implausible since although Irish is a classic example of a VSO language Amharic is actually strongly verb final. However, various relatives of Amharic are VSO languages, and Amharic itself has some properties that group it with Hebrew and Arabic more than with head-final languages of the Japanese type. For example, Amharic has some prepositions, and it has postverbal pronominal clitics.

A more precise proposal is the following: for an argument or the arguments of an *if*-clause to be able to raise (leftward) past *if* (perhaps sometimes or often as an instance of remnant movement of a verbal (or larger) projection), there must be a stage in the derivation where what follows *if* is a phrase that is V-initial. This criterion is straightforwardly met by Irish and arguably met by Amharic (even if VSO does not normally surface in Amharic as such), but never by English, so that English has no access to (20) at all.[7]

2.5.   Conclusion

Although I have by no means done justice to the richness of McCloskey's Irish data, I hope to have demonstrated the plausibility of giving it a restrictive interpretation that excludes all recourse to rightward movement.

6. Similarly, although optionally, in Tigre, to judge by Raz (1983, 47, 91, 92, 95).

7. As for the question why Irish does not look like Amharic, it might be that the wholesale leftward movement past *if* seen in Amharic is akin to the movement that gives it its SOV appearance to begin with, and that the absence in Amharic (and Tigre) of predicate preposing carrying along V is similarly akin to the corresponding absence in German and Dutch. See Kayne (1998a, secs. 3.9–3.10), especially the references cited in note 110.

3

Review of Paola Benincà, *La variazione sintattica. Studi di dialettologia romanza*

3.1.   Dialect syntax

The extent to which closely related dialects can vary in their syntax is widely under-estimated. Paola Benincà's work has, over the past twenty or so years, contributed substantially toward rectifying that misapprehension. The volume discussed here consists of eleven articles, all except one previously published, plus a short intro-duction. Most of the articles originally appeared in relatively inaccessible places; their republication is welcome.

The volume is divided into two sections. The first, entitled "Varietà Moderne" [Modern varieties/dialects], contains six articles, the second, entitled "Varietà Medievali" [Medieval . . .], contains five. Two of the articles were written in col-laboration with others.

In her introduction (p. 8), Benincà captures perfectly the feeling one has when one begins to work on dialect syntax: "Ci troviamo di fronte a una serie impressionante di variazioni osservabili" ('we are confronted by an impressive series of observable variations'). But this initial impression is soon tempered by a fundamental observa-tion: "non tutto quello che sarebbe ipotizzabile in linea di principio, se le lingue fossero pura creazione senza regole, è effettivamente attestato" ('not everything that could be hypothesized in theory, if languages were pure creation without limits, is actu-ally attested'). She continues, exactly to the point, I think: "e di fronte alla variazione apparentemente infinita possiamo concludere che quello che non è attestato è probabilmente impossibile" ('and confronted with apparently infinite variation, we can conclude that what is not attested is probably impossible').

The task of syntactic theory is then to account for these "gaps"—that is, for the absence of certain plausible, but nonoccurring, combinations of syntactic properties. On a different scale, this is very much akin to the challenge raised by Greenberg's word-order universals. Why, for example, should languages with final complementizers always be verb-final?[1] Why, within the Romance languages, should the existence of *Non so se andare al cinema* ('not I-know if to-go to-the movies') (vs. the impossible French **Je ne sais pas si aller au cinéma* ('I neg. know not if to-go to-the movies')) correlate with pronominal clitics coming after the infinitive?[2] Why, within the set of Italian dialects, should a preference for imperative *Non lo fare!* ('neg. it to-do'), as opposed to *Non farlo!* ('neg. to-do-it'), correlate with a wider versus less wide acceptability of clitic climbing (*Lo voglio fare* ('it I-want to-do'))?[3]

Benincà points out (p. 9) that "Il peso che i dati dialettologici possono avere di rimbalzo su una teoria linguistica è apparso ben chiaro ai glottologi ottocenteschi" ('the weight that dialect data can have on a linguistic theory was quite clear to nineteenth-century historical linguists').[4] In fact, the microvariation found among closely related dialects is in certain respects more manageable (i.e., easier to pin down and to obtain theoretical results from) than the macrovariation one confronts when attempting to take into account languages around the world, of many types. As she puts it, "l'apparente limite derivante dal fatto che abbiamo a che fare con varianti di un unico 'tipo', è in realtà un vantaggio, che permette di considerare le varietà neolatine ancora più vicine a un esperimento: la variazione osservata può considerare 'sotto controllo' altre variabili, cosa che non è possibile fare quando osserviamo varianti di lingue distanti" ('the apparent limitation deriving from the fact that we are working with variants of a single "type" is in reality an advantage that allows us to consider the different varieties of Romance even closer to [the ideal of] an experiment: the observed variation can take other variables to be "under control," which is something that it is not possible to do when we observe variants of languages distant from one another').

3.2. Subject clitics and null subjects

The first article (pp. 15–27) in the volume is "Il clitico *a* nel dialetto padovano" [The clitic *a* in Paduan dialect] (Paduan is Benincà's native dialect). In this article, originally published in 1983, Benincà demonstrates the existence in Paduan of an element *a* that is a preverbal clitic of a sort distinct from the more familiar subject clitics that it in part resembles. This *a* precedes the preverbal negation that Paduan subject clitics follow (p. 21): *A no te parli mai* ('*a* neg. you-sg. speak never'). (This difference between *a* and subject clitics was not present in Ruzante Paduan (p. 20), in which subject clitics preceded the negation.)

1. See Greenberg (1966), Dryer (1992). For an account, see Kayne (1998b).
2. See Kayne (1991).
3. See Kayne (1992). Also, more generally, Black and Motapanyane (1996).
4. See also Benincà (1988).

Benincà's proposal is that *a* is a topic clitic, linked to a topic position above and to the left of the subject position. This proposal allows her to account for the incompatibility between *a* and left-dislocation (p. 25): **Ti a te si bon* ('you *a* you are good'). Moreover, *a* is compatible with right-dislocation: *A 'l ze bravo*, *Giorgio* ('*a* he is clever, G'), from which she concludes that left- and right-dislocation need to be treated more differently from one another than would be obvious from just looking at Italian. This conclusion seems right;[5] in addition, Benincà's study of Paduan *a* paved the way for much further work on clitics that occur to the left of the usual subject clitics.[6]

The second article (originally published in 1982) is entitled "Appunti di sintassi veneta" [Notes on Veneto syntax] (pp. 29–66) and was written in collaboration with Laura Vanelli. Benincà, in her part (pp. 34–51), is primarily concerned with subject clitics in Paduan, which are obligatory in the second-person singular. Apart from impersonals and in the absence of a non-clitic subject, they are obligatory in the third person, too. As she emphasizes (p. 39), this is so despite Paduan having relatively rich verbal morphology. (Compare the fact that in some North Italian dialects it is even usual to have a tonic subject pronoun in addition to a subject clitic.[7])

The second-person singular subject clitic must, however, be absent in imperatives (p. 50), as if there were some incompatibility between it and the kind of verb movement that (positive) imperatives require. The third-person subject clitic in Paduan does not appear in the presence of a postverbal subject (p. 40): *Riva to fradèo* ('arrives your brother') and not **El riva to fradèo*. Remarkably, this *el* ('he') becomes possible if the verb has an object clitic: *El me lo ga scrito to fradèo* ('he me it has written your brother') (recalling the fact that Italian dative clitic doubling is favored by the presence of another object clitic[8]).

In interrogatives, Paduan subject clitics appear postverbally; that is, there is inversion of a familiar sort (p. 41): *Màgni-to?* ('eat you?'). (In some persons, clitics appear even when there is no corresponding preverbal subject clitic.) Benincà was the first to notice, I think, that this inversion can be blocked by negation—**No ve-to via?* ('neg. go you away?')—a fact whose importance continues to be explored.[9]

In interrogatives where the subject is questioned, no subject clitic appears (p. 45): **Chi el vien? / *Chi vienlo?* ('who he comes? / who comes he?'). Possible is simply: *Chi vien?* ('who comes?') Benincà makes the important observation, however, that if the verb is one that takes auxiliary *avere* ('to-have'), then in Paduan the corresponding interrogative must be based on a cleft structure: *Chi ze che ga magnà el pan?* ('who is that has eaten the bread?') The absence of a simple transitive counterpart to *Chi vien?* suggests, given the existence in Paduan of postverbal subjects with

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5. For recent confirmation, see Cecchetto (1999).

6. See Poletto (1993; 2000). In contrast, nobody that I know of has pursued Benincà's observation that Paduan has a (surprising) tonic counterpart to *a*, namely *lu* in: *A te si bravo, lu* ('*a* you are clever, him').

7. See Spiess (1976, 204), Lurà (1990, 156).

8. See Benincà and Vanelli (1984, note 20), Cinque (1990, 178).

9. See Zanuttini (1997, 40–59).

transitives (p. 40: *Te lo ga dito Franco* ('you-dat. it has said F')), that interrogative extraction of a postverbal subject is not automatically available, contrary to what has seemed to be the case in Italian.[10]

Vanelli, continuing to emphasize the syntax of subject clitics,[11] directly broaches a number of comparative questions, asking in particular to what extent Paduan is similar to or different from other Veneto dialects. Some of the properties of Paduan discussed by Benincà seem to be pan-Veneto, others not. Veronese, for example, requires a subject clitic even in the presence of a lexical subject (p. 58): *El butìn *(el) magna el pomo* ('the boy he eats the apple'). (The behavior of the *a* discussed above varies quite a lot across the dialects.) In Feltrino (p. 60), corresponding to Italian *Che fate?* ('what do-you?'), one can have *Feu che?* ('do-you what?'), with a postverbal (non-echo) interrogative phrase.[12] The subject clitic inversion of Paduan is not found in Triestino (p. 61).

Vanelli brings to light two cross-dialect generalizations. Let me cite one (p. 64): if a dialect has obligatory subject clitics with postverbal subjects, interrogative subjects, and relativized subjects, then it will necessarily have obligatory subject clitics with preverbal subjects. (This is probably related to the fact that accusative clitic doubling, when possible, is often limited to nonquantified objects.)

Benincà's "Uso dell'ausiliare e accordo verbale nei dialetti veneti e friulani" [Use of the auxiliary and verbal agreement in the Veneto and Friuli dialects] (pp. 67–87; 1984) treats the *avere/essere* ('have/be') alternation familiar from Italian past participle constructions. The dialects in question use *essere* less than Italian, often allowing either auxiliary in cases where Italian allows only *essere*. There is a notable interaction with past participle agreement discovered by Benincà, concerning reflexive constructions. When the auxiliary is *avere*, there is no agreement (although there is in nonreflexive constructions with *avere*; p. 84). For example, Paduan has *La porta se ze verta* ('the door-refl. is opened') with *essere* and with the agreeing participle *verta*, yet *La porta se ga verto* with *avere* and without agreement.[13]

Friulian is notable in allowing the reflexive clitic not to appear in certain sentences with *essere* (p. 76): *E son rotis un pît* ('they-are broken a foot') (= *Si sono rotte un piede* ('refl. they-are broken a foot' = They've broken a foot.), with *e* a subject clitic), for reasons that remain to be made precise.

In "L'interferenza sintattica: di un aspetto della sintassi ladina considerato di origine tedesca" [Syntactic interference: on an aspect of Ladin syntax considered to be of German origin] (pp. 89–101; 1985/1986), Benincà shows that the subject–verb inversion found in Gardenese and Badiotto dialects should not be considered a syntactic borrowing from German but, rather, the continuation of a construction present

10. See Rizzi (1982, 147). It is perhaps notable that Brandi and Cordin's (1989, 124) argument for interrogative movement of postverbal subjects in Trentino and Fiorentino is based on unaccusatives like *venire* ('to-come') and unergatives like *parlare* ('to-speak'), but not on transitives. For relevant discussion of Piedmontese, see Burzio (1986, 119–135).

11. See Renzi and Vanelli (1983).

12. See now Munaro (1999). This construction can show overt subject clitic inversion: *Elo chi che no vol vegner?* ('is-it who that neg. wants to-come?')

13. For recent discussion, see Kayne (1993).

in Medieval Romance (which may have been preserved longer in these dialects as the result of contact with German).

The fifth article (pp. 105–138; 1986) is entitled "Punti di sintassi comparata dei dialetti italiani settentrionali" [Points of comparative syntax of the Northern Italian dialects]. In the introduction, Benincà notes (p. 107) that "il sottoinsieme dei dialetti italiani settentrionali è un campo d'indagine che si giustifica per una sua specifica omogeneità, che era già stata dimostrata dalla linguistica ottocentesca per l'aspetto delle regolarità nell'evoluzione fonetica" ('the subset of Northern Italian dialects is an area of study that finds justification in a specific homogeneity that it has, which had already been demonstrated by nineteenth-century linguistics with respect to regularities in phonetic change').[14] These dialects display "una sorprendente uniformità sintattica, unita a inattese differenze di dettaglio" ('a surprising syntactic uniformity, together with unexpected differences of detail'). The goal must be that "la descrizione e la spiegazione teorica dei singoli sistemi sintattici sia tale da rendere possibile passare in modo naturale, con piccoli cambiamenti della grammatica, da un sistema all'altro, sia in diacronia che in sincronia" ('description and theoretical explanation of individual syntactic systems must be such as to make it possible to move naturally, with small changes in the grammar, from one system to another, both in diachrony and in synchrony').[15]

The first point of syntax concerns subject clitics. Benincà touches on many dialects and many phenomena; I will mention just two. On the question of null subjects— that is, When can a dialect show neither lexical subject nor subject clitic?—Benincà (p. 118) emphasizes the importance of Friulian, whose subject clitics "sono obbligatori con qualsiasi tipo di soggetto" ('are obligatory with any type of subject'), yet "questa obbligatorietà del clitico si accompagna ad una flessione verbale che è la più ricca di distinzioni in assoluto nel dominio romanzo . . . questo ci fa inoltre dubitare fortemente dell'idea. . . . Che cioè essi [i clitici] compaiano quando la flessione, per motivi di evoluzione fonetica, diventa insufficientemente distinta" ('this obligatoriness of the subject clitic holds even though the verbal agreement inflection is the richest of any in the Romance area. . . . This leads us to have strong doubts about the idea . . . that subject clitics appear when inflection, by virtue of phonetic change, has become insufficiently distinct').[16]

Friulian also has the notable property (p. 120) that its subject clitics, although generally obligatory, can (apart from the 2sg) be absent if there is another clitic present (either negation or object clitic).[17]

Benincà's final point in this article concerns clitic climbing and its relation to null subjects. I had suggested that the presence of the former might depend on the language in question having the latter.[18] Benincà notes that consideration of North Italian dialects shows the matter to be more complex (if only because they show clearly

14. On the importance of comparative dialect studies for earlier linguistics, see Benincà (1988).
15. For an early example of syntactic work of this sort, see Klima (1964).
16. For the evolution of French, see Franzén (1939).
17. See Roberts (1993) on Valdôtain.
18. See Kayne (1989a).

that the null subject phenomenon must involve more than one parameter). More specifically, it remains to be understood exactly why North Italian dialects often reject clitic climbing, at least when the main verb is finite. A striking phenomenon—that she does not mention here—is the greater acceptability of clitic climbing with a matrix infinitive; that is, the counterpart of *volerlo fare* ('to-want.it to-do') is more widely possible in North Italian dialects than is the counterpart of *lo voglio fare* ('it I-want to-do').[19]

Alongside her detailed studies of North Italian dialect syntax, Benincà has reflected deeply on methodological questions, as can be seen (among other places in this book) in "Geolinguistica e sintassi" [Geolinguistics and syntax] (pp. 139–160; 1992), which illuminates the history of dialect atlases. Benincà has, in fact, launched a syntactic atlas project[20] that promises to be of considerable importance to syntactic theory. As she puts it (p. 143), "colleghiamo l'indagine geolinguistica a una teoria linguistica, pensiamo interessante avere dati geolinguistici relativi alla sintassi per sottoporre a un esperimento la teoria sintattica" ('we join geolinguistic research to a linguistic theory; we think that it is interesting to have geolinguistic data related to syntax so that we can subject syntactic theory to an experiment'). But "non ci interessa primariamente stabilire confini dialettali, ma vedere in che misura aree di singoli fenomeni sono fra loro coerenti" ('we are not primarily interested in establishing dialect boundaries but, rather, in seeing to what extent areas of individual phenomena match up with each other').

As an example, Benincà gives the case of second-person singular negative imperatives, which in Italian cannot be formed by simply negating the positive imperative—*Senti!* ('listen!') versus **Non senti!* ('neg. listen!'). This restriction appears to correlate exactly with the fact that Italian has a single preverbal negative element (p. 145): "I dialetti con negazione preverbale mostrano la stessa restrizione dell'italiano, mentre i dialetti con negazione postverbale aggiungono semplicemente la negazione all'imperativo" ('the dialects with preverbal negation show the same restriction as Italian, whereas the dialects with postverbal negation simply add the negation to the imperative'). Moreover the apparent counterexample consituted by Romantsch dialects disappears upon closer analysis, in that it can be seen to depend on the verb-second property of those dialects (i.e., the notion "preverbal" is not a homogeneous one).

The correlation concerning imperatives and negation has yielded to theoretical analysis.[21] Another correlation pointed out by Benincà has yet to be explored, namely (p. 147) that although there are dialects that lack a counterpart of the Italian partitive clitic *ne* while having accusative clitics, there are none that lack accusative clitics while having a partitive clitic.

Theory and data interact in various ways (p. 149): "Raccogliere dati in funzione di una teoria è vantaggioso per ambedue gli elementi in gioco: è naturalmente

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19. Similarly for (at least some) Piedmontese, which allows the counterpart of *averlo fatto* ('to-have.it done') while rejecting that of *L'ho fatto* ('it I-have done').

20. I have had the privilege of being affiliated with this project. See http://asis-cnr.unipd.it/.

21. See Zanuttini (1997, 105–154).

indispensabile per la teoria formulata. . . . Ma, contrariamente a quanto si pensa, è utile anche per i dati, perché avere una teoria da controllare spinge a cercare un tipo di dati che altrimenti passano inosservati, o restano del tutto sconosciuti" ('to gather data in light of a theory is advantageous for both: it is obviously indispensable for the theory in question. . . . But, contrary to what is usually thought, it is also useful for the data, because having a theory to test leads one to look for a type of data that might otherwise go unnoticed or even remain completely unknown').

3.3.   Diachronic syntax

Since I have specialized in synchronic syntax, I will be able to do even less justice in what follows to the richness of Benincà's diachronic work than I have above in the case of her synchronic work. "Osservazioni sulla sintassi dei testi di Lio Mazor" [Observations on the syntax of the Lio Mazor texts] (pp. 163–176; 1983) is a detailed syntactic (and philological) study of a group of early fourteenth-century texts. Benincà focuses on pronouns and on a comparison between the syntax of pronouns in those texts and their syntax in contemporary dialects from the same area of the Veneto. Of note, for example, is the obligatoriness in those texts of clitic climbing (p. 166), the presence of a non-agreeing pleonastic subject pronoun with postposed subjects (p. 169), the presence of subject pronouns for all persons (whereas the modern dialects have subject clitics only for second-person singular and third-person singular and plural), and the apparently systematic preverbal position of object clitics in infinitival negative imperatives (p. 174).[22]

This study of the Lio Mazor texts leads directly to "Un'ipotesi sulla sintassi delle lingue romanze medievali" [A hypothesis on the syntax of the Medieval Romance languages] (pp. 177–194; 1983/1984), which takes up the fact (p. 177) that subjects can be absent in main clauses in a way they cannot be in embedded clauses. This property, of some importance for the general question of null subjects, is part of a notable diachronic generalization formulated and analyzed by Vanelli, Renzi, and Benincà in their "Tipologia dei pronomi soggetto nelle lingue romanze" [Typology of subject pronouns in the Romance languages] reproduced in the volume under discussion (pp. 195–211). As Benincà puts it (p. 179): "tutte le lingue romanze che svilupperanno poi un sistema di pronomi soggetto clitici, presentano nella loro fase medievale la stessa asimmetria riscontrata per Lio Mazor" ('all the Romance languages that will ultimately develop a system of subject clitic pronouns show in their medieval phase the same assymmetry discovered for Lio Mazor'). Their generalization is not an isolated one; they adopt "un'interpretazione dei fenomeni che connette la possibilità di avere il soggetto nullo con un altro fatto caratteristico di queste lingue, la cosiddetta inversione del soggetto" ('an interpretation of the phenomena that connects the possibility of having a null subject with another fact characteristic of these languages, so-called subject inversion').[23] Benincà's proposal is (p. 188) "che le

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22. See text to note 3 above.
23. See subsequently Adams (1987).

desinenze verbali hanno, nel francese antico e a Lio Mazor, un contenuto pronominale, ma perché questo contenuto pronominale possa correttamente identificare il soggetto, il Verbo deve trovarsi nella posizione immediatamente superiore alla posizione strutturale del soggetto" ('that verbal inflections have, in old French and in Lio Mazor, pronominal content, but in order for this pronominal content to be able to correctly identify the subject, the verb must be in the position just above the structural position of the subject').

This analysis has implications for the Tobler-Mussafia law that are taken up in more detail in Benincà's "La sintassi dei clitici complemento nelle lingue romanze medievali" [The syntax of object clitics in medieval Romance languages] (pp. 213–245; based on a 1990 conference talk). She argues convincingly that the distribution of proclisis versus enclisis is based neither on prosody nor on any notion of new versus old information; rather, it is syntactic, in a sense that she makes precise (p. 242): "nelle lingue romanze medievali (e nel portoghese moderno) i clitici complemento sono enclitici del verbo flesso se e solo se lo Spec della proiezione CP è vuoto" ('in the medieval Romance languages (and in modern Portuguese) object clitics are enclitic to the finite verb if and only if the Spec of the CP projection is empty'). This proposal rests in part on the idea that these languages all have their finite verbs moving into the complementizer position in non-embedded sentences. Differences among them and between them and German are taken to depend on differences in sentence structure above the CP projection.[24]

The last article in the collection (pp. 247–260; 1991) is entitled "Su una nota sintattica di Carlo Salvioni" [On a syntactic note of C.S.]. In it, Benincà successfully pursues the goal (while extending Salvioni's discussion of an unusual *d'* ('of') found with singular indefinites) of calling attention (p. 259) to "questo studio di sintassi come un esempio fra i tanti possibili di analisi sintattiche di linguisti del passato: sembra di grande interesse riprendere il discorso da dove essi l'avevano lasciato, portando il contributo delle conoscenze che nel frattempo sono state acquisite nel campo della teoria della sintassi" ('this study in syntax as one example among many possible examples of syntactic analyses by past linguists: it seems of great interest to take up the discussion where they left off, bringing to bear the knowledge that in the intervening time has been acquired in the area of syntactic theory'), much as she has brought together, enriching both considerably, syntactic theory and dialect syntax more generally.

24. Benincà's insightful analysis of the relation between CP and topics can now be integrated with that of Rizzi (1997). Worth exploring is the possibility that enclisis reflects V(P)-movement to Spec,CP rather than V-movement to C^0.

4

Here and There

4.1.   Demonstrative *there*

To what extent can we unify the following two instances of *there*?:

(1)   John lives there.

(2)   John spoke thereof.

I will refer to the *there* of (1) as "locative" *there* and to that of (2) as "non-locative" *there*. Example (2) is archaic in English but common in Dutch and German.

Locative *there* forms a natural class with *here* and *where* (similarly for non-locative *there*). Katz and Postal (1964, 133) proposed analyzing *where* as deriving from (*at*) *what place*. My proposal develops the same kind of idea, although the details are different.

I bring into the discussion the nonstandard English construction recently discussed by Bernstein (1997):

(3)   a. this here book, these here books
       b. that there book, them there books

To Maurice, for his support and friendship in those essential irretrievable early years.

I refer to the *there* (and *here*) of (3) as "demonstrative" *there* (and *here*).

I follow Bernstein (p. 97) in taking the examples in (3) not to be (reduced) relatives—that is, they are not derived from:

(4)   a. this book that/which is here
      b. that book that/which is there

This is supported by a number of considerations.

First, (3) and (4) differ in the following way:

(5)   a. *that over there book
      b. *this right here book

(6)   a. that book that/which is over there
      b. this book that/which is right here

Second, the clearest cases of prenominal reduced relatives in English can be preceded by other material:[1]

(7)   a. this other recently arrived letter
      b. these two recently arrived letters
      c. that beautiful recently arrived letter

This contrasts with:

(8)   a. *this other here book
      b. *these two here books[2]
      c. *that beautiful there book

Third, a prenominal reduced relative can be stressed, whereas demonstrative *there* and *here* cannot be:

(9)   ?This RECENTLY ARRIVED letter is more important than that LONG SINCE OUT-OF-DATE one.

(10)   *This HERE letter is more important than that THERE one.

Fourth, there is the basic fact that demonstrative *there* requires demonstrative *that* (and similarly for demonstrative *here* and *this*):[3]

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1. On the reduced relative status of *recently arrived*, see Kayne (1994, 99).
2. John Singler (pers. comm.) tells me that (8b) may be possible for some speakers.
3. Swedish has demonstrative *there* with what looks like a counterpart of *such*; see Holmes and Hinchliffe (1994, 167).

(11)   a. *the there book(s)
   b. *a there book, *one there book, *some there books

Relatives are freer:

(12)   a. the book that's (over) there
   b. some books that are (over) there

as are reduced relatives:

(13)   a. the recently arrived letter
   b. some recently arrived letters

 Taken together, these four points indicate that demonstrative *here* and *there* are not to be thought of as locatives originating in a reduced relative clause.

 In fact, as I argue in the rest of this chapter, locative and non-locative *there*, when looked at from the right perspective, are both to be considered instances of demonstrative *there*.

4.2.   Locatives

4.2.1   THIS/THAT and PLACE

In the spirit of Katz and Postal (1964, 134), let me begin by noting the close resemblance between locative *here* and *there* and the phrases *this here place* and *that there place*:

(14)   a. It's been here for a long time.
   b. It's been in this here place for a long time.

(15)   a. It's been there for a long time.
   b. It's been in that there place for a long time.

Abstracting away temporarily from the question of the preposition, we have the following:

(16)   Locative *here* and *there* are derived from structures approximating *this here place* and *that there place*.

More specifically:

(17)   Locative *here* and *there* are parallel to *this here place* and *that there place*, except that locative *here* and *there* have an unpronounced counterpart of *place* and an unpronounced determiner instead of *this* and *that*.

 Put slightly differently, the *here* and *there* of ordinary locatives is simply the demonstrative *here* and *there* that are embedded in a larger DP with unpronounced noun and determiner.

Potential indirect support for the postulation of an unpronounced counterpart of *place* comes from sentences like:

(18)   We'll be over at John's tonight.

This feels very much like:

(19)   We'll be over at John's place tonight.

Further indirect support for an unpronounced noun *place* may also be found in:

(20)   John came out from behind the tree.

Postulating an unpronounced *place*, which I will represent as PLACE, might lead to an account of the deviance of:

(21)   a. *Behind which tree did he just come out from?
       b. *the tree behind which he just came out from

If (20) is really (abstracting away from the determiner):

(22)   J came out from PLACE behind the tree.

then (21) must correspond to either (23) or (24):

(23)   *Behind which tree did he just come out from a place?

(24)   ??A place behind which tree did he just come out from?

If abstract PLACE in (22) cannot be pied-piped, then the deviance of (21) reduces to that of (23). Speakers who accept (21)[4] must be able to pied-pipe PLACE in such a way that (21) can have a status more like that of (24).

   The *this* and *that* of *this here place* and *that there place* can be unpronounced only if *place* is:

(25)   here, there

(26)   *here place, *there place

In addition, the locative interpretation of (25) is not available if the demonstrative is pronounced and *place* is unpronounced:

(27)   this here, that there

4. For example, John Singler (pers. comm.). This might be related to the acceptability in Dutch (see Bennis [1986, 27, 39]) of a counterpart of (21), with *from* as a postposition.

While possible, (27) does not have the interpretation of (25).[5] Furthermore, *this* or *that* and *place* can be simultaneously unpronounced only if *here* or *there* is present:

(28)   John put the book here/there/*0.

These considerations lead to the following proposal: Let THIS and THAT be the phonetically unrealized counterpart of *this* and *that*. Then locative *here* and *there* start out as:

(29)   THIS here PLACE; THAT there PLACE

Movement of the phrase containing *here* or *there* and PLACE yields:

(30)   [here PLACE]$_i$ THIS t$_i$; [there PLACE]$_i$ THAT t$_i$

In English this cannot happen with overt *this* or *that*:

(31)   *here this; *there that

Afrikaans, in contrast, has:[6]

(32)   hierdie; daardie

with demonstrative *here* and *there* followed by the (neutralized) counterpart of *this* and *that*. (The parameter(s) underlying this difference between English and Afrikaans remain(s) to be understood.)

The structure proposed in (30) recalls languages in which demonstratives like *this* and *that* follow the noun (not necessarily immediately); see Cinque (1996, sec. 4).[7]

Thinking of Koopman and Szabolcsi (2000, 23) and related work on (bare) remnant movement, let us assume that the movement shown in (30) yields a well-formed output only if *here* or *there* is unaccompanied by any other overt material in its phrase; then (33) will, as desired, not be possible (= *here place THIS, etc.):

(33)   *here place/book; *there place/book

Alternatively, it may be the case that the movement of 'here/there PLACE' seen in (30) is forced by the presence of unpronounced PLACE. This would exclude a locative interpretation of (27).

The further (plausible) assumption that THIS and THAT require movement of the sort illustrated in (30) will prevent (33) from being generated without movement (*THIS here place, etc.).

5. It may be that (27) is closer to *this thing here*, *that thing there* than to *this here thing*, *that there thing*.
6. See Donaldson (1994, 491).
7. There might also be a link with Longobardi's (1994) N-to-D raising with proper names.

If PLACE must always raise, and if (18) contains PLACE, then (18) is actually:

(34)   PLACE$_i$ John 's t$_i$

This raising of PLACE may underlie the impossibility, in certain varieties of English (for example, mine), of:

(35)   *We'll be over at hers/theirs tonight.

(i.e., (35) is impossible for me in the PLACE interpretation available in (18)). It might be that *hers* or *theirs* (or the pronominal part of it) occupies the (higher) Spec position into which PLACE would have to move.[8]

From this perspective, then, PLACE can either raise by itself, as in (34), or with *here* or *there*, as in (30).[9] Not possible, on the other hand, is:

(36)   [other/beautiful PLACE]$_i$ THIS t$_i$; [other/beautiful PLACE]$_i$ THAT t$_i$

This suggests that the licensing of THIS and THAT is specifically dependent on *here* and *there*. (Adding *here* or *there* to (36) would lead to the violation seen in (33).)

4.2.2.   The adposition requirement

Locative *here* and *there* are excluded from clearly nonprepositional contexts:

(37)   John loves Paris and Bill loves that place, too.

(38)   *John loves Paris and Bill loves there, too.

This pair contrasts with:

(39)   John loves it in Paris and Bill loves it in that place, too.

(40)   John loves it in Paris and Bill loves it there, too.

---

8. Why (35) is possible with a pronoun in some varieties of English (see Trudgill and Hannah [1994, 76]) remains to be understood.

Note that (34) recalls Longobardi's (1996) discussion of the construct state in Romance. Why it is not possible in English with overt *place* remains to be understood.

Raising of the sort seen in (34) differs from that of (30) in not being possible with demonstratives:

(i)   We'll be going to that again tonight.

Example (i) is not possible with the PLACE interpretation.

9. Whether there is a close link to *someplace else* (on which, see Kishimoto 2000), is left open.

Similar to (37) and (38) is:

(41)   John considers Paris/that place/*there wonderful.[10]

   Some prepositional contexts are not possible, either:

(42)   John is fed up with Paris/that place/*there.

   This suggests:

(43)   *Here* and *there*, after raising (with PLACE) past demonstrative THIS and THAT, must be licensed by a locative adposition.

(The *with* of (42) is not locative.)
   This locative adposition may itself be unpronounced, as in (40).[11] Also:

(44)   John went (*to) there.

That there is an unpronounced adposition in (44) is supported by the presence of an overt one in:

(45)   He went to Paris.

(46)   ?Where did he go to?

Similarly for:

(47)   He stayed (*at) there.

and:

(48)   He stayed (at) home.

(49)   ?Where is he staying at?

---

10. Although (41) with unstressed *there* is sharply out, the judgment is less sharp with stressed *there*. Perhaps stressed *there* allows PLACE to be licensed in a manner akin to (22), which would recall:

  (i)   I consider under the bed a good hiding place.

with an analysis:

  (ii)   I consider PLACE under the bed a good hiding place.

   Appreciably better than (41) with *there* is:

(iii)   ?John doesn't consider anywhere else as wonderful as Paris.

   11. See Katz and Postal (1964, 135), Emonds (1976, 79), Bresnan and Grimshaw (1978, 347).

I have formulated (43) in terms of a requirement on *here* and *there* and not as a requirement on PLACE. Relevant is the status of:

(50)   We love Bill's.

(51)   I don't consider Bill's very comfortable.

(52)   We're all fed up with Bill's.

In the PLACE interpretation, these don't seem fully natural, but neither do they seem as bad as (38), (41), and (42) with *there*. Thus, it may be that preposed PLACE is favored by an adposition,[12] but that (43) is nonetheless correct in the form given.

An approach to (38), (41), and (42) in terms of (43) differs somewhat from the one proposed by Larson (1985, 613), whose idea was that *here* and *there* intrinsically have oblique Case and that oblique Case is incompatible with the structural Case that would be assigned in contexts like those of (38), (41), and (42). The problem with this is that Icelandic, as shown by Zaenen et al. (1985), does have oblique Case-marked DPs in structural Case positions. I therefore hold to (43), which takes the deviance of (38), (41), and (42) to simply reflect the absence of the needed licensing configuration.

4.3.   Non-locative *there*

Archaic English has sentences like:

(53)   He spoke thereof.

These are common in present-day Dutch and German.

If one thinks of *there* as being intrinsically locative, then its appearance in (53) is surprising.

In contrast, the analysis pursued in sec. 4.2 took what we call locative *there* to be an instance of demonstrative *there* embedded in a phrase containing the locative noun PLACE. From that perspective, *there* itself need not be taken to be intrinsically locative, in which case its appearance in (53) is less surprising.[13]

The *there* of (53) has in common with the *there* of locatives dependence on an adposition:

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12. See Longobardi (1996, 13, note 15) on the Romance construct state showing a partial but nonsystematic dependence on a locative preposition.

13. From this perspective, the interpretation of *here* and *there* is that of deixis; for interesting recent discussion of deixis, see Jayaseelan and Hariprasad (1999).

If *here* and *there* are analyzed as 'h+ere' and 'th+ere', with '-ere' in English closely matching the (more widespread) *er* of Dutch, a question arises (that I will not pursue) as to how to understand the interpretation compositionally.

(54) *He mentioned there.

Put another way, (53) corresponds to:

(55) He spoke of it/that.

in a way that (56) cannot correspond to (57):

(56) *I consider there interesting.

(57) I consider it/that interesting.

    This similarity with respect to dependence on an adposition, combined with the identity in form of these two types of *there* (locative and non-locative), leads to:

(58) Non-locative *there* is an instance of demonstrative *there*.[14]

    Generalizing from the earlier analysis of locative *there* as 'THAT there PLACE' (plus movement), it is natural to take (53) to contain a non-locative *there* that corresponds to:[15]

(59) THAT there THING

Just as 'there PLACE' raises past the (unpronounced) demonstrative determiner THAT in the locative cases, as in (30), so does (phonetically unrealized) THING raise past THAT in the non-locative cases (and similarly for Dutch and German):

(60) [there THING]$_i$ THAT t$_i$

In other words, *here* and *there* are always demonstrative *here* and *there*, in (53), as well as in the more familiar locatives.
    As in the earlier discussion of locative *there*, the movement shown in (60) will yield a well-formed output only if *here* or *there* is unaccompanied by any other overt material in its phrase:

(61) *there thing; *here thing

However, unlike the case of locatives (see (27)), nonmovement in (59) (with an overt determiner) may be a possibility, if 'that there THING' underlies:

(62) that there; this here

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14. As in Gross (1968, 54) on French *y*.
15. To some extent, (53) can also involve reference to humans (see Bennis [1986, 191]), so 'THAT there PERSON/BODY' must also be available.

Similarly, with *there* absent, for 'that THING':

(63)   that; this

Recall now (43), repeated here:

(64)   *Here* and *there*, after raising (with PLACE) past demonstrative THIS and THAT, must be licensed by a locative adposition.

At first glance, it looks as if non-locative *there* and *here* (with THING rather than PLACE) differ in that they do not require that the licensing adposition be locative (given (53) and other examples with non-locative adpositions).

I propose, however, that even non-locative *here* and *there* require licensing by a locative adposition. Relevant considerations come to the fore if we ask the question, Why does English have locative *there* (i.e., 'THAT there PLACE') but no longer has non-locative *there* (i.e., 'THAT there THING'), even with an adposition?

Of importance is the fact that within the Germanic languages the only ones that productively have non-locative *there* are Germanic languages of the OV type; that is, Scandinavian seems to be like English.[16]

This raises the possibility, taking (53) to be an (obvious) instance of a postpositional PP, that (53) is excluded in present-day English and Scandinavian parallel to the rather general absence of postpositional languages where the normal order of verb and postpositional phrase would be V PP (i.e., V DP P).[17]

Since V PP order is of course a perfectly common normal order where PP is prepositional, the next question is why non-locative *there* never occurs in (archaic) English with prepositions (and similarly for Dutch and German, both of which have many prepositions):

(65)   *He spoke of there.

16. See Holmes and Hinchliffe (1994, 365) on Swedish, and Allan et al. (1995, 379) on Danish; similarly for Icelandic, according to Thorhallur Eythorsson and Thorbjörg Hróarsdóttir (pers. comm.).

17. See Kayne (1998b). One does hear in some spoken English instances of (adjunct) *whereby* in relatives. It may be that these are postverbal at no stage of the derivation, and perhaps similarly for *therefore*.

Left open is the question of how a speaker represents archaic constructions; also, the status of French (i):

(i)   Tu peux compter là-dessus. ('you can count there of-on')

which is not archaic.

Relevant, too, may be French:

(ii)   Ils ont tiré dessus. ('they have shot of-on')

with a covert argument that is probably to the left of *dessus*.

I think the answer to this takes us back to (64).

Before returning to (64), however, let me pursue a brief digression. As far as I know, (65) is perfectly representative for non-locative *there*: the generalization that non-locative *there* (and similarly for non-locative *here* and *where*) is never the object of a preposition is exceptionless in all of Germanic.[18]

On the other hand, locative *there* and *here* (and *where*) are sometimes found following a preposition. The facts are complex, since there is a contrast between (66), which at first glance looks like (65), and (67):

(66)   a. *I'm going to there tomorrow.
        b. *They plan to stay at here for a week.

(67)   It's warm under here.

The question is whether, given the contrast between it and (65), (67) is compatible with my general claim that locative and non-locative *here* and *there* are essentially the same (demonstrative) element.

In fact, (67) does not contrast minimally with (65), since *here* in (67) is not really the object of *under*.[19] This is suggested by the fact that (67) feels close to:

(68)   It's warm here under the blanket.

Like (67), I suspect, is:

(69)   I'm in here.

which seems close to:

(70)   I'm here in the kitchen.

suggesting an analysis for (67) and (69) on the order of:

(71)   [under/in X]$_i$ AT here t$_i$

which in more detail would be:

(72)   [under/in X]$_i$ AT [[here PLACE]$_j$ THIS t$_j$] t$_i$

---

18. And perhaps universally—see Kayne (1994, 50) on the absence of (65) in postpositional languages.

19. Rizzi (1988, 530) has made the same point for what looks like a fairly close Italian counterpart of (67), which, however, has (as in French) the reverse word order—for example, *qua sotto* ('here under')—with this difference presumably related to English *frogman* versus French *homme grenouille* ('man frog').

More minimal is the contrast between (65) and:[20]

(73)   a. He's from there.
     b. Why is he leaving from there?
     c. He went from here to there in five seconds.

I think the way to proceed is to take (73) to be more representative than (66) (and to take (66) to involve an orthogonal factor requiring that the preposition be unpronounced, for reasons that need to be looked into further).

    Why, then, should there be a sharp difference between locative *here* and *there*, which are compatible with a preposition, as seen in (73) and non-locative *here* and *there*, which are not compatible with a preposition, as seen in (65)? Let me propose that the answer lies, paradoxically, in generalizing (64) to cover both locative and non-locative *here* and *there*. This generalization yields:

(74)   *Here* and *there*, after raising (either with PLACE or with THING) past demonstra-
     tive THIS and THAT, must be licensed by a locative adposition.

    In the locative examples of (73), the licenser is the visible preposition (*from*, *to*). In (67) and (69) it's the abstract AT shown in (71) and (72).

    In the non-locative (65), there seems to be no locative adposition, so (65) appears to straightforwardly violate (74). But this cannot be right, given:

20. That (73) is substantially different from (67) and (69) is supported by (i) versus (ii):
  (i) a. Where is he from?
      b. Where did he just arrive from?
      c. Where is he off to?
 (ii) a. *Where is it warm under?
      b. *Where are you in?
(vs. *Which blanket is it warm(est) under?*, *What room are you in?*) Similarly:
(iii) a. He's from somewhere else.
      b. He wouldn't be leaving from anywhere else.
      c. This time we're off to somewhere exotic.
(iv) a. *It must be warm under somewhere.
      b. *He can't be in anywhere else.
It appears that the phrase following AT in (71) and (72) must be definite.
    If this is correct, then the empty position in English topicalization and clefts apparently does not count as definite (alternatively, extraction from the position following AT in (71) and (72) is impossible):
  (v) We've been living in this cave / in here for weeks.
 (vi) This cave / *Here we've been living in for weeks.
(vii) It's that cave / *It's there that he's been living in.
(viii) That box / *There you should never have put it in.
These contrast with:
 (ix) There I hardly ever go for vacation.
  (x) It was right there that I put it.

(75)   He spoke thereof.

and especially its fully acceptable counterparts in Dutch and German. If there were really no locative adposition in (65), then there would presumably not be one in (75), either, in which case (75), too, would violate (74) in all three languages, incorrectly.

The solution I propose (adapting an idea from Hoekstra [1984, 290] and Bennis [1986, 193]) is that (75) (and its counterparts in Dutch and German) does, in fact, contain a locative adposition. This solution has two primary advantages. First, it allows us to retain the unified (74). Second, it allows an account of the absence of (65) in all of Germanic.

This account relates the ungrammaticality of (65), repeated here:

(76)   *He spoke of there.

to that of:[21]

(77)   *He's counting on to win.

In Kayne (1999, discussion of (83)–(85)), (77) is excluded as a violation of preposition stranding, parallel to the Heavy-NP-Shift example:

(78)   *John has shown his work to this semester most of his fellow students.

In acceptable cases like *He's trying to win*, the prepositional complementizer *to* enters the derivation above VP and attracts the infinitive phrase that has been merged as complement to V. That kind of derivation fails to generalize to (77) because of the presence of *on*.[22]

Returning to non-locative *there*, the idea is, first, that it requires a locative adposition, as stated above, and, second, that, as with infinitival *to*, this locative adposition enters the derivation above VP.

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21. And perhaps to that of (see Kayne [1985a, 123]):

 (i)   a. *He stepped on it flat.
       b. *They ran around him dizzy.

if the well-formed *He squashed it flat* and *They ran him dizzy* necessarily involve an abstract preposition that attracts either *it/him* or *it flat/him dizzy*. Similarly for:

(ii)   a. *He stepped on it into a pancake.
       b. *They ran around him into a tizzy.

The text discussion of (76) assumes that *there* is hierarchically lower than *of*. For why it could not be higher, see Kayne (1994, 50).

22. Sometimes accepted, in contrast to (77), is:

 (i)   ?He's counting on there to be a solution.

See Kayne (1999, note 56) on the better:

(ii)   John is thinking about where to go.

More specifically, this abstract locative adposition enters the derivation after the visible adposition. Therefore, if (76) were possible, it would have to have the (simplified) derivation:

(79)   spoke of THAT there THING → merger of locative adposition
        P(loc) spoke of THAT there THING → raising to Spec,P(loc)
        [THAT there THING]$_i$ P(loc) spoke of t$_i$ →
        P(loc)$_j$ + W [THAT there THING]$_i$ t$_j$ spoke of t$_i$ →
        [spoke of t$_i$]$_k$ P(loc)$_j$ + W [THAT there THING]$_i$ t$_j$ t$_k$

In the spirit of Kayne (1998a, discussion of (85); 1999, discussion of (46)), I take this to be a preposition stranding violation (in the third line) parallel to (77), to (78), and, for many speakers, to:[23]

(80)   *John shows his work to only Mary.

The essential difference between (76) and (73) is now seen to reside in the fact that (73) does not require any abstract locative adposition, since it contains a visible one capable of licensing *there*. Put another way, the deviance of (76), like that of (77), is due to the interaction of the two adpositions, whereas (73) has only one. More precisely, the extra adposition P$_{loc}$ in (76) and *to* in (77)) induces an illicit movement (which in (78) is induced by a functional head that is probably not adpositional[24]). In (73), in contrast, no comparable illicit movement takes place at all.

To allow for the grammatical cases of non-locative *there* followed by a postposition, for example in the following Dutch one (from Bennis 1986, 176):

(81)   Ik heb er over gesproken. ('I have there about spoken')

I continue to assume that adpositions can be introduced above VP and get together with their "objects" via movement. In such derivations, as with P$_{loc}$ in (79), the relevant DP moves to the Spec of the adposition. In prepositional sentences, there are additional movements of the sort seen in the last two lines of (79). Since (81) is not prepositional, we can take it to involve movement to Spec,P, without it needing to involve those additional movements:

The passive of (i) is worse:

(iii)   *There's being counted on to be a solution.

recalling:

(iv)   *There was prevented/kept from being a solution.

23. This violation will hold independently of where the verb ends up and so will hold, too, for the (ungrammatical) Dutch and German counterparts of (76) with preposition followed by non-locative *there*.

24. See den Dikken (1995).

(82) over gesproken [THAT er THING] → movement to Spec,P
       [THAT er THING]$_i$ over gesproken t$_i$

The adposition *over* does not raise to any W, nor does the VP, then, raise to Spec,W. The last line of (82) is followed by the introduction of P$_{loc}$:

(83) P$_{loc}$ [THAT er THING]$_i$ over gesproken t$_i$

Raising to Spec,P$_{loc}$ yields, without there being a P-stranding violation of the sort seen in (79), the following:[25]

(84) [THAT er THING]$_i$ P$_{loc}$ t$_i$ over gesproken t$_i$

in which *er* (which, strictly speaking, has moved up within DP past THAT, in a way not illustrated in (82)–(84)) is licensed in virtue of its relation to P$_{loc}$.

    This derivation leaves the overt adposition to the left of VP, which is the desired (normal) order for Dutch and German. Additional factors must intervene to allow for the acceptability in Dutch (more than in German, it seems) of sentences with postverbal *er* or *daar* + P, and similarly for archaic English.[26]

    The derivation of a grammatical sentence with locative *here* and *there* would look like:

(85) John is from there.

(86) is [THAT there PLACE] → merger of locative *from*
       from is [THAT there PLACE] → movement to Spec,P
       [THAT there PLACE]$_i$ from is t$_i$ → raising of P
       from$_j$ + W [THAT there PLACE]$_i$ t$_j$ is t$_i$ → raising of VP
       [is t$_i$]$_k$ from$_j$ + W [THAT there PLACE]$_i$ t$_j$ t$_k$

Derivation (86) has not represented the movement of *there* within DP. Adding that to the third line of (86) would yield:

(87) [[there PLACE]$_m$ THAT t$_m$]$_i$ from is t$_i$

in which *there* is licensed in Spec, *from*, since *from* is locative. Thus (85) is correctly distinguished from (76).

---

25. A more careful discussion of preposition stranding is beyond the scope of this essay. The movement illustrated in (84) recalls those proposed by van Riemsdijk (1978).

26. A basic question not discussed here is how Dutch allows preverbal prepositions; for relevant discussion, see Barbiers (1995).

    Similarly omitted from discussion is the question whether any strongly head-final language of the Japanese, Korean, Turkish sort could allow non-locative *there*, and if not, why not.

4.4.   French and Italian

The adposition doubling that I advocate in (83) recalls the extra adposition seen in Italian in sentences like:[27]

(88)   a. Passerò sopra alla questione. ('I-will-pass over/above to-the question')
      b. Penserò su alla tua proposta. ('I-will-reflect on to-the your proposal')
      c. la legge alla quale ho votato contro ('the law to-the which I-have voted against')

In these examples, the prepositions *sopra*, *su*, and *contro* are accompanied by the preposition *a* (which, in combination with the definite article *la*, gives *alla*).
    Italian *a* has both locative and dative uses:

(89)   a. Vivo a Milano. ('I-live in Milan')
      b. Vado a Milano. ('I-go to Milan')

(90)   Do il libro a Gianni. ('I-give the book to G')

These can be distinguished by cliticization, which yields *ci* (or *vi*) with locatives and *gli* or *le* with (third-person) datives:

(91)   a. Ci vivo. ('there I-live')
      b. Ci vado. ('there I-go')

(92)   Gli do il libro. ('him-dat. I-give the book')

    Cliticization in the examples given in (88a,b) yields a *ci* that is clearly non-locative:

(93)   a. Ci passerò sopra. ('there I-will-pass over/above')
      b. Ci penserò su. ('there I-will-reflect on')

In none of (88) does cliticization yield a dative. I conclude that the *a* in (88) is a locative adposition (and not a dative adposition).
    More specifically, let me propose that the *a* of (88) is an overt counterpart of the abstract locative adposition that I have taken to play a key role in the licensing of non-locative *here* and *there* in Germanic, as in (81)–(84).
    In Italian, the possibility illustrated in (88) is available only with certain prepositions:

(94)   Gianni esce con (*a) quella ragazza. ('G goes-out with to that girl')

---

27. See Rizzi (1988), from which example (c) is taken. The other two were provided by Paola Benincà (pers. comm.).

Despite the fact that *con* ('with') does not allow an overt "extra" locative *a*, cliticization resulting in *ci* is still possible:[28]

(95)   Gianni ci esce. ('G there goes-out')

This sentence, which could translate into English as 'John goes out with her', contains non-locative *ci*.

Put another way, the *ci* of (93) and (95) are most naturally analyzed as Italian counterparts of Germanic non-locative *there*. For example, (93b) is plausibly a close counterpart of the archaic (in English):

(96)   I will reflect thereupon.

The fact that *ci* and *su* are separated in the Italian example is a fact that I take to be orthogonal to the main discussion. (It recalls the way in which (non-locative) *there* and *upon* can be separated in the Dutch counterpart of (96).)

Although the non-locative *ci* of (95) has no close counterpart in English, it is clearly closely related to the non-locative *ci* of (93). More specifically, let me propose that the two *ci* are the same and that (95) is essentially identical to (93) but for the missing preposition (*con*) in the former. In other words, (95) is essentially like (96), except that in (95) there is a covert *con* where (96) has an overt *upon*.

Comparing (95) now with both (93) and (88), we see that (95) has two covert adpositions, one *con* and one *a*.[29]

The fact that *con* can be unpronounced in (95) is not specific to the cases under discussion but is in all likelihood related to the possibility of relative clauses with a missing preposition, as in some French:

(97)   ce que j'ai besoin ('that that I have need')

---

28. See Calabrese (1988, 562), Corver and Delfitto (1999, 822).

As in Dutch (see note 15 above), non-locative *ci* can in some cases go with a human.

That (95) is parallel to (94) is supported by the fact that French generally disallows the former (although *Tu peux y compter* ('you can there count') is possible) and does not allow an extra *à* of the sort found in (88) anywhere near as readily as Italian. (Catalan seems to be fairly similar to Italian, in both respects.)

French non-locative *y* is by and large limited to cases where the corresponding overt (non-locative) preposition would be *à*.

29. I leave open the question why *con* differs from *sopra*, *su*, and *contro* in the way seen in (88) versus (94). It may be that (88) has three adpositions, thinking of French:

(i)   Ils lui ont tiré dessus, à Jean. ('they him$_{dat}$ have shot of-on, to J' = They've shot at him, J.)

and that *con*, contrary to *sopra*, *su*, and *contro*, cannot be preceded by an unpronounced counterpart of this *de*. Example (95) might show that this property of *con* holds only if *con* itself is pronounced.

For discussion of this extra *de* ('of'), see Starke (1993).

In summary of this section, consideration of Italian supports the proposal made earlier that Germanic sentences with *thereof*, as in the English (75), contain an extra unpronounced adposition, a counterpart of the *a* of (88).

Before going on to discuss number, let me note that the assimilation of Italian non-locative *ci* to Germanic non-locative *there* is itself supported by the fact that *ci* requires licensing by an adposition (which may be unpronounced), just as *there* does. I repeat an example (56) given above for English, in which non-locative *there* is prohibited from appearing in a non-adpositional context:

(98)   *I consider there interesting.

Italian non-locative *ci* is equally impossible here:[30]

(99)   *Io ci considero interessante. ('I there consider interesting')

4.5.   Number

The Italian locative *ci* of (91) and non-locative *ci* of (93) and (95) will, as in the earlier discussion of English and other Germanic, correspond to:

(100)   [*ci* PLACE/THING/PERSON]$_i$ THAT t$_i$

Like Germanic *there*, Italian *ci* will require the local presence of a locative adposition. In the case of *ci*, and in relation to its clitic character, that locative adposition will always be an unpronounced counterpart of the *a* seen in (88). Recalling the fact that non-locative *there* in Germanic is productive only in the Germanic OV languages, it is likely that the unpronounced *a* that licenses *ci* is not postverbal at the relevant point in the derivation.

Consider now the question whether the abstract noun in (100) can be plural. The initial observation is that neither *ci* nor *there*, nor any of their counterparts in other Romance or Germanic languages, shows a morphological distinction between singular and plural; for example:

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30. The non-locative *ci* under discussion will have a structure as in (60), with *ci* in place of *there*. Italian locatives are more complex than English, however, in having a distinction between clitic and non-clitic (*ci* vs. *lì/là*).

Non-clitic locative *lì/là* ('there') has no non-locative counterpart. It might be that the unpronounced counterpart of *con* (and other prepositions like it) must itself be licensed by, or more specifically be carried along with, an object clitic (including in (97)).

Irrelevant in the present context is the fact that *ci* in Italian is also the first-person plural object clitic and in some perhaps dialect-influenced Italian also a third-person dative clitic; see Cresti (2003, note 9).

Examples (98) and (99) show that the *a* of (88) (and its unpronounced counterparts in Italian and Germanic) itself depends on the presence of another adposition, perhaps for Case reasons.

(101)   *He went theres.

None of these forms combines with plural morphology.

   Despite this, there are indications that a plural counterpart of (100) is available in the languages under consideration.

   Although I have not directly addressed in this article the status of *where*, it is plausible to take *where* to have an analysis parallel to that of *here* and *there* (i.e., to occur in a 'D *where* NP' structure). If it does, then the plurality of *where* in the following indirectly supports the possible plurality of *here* and *there*:

(102)   a. Where all did he go?
         b. Where did he go all?

As discussed by McCloskey (2000), (102b) is possible in West Ulster English, (102a) more broadly (though not in all varieties of English).

   Similarly, in Dutch one can have (example provided by Marcel den Dikken, pers. comm.):

(103)   Hij heeft daar/er gisteren allemaal mee gespeeld ('he has there yesterday all with played')

in which *daar* (or *er*) (which is the "antecedent" of *allemaal* ('all')) is a counterpart of English *there*.

   In addition, in French, one can marginally have:[31]

(104)   ??Elle y répondra à tous. ('she there will-answer to all')

   From the perspective adopted here, it is not, strictly speaking, *where*, *daar*, *er*, and *y* that are themselves plural. Rather, (102)–(104) indicate that the nouns PLACE and THING or PERSON that go with these can (in certain cases) be plural. For example, (103) will contain:

(105)   [daar THINGS]$_i$ THOSE t$_i$

The universal quantifier will combine with this phrase (and not directly with *daar*). The fact that *where*, *daar*, *er*, and *y* (like *there* in (101)) show no plural morphology will now be a fact (yet to be well understood) about how plural marking "percolates" to subparts of DP.

   Independently of quantifiers, the French and Italian clitics *y* and *ci* also show plurality insofar as they can be linked with a plural under the form of doubling called Right-Dislocation, for example:

(106)   Jean y pense, à ses problèmes ('J there thinks, to his problems')

   31. See Kayne (1975, sec. 2.7).

As in (103) and (105), we will have:

(107)   [y THINGS]$_i$ THOSE t$_i$

French and Italian share another locative clitic *en* or *ne*, as in French:

(108)   Jean en revient. ('J [from]there comes-back')

I will set aside the question how best to distinguish *en* and *ne* from *y* and *ci*[32] and simply note that *en* and *ne* have non-locative uses, too:

(109)   a. Jean en parle. ('J there speaks' = J speaks of it.)
        b. Gianni ne parla.

Like *y* in (106), *en* and *ne* can be associated with a dislocated plural:

(110)   a. Jean en parle, de ces problèmes. ('J there speaks, of these problems')
        b. Gianni ne parla, di questi problemi.

In addition, certain instances of non-locative *ne* in Italian (and similarly for French *en*, for some speakers) can be associated with plural agreement:

(111)   Gianni ne ha visti tre. ('G there has seen(m.pl.) three' = 'G has seen three of them')

The *-i* of *visti* indicates plural agreement. This agreement is likely to be mediated by *ne*; in the absence of *ne*, this past participle agreeeement does not take place:

(112)   Gianni ha visto/*visti tre ragazzi. ('G has seen(m.sg.)/(m.pl.) three boys')

Despite the fact that *ne* itself shows no number morphology, the past participle agreement of (111) seems to be determined by the plural number of *ne*, or, more exactly, by that of the phrase given in (113), in the spirit of the analysis I have developed here for both locative and non-locative *there*, *y* or *ci*, and *en* or *ne*:[33]

(113)   [*ne* THINGS/PERSONS]$_i$ THOSE t$_i$

32. It is possible that *en* and *ne* involve two unpronounced adpositions (*de/di* and *à/a*), whereas *y* and *ci* involve only one (*à/a*); see den Dikken (1996), as well as Cresti's (2003) idea that *en/ne* is an oblique form of *y/ci*. Alternatively, it might be that *de/di* itself counts as the licensing locative adposition for *en/ne*.

33. The abstract THING or PERSON must not have intrinsic gender; it must rather agree in gender with its antecedent.

On (111) and (113), note:

(ii)   John just saw three tanks. Bill just saw three of the/those things himself.

5

Prepositions as Probes

5.1.   Internal Merge and (some) prepositions

In this chapter, I argue that some prepositions (and, by extension, some postpositions) are probes, in the sense of Chomsky's (2000; 2001a; 2004) recent work. The particular case I consider here is that of dative prepositions preceding subjects in French (and Italian) causatives. If the conclusion is correct for these, it will carry over to dative prepositions preceding subjects in causatives in other languages, as well as to parallel cases with postpositions.

   The conclusion reached here reinforces that reached in recent work of mine concerning prepositional complementizers.[1] Nevertheless, it is likely that some prepositions and postpositions are not probes (or at least not in any simple way). Thus it would be plausible to take the arguments given below for French dative *à* to generalize beyond causatives to other instances of *à* and to prepositions (and postpositions) like *of*, *at*, *to*, *by*, *with*, *from*, *for*, and their counterparts in other languages, without necessarily generalizing (directly) to locatives like *above*, *below*, *behind*, *inside*, and *outside* (and perhaps not either to *in*, *on*, *off*, and *out*).

   Chomsky (2004) distinguishes external ("pure") Merge and internal Merge ("movement") and suggests a correlation between these two subtypes of Merge and

   1. See Kayne (1998b; 1999).

two subtypes of semantic conditions. More specifically, he suggests that external Merge is associated with argument structure: that is, external Merge is into theta positions, while internal Merge covers everything else.

Put another way, internal Merge covers all cases of merger into non-theta positions. This includes scope and discourse-related positions, as well as what would earlier have been called movement into non-thematic A-positions (with T or *v* as probe).

I argue here that, from this general perspective, the by-far most natural conclusion is that French dative *à* preceding the embedded subject in causative constructions does not "get togther with" that subject via external Merge but, rather, via internal Merge (movement). The position of this subject following *à* is not a theta position; the construction is rather more like a case of Exceptional Case Marking (ECM) with raising. Therefore, we would expect *à* to act as a probe much in the way that T and *v* do.[2]

5.2.   Causatives in French

5.2.1.   "Dativization" of the subject of a transitive infinitive

As discussed in Kayne (1975) and Rouveret and Vergnaud (1980) (cf. Burzio 1986 on Italian), the basic facts are as follows: the subject of the embedded infinitive in a French causative with *faire* ('make', 'do') cannot precede the infinitive, contrary to the usual position of subjects:[3]

(1)   *Jean a fait Paul manger (la tarte). ('J has made/had P eat (the pie)')

The infinitival subject must follow the infinitive (abstracting away from Wh-movement, cliticization, etc.):

(2)   Jean a fait manger Paul. ('J has made/had eat P')

But when the infinitive has a direct object, the infinitival subject must be preceded by the preposition *à*:

(3)   *Jean a fait manger Paul la tarte.

(4)   *Jean a fait manger la tarte Paul.

2. I will set aside the question why dative (as opposed to accusative) is generally preserved in passives, with notable exceptions, at least with single object verbs—see Kayne (1975, sec. 3.6) and Barnes and Weyhe (1994, 213).
   3. If the subject of the infinitive is an accusative clitic, there are exceptions; see Kayne (1975, chap. 3, note 31; chap. 4, note 23) and Rouveret and Vergnaud (1980, 129). These should perhaps be related to the "loista" phenomenon of certain varieties of Spanish, whereby clitics of accusative form appear where a dative would be expected; see Kany (1976, 135).

As seen in these two examples, lack of *à* leads to ungrammaticality. Rather, one has:

(5)   Jean a fait manger la tarte à Paul.

5.2.2.   This *à* looks like a preposition

In the causative (5), *à Paul* acts in general just like other instances of P DP. First, with respect to extraction from within adjuncts (cf. Chomsky [1982, 72] citing Adriana Belletti):

(6)   ??le professeur que je me suis endormi après avoir écouté ('the professor that I fell asleep after having listened-to')

(7)   *le professeur à qui je me suis endormi après avoir parlé ('the professor to whom I fell asleep after having spoken')

Extraction of a DP from within an adjunct, as in (6), though marginal, is appreciably better than extraction of P + DP, as in (7). Example (9) shows that extraction from an adjunct of the subject-related *à* DP in causatives is every bit as bad as in (7):

(8)   ??l'enfant que je me suis endormi après avoir fait manger ('the child that I fell asleep after having made eat')

(9)   *l'enfant à qui je me suis endormi après avoir fait manger une tarte ('the child to whom I fell asleep after having made eat a pie')

   Second, the subject-related *à* DP of causatives is similar to ordinary P DP with respect to its position relative to a direct object:

(10)   J'ai montré la tarte à Jean. ('I have shown the pie to J')

(11)   (?)J'ai montré à Jean la tarte.

(12)   J'ai fait manger la tarte à Jean. ('I have made/had eat the pie to J')

(13)   (?)J'ai fait manger à Jean la tarte.

   Third, the subject-related *à* DP of causatives acts like any P + DP with respect to subextraction of *en* or *combien*, which is possible out of direct objects and (many) postverbal nonprepositional subjects, but is blocked by a preposition:[4]

(14)   Le capitaine en a fait ramper trois dans la boue. ('the captain of-them has made crawl three in the mud')

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4. See Kayne (1975, sec. 4.9).

(15)   *Le capitaine en a fait manger de la boue à trois. ('the captain of-them has made eat of the mud to three')

(16)   Combien a-t-elle fait manger d'enfants? ('how-many has she made eat of children')

(17)   *Combien a-t-elle fait manger cette tarte à d'enfants? ('how-many has she made eat this pie to of children')

In both (15) and (17) subextraction is blocked by *à* just as it would be by any other preposition.

Fourth, the *à* DP in question acts sharply differently from direct objects with respect to the "obligatoriness" of clitic placement:[5]

(18)   Elle *(les) a fait manger tous les deux. ('she them has made eat all the two')

(19)   Elle (leur) a fait manger une tarte à tous les deux. ('she them has made eat a pie to all the two')

A direct object quantifier phrase like *tous* (*les deux*) is not possible without an accompanying clitic. The *à* DP of (19) is possible with just QP being overt, as would be the case with other prepositions, for example:

(20)   Elle a parlé de tous les deux. ('she has spoken of all the two')

Fifth, the French counterpart of English topicalization (Cinque's 1990 CLLD) requires a clitic when the topicalized phrase is a (derived) direct object:

(21)   *Paul elle a déjà fait manger. ('P she has already made eat')

(22)   Paul, elle l'a déjà fait manger. ('P she him has already made eat')

But the subject-related *à* DP of causatives does not need a clitic:

(23)   A Paul elle a déjà fait manger une tarte. ('to P she has already made eat a pie')

Again, this is simply behavior that it shares with other prepositions:

(24)   De Paul elle ne parle jamais. ('of P she neg. speaks never')

Sixth, for many speakers, floating or stranded quantifiers in French relatives can be linked to a relativized direct object but never to a relativized prepositional object:

(25)   ces garçons, que j'inviterai tous ('those boys, who I will-invite all')

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5. See Kayne (1975, sec. 2.17; 2000, chap. 9).

(26)   *ces garçons, à qui je téléphonerai tous ('those boys, to whom I will-telephone all')

For such speakers, the *à* under consideration shows the same restriction:[6]

(27)   *ces garçons, à qui ton ami faisait tous boire du vin ('these boys, to whom your friend made all drink of-the wine')

 The general conclusion of this section is that the *à* that appears before subjects in certain French causatives is a preposition with the usual properties of prepositions.

5.2.3. This causative construction is not an instance of control

There are many reasons to think that the sentences we have been concerned with, such as (28), are not instances of control: *à* DP is not at all like a matrix controller:

(28)   Jean a fait manger une tarte à Paul. ('J has made/had eat a pie to P')

 First, a control construction would not care about the transitivity of the embedded infinitive:

(29)   *Jean a fait manger à Paul. ('J has made eat to P')

In the absence of a direct object of the infinitive, the embedded subject in the causative generally cannot be preceded by *à*. Ordinary cases of control act quite differently:

(30)   Jean a dit à Paul de manger (une tarte). ('J has said to P to eat (a pie)')

In the true control structure (30) the presence of an embedded object is irrelevant.
 Second, French control constructions never allow clitic climbing, whereas causative constructions do:

(31)   Jean les a fait manger à Paul. ('J them has made eat to P')

(32)   *Jean les veut manger. ('J them wants to-eat')

(33)   *Jean les a dit à Paul de manger. ('J them has said to P to eat')

The clitic *les* has moved up into the matrix in (31) (a causative with the *à* under study) in a way that is not allowed in the control examples (32) and especially (33).
 Third, control constructions always allow a clitic to remain on the infinitive, whereas in causatives, this is marginal at best (apart from reflexives), and often impossible:

(34)   *Jean a fait les manger à Paul.

  6. For further details, see Kayne (1975, sec. 4.9).

(35)   Jean veut les manger.

(36)   Jean a dit à Paul de les manger.

Fourth, control constructions generally have the controller preceding the infinitive, whereas in causatives the order is the reverse. In causatives, the order is as in (28) and (31) and not as in (37) or (38):

(37)   *Jean a fait à Paul manger une tarte.

(38)   *Jean les a fait à Paul manger.

This contrasts sharply with control examples:

(39)   Jean a avoué à Paul avoir mangé une tarte. ('J has confessed to P to-have eaten a pie')

(40)   Jean a dit à Paul de manger une tarte. ('J has said to P to eat a pie')

Finally, were (28) and (31) to be analyzed as control examples, they would violate an otherewise exceptionless generalization about French infinitival complementizers:

(41)   Infinitives with true object control[7] must have an overt (prepositional) complementizer.

Example (40) is a typical case of object control and contains the complementizer *de*. Example (39) has no overt complementizer but, in fact, can only be interpreted as subject control. Because there is no complementizer in (28) and (31), it is clear that those causatives do not involve control at all.

In conclusion, then, the DP following *à* in (28) and (31) is not a matrix controller.

5.2.4.   An ECM analysis

If the DP under consideration is not a matrix controller, then what is its origin? Subjects of French transitives are not normally preceded by *à*:

(42)   Jean a mangé la tarte. ('J has eaten the pie')

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7. There is no overt complementizer in:

(i)   Il me semble avoir compris. ('it-expl. me seems to-have understood' = I seem to have understood.)

(ii)   Il me faut partir. ('it-expl. me is-necessary to-leave' = I have to leave.)

Although the controller in (i) and (ii) seems to be an object (dative), these are almost certainly to be analyzed as dative subjects of the sort seen prominently in Icelandic; see Fernández-Soriano (1999) and references cited there.

(43)   *A Jean a mangé la tarte.

This is also true of postverbal subjects in finite sentences. French allows postverbal subjects with transitives to a limited extent in the so-called stylistic inversion construction:[8]

(44)   ?le jour où les a mangées Jean-Jacques ('the day when them has eaten J-J')

Again, *à* is sharply impossible:

(45)   *le jour où les a mangées à Jean-Jacques

The contrast between (45) and (31) suggests that this *à* is closely linked to the causative matrix verb *faire* in (31). *Faire* is not unique in French; there is one other verb that productively (probably less so than with *faire*) allows this *à*—namely, *laisser*:

(46)   Jean a laissé manger la tarte à Paul. ('J has let eat the pie to P')

In addition, to a minor extent, the perception verbs *entendre* and *voir* allow it:

(47)   J'ai entendu dire cela à un de tes amis. ('I have heard say that to one of your friends' = I have heard one of your friends say that.)

(48)   J'ai vu faire des bêtises à Jean. ('I have seen do some stupid-things to J' = I have seen J do some stupid things.)

As far as I know, no other class of matrix verbs allows the *à* of (28), (31), and (46)–(48).
    At the same time as this *à* seems clearly to be part of the matrix, the DP following it seems clearly to be part of the embedding. In part, we have already seen this in the discussion above ((28)–(41)), which showed that the DP following *à* is not a matrix controller. In part, there is the simple fact that, semantically speaking, this DP is an argument of the infinitive.
    The range of theta or interpretive roles (relative to the infinitive) that can be filled by the subject DP following *à* is fairly wide, as these further examples (from Kayne 1975) illustrate:

(49)   Son dernier bouquin a fait gagner beaucoup d'argent à Jean-Jacques ('his last book has made earn a-lot of money to J-J')

(50)   Tu vas faire perdre son poste à ton copain. ('you are-going to-make lose his job to your friend')

(51)   Elle fera entendre raison à Jean. ('she will-make listen-to reason to J')

8. See Kayne and Pollock (1978; chapter 1 in this volume).

(52)   Cela fera changer d'avis à Jean. ('that will-make change of opinion to J' = That will make J change his mind.)

(53)   Ce qui est arrivé a fait perdre de l'importance au fait que Jean aime Marie. ('that which has happened has made lose (of the) importance to-the fact that J loves M')

(54)   On ne peut pas faire jouer un rôle important à tout. ('one neg. can not make play a role important to everything' = One cannot have everything play an important role.)

(55)   Elle fera effleurer le filet à la balle. ('she will-make touch the net to the ball' = She will make the ball touch the net.)

(56)   Le coup de vent a fait traverser l'étang au petit voilier. ('the blast of wind has made cross the pond to-the little sailboat' = The blast of wind has made the little sailboat cross the pond.)

(57)   Cela fait préférer à Jean la syntaxe à la phonologie. ('that makes prefer to J the syntax to the phonology' = That makes J prefer syntax to phonology.)

Whereas *Paul* in (46) is an agent, the embedded subjects following *à* in (49)–(57) are not, in various ways. If Spec,*v*P is limited to agents, then the embedded subjects of (49)–(57) will originate lower down in the VP structure. This seems to be perfectly compatible with their ending up preceded by *à*, in these causative sentences.[9]

We have arrived at the following intermediate and apparently paradoxical conclusion: the lexical DP preceded by *à* in (49)–(57) and similar causative examples is the subject of the embedded infinitival clause; yet the *à* itself, to judge by the discussion following (45) properly belongs to the matrix.

This leads naturally to:

(58)   Causatives with *à* preceding the embedded subject are instances of raising or ECM.

Put another way: the lexical DP preceded by *à* is the subject of the infinitive at some point in the derivation. The *à* itself is in the matrix. The embedded subject comes to look like the object of *à* as the result of raising.[10] The intent of (58) is to establish a

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9. There is a restriction against embedding certain kinds of psych verbs under *faire* that does not seem to be specific to sentences with *à*; see Kayne (1975, chap. 3, note 63).

A partially distinct point is made by:

(i)   Elle fera lever la main à Jean. ('she will-make raise the hand to J' = She will make/have J raise his hand.)

insofar as in this example, *Jean* may originate within the DP *la main*. See Landau (1999).

10. Some speakers of English accept the following, with ECM and a preposition:

(i)   ?We're counting on there to be a solution.

See also McCloskey (1984).

clear partial link between these French causative constructions and the more familiar English ECM of:[11]

(59)   John considers Bill to have made a mistake.

The two differ dramatically in that (59) contains no preposition comparable to *à*, an important but, I think, limited difference. They also differ in type of matrix verb. A still closer parallel between French and English from this ECM perspective is:

(60)   Jean a fait manger une tarte à Paul. ('J has made eat a pie to P')

(61)   John made Paul eat a pie.

5.2.5.   French and English

One question that arises is why English (perhaps all of Germanic) lacks sentences comparable to the French ones with an overt preposition preceding the embedded subject:

(62)   *John made/had eat the cereal to his children.

A partial answer might well be that English (61) (and similarly for other Germanic) actually does contain a dative preposition comparable to French *à*, except that in English this preposition must be unpronounced.

    This would establish a very plausible link between these causatives and double-object constructions, which differ in a parallel way: the following correspond, with respect to presence or absence of an overt preposition, to the pair in (60)–(61):

(63)   Jean a donné un livre à Paul. ('J has given a book to P')

(64)   John gave Paul a book.

Of course, English also allows:

(65)   John gave a book to Paul.

    The raising analysis being suggested for *à* leads to the expectation that an idiom of the form DP V DP, with the subject DP part of the idiom, could be embedded under *faire* and have the subject DP preceded by *à*. This needs to be looked into.
    A similar expectation arises for expletive subjects. The problem is that French has no expletive *there* that's a subject, so no test is readily available. It does have expletive *il*, but this expletive is incompatible with accusative Case and so would probably not be expected to ever surface with dative Case.
    11. To some extent, French has counterparts of (59); see Pollock (1985). On English ECM, see Postal (1974).

Thus, the ungrammaticality of (62) must reflect some more specific property of French *à* versus English *to*, probably related to the following differences:[12]

(66) a. English distinguishes *to* and *at*, while French doesn't.
     b. *To* can introduce purpose clauses, whereas French must use *pour* rather than *à*.
     c. French *à* can correspond to English *from* (with verbs like *take* and *steal*).
     d. French *à* can be benefactive, whereas English *to* is never benefactive.

This may indicate that *to* is associated with a more specific interpretation than *à* and that that extra specificity precludes it from appearing in (62) (cf. especially (66c,d).
    A second important question is why French does not allow an exact counterpart of (61) and (64):

(67) a. *Jean a fait manger Paul une tarte.
     b. *Jean a fait Paul manger une tarte.

(68) *Jean a donné Paul un livre.

The government-based proposals I made in earlier work[13] clearly need to be updated, something that I will not attempt here. What will suffice for present purposes is simply the idea that French (60) and (63) are very close counterparts of English (61) and (64).

5.2.6. English double-object sentences

Collins and Thráinsson (1993, 140) develop an analysis of double-object constructions in which there are two Agr-O positions above VP (separated by AspP), one for each of the two objects. For my purposes, the label Agr-O is relatively unimportant;[14] what is essential is that there be two licensing positions, one for each object. Important also is their taking the higher of the two Agr-Os to be associated with (and higher than) an abstract causative V. Of further importance to what follows is their claim that in Icelandic object shift of both objects, the indirect object moves to the higher Agr-O and the direct object to the lower.
    Setting aside the question of whether the objects move overtly or covertly in Icelandic sentences where the verb has (apparently) not raised in the familiar fashion, and continuing to use the (perhaps appropriate) label Agr-O, I would like to take over from the Collins and Thráinsson discussion the following:

(69) Double object constructions are akin to causatives.

(70) The indirect object is licensed in an Agr-O position above the causative V.

(71) The licensing in question is at least sometimes effected by overt movement.

12. See also Klipple (1997) and Déchaine et al. (1995).
13. See Kayne (1981c; 1983b).
14. See Chomsky (2001a, 43, note 16) and references cited there.

Let us now reconsider the idea that French (60) and (63) are very close counterparts of English (61) and (64). The French example (63) suggests an analysis parallel to that of Collins and Thráinsson, with *à* having a role akin to their higher Agr-O. This kind of analysis is especially natural for the French construction with overt causative verb, as in (60). We saw earlier in the discussion of (42)–(48) that there is every reason to think that the *à* that precedes the embedded subject is really part of the matrix. That is extremely close to Collins and Thráinsson's proposal that the Agr-O that licenses the indirect object is above the abstract causative V. I conclude that the *à* of French causative (60) is either identical to or closely related to their higher Agr-O, and that it is above the causative verb *faire*.

Similarly, although I won't pursue this, it is now natural to take the embedded subject *Paul* in (72) to be licensed by an indirect-object-licensing type of Agr-O above *make*:

(72)   John made Paul eat the pie.

5.2.7.   *à* as probe

To grant that *à* in causatives like (60) (repeated here) is a high functional head strongly similar to Collins and Thráinsson's above-causative-V Agr-O is to grant, within the framework of Chomsky (2000; 2001a; 2004), that *à* is a probe:

(73)   Jean a fait manger une tarte à Paul. ('J has made eat a pie to P')

The same is certainly then true of (63), also repeated:

(74)   Jean a donné un livre à Paul. ('J has given a book to P')

This expresses the idea put forth earlier—namely, that *à* in (73) belongs to the matrix, even though the DP following it originates as the embedded subject. (In (74), similarly, *à* is above the higher causative V, whereas *Paul* originates within the lower VP.)

In Agr-less terms, this amounts to taking *à* in these examples to act as a probe parallel to *v* (and to T).[15] In other words, *à* (along with similar adpositions in other languages) is part of the Case-agreement system, in Chomsky's (2004) sense. The fact that in French it does not actually show overt agreement with any DP is simply parallel to the fact that *v* usually doesn't (even if it is involved in past participle agreement), nor does T in many languages (including English, where T shows overt agreement in a very limited class of cases). Nevertheless, like *v* and T, P (adposition) does show overt agreement in some (or many) languages.[16]

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15. The *à* must then have an EPP feature and phi features.

16. Although apparently never in SVO languages, for reasons that must be more intricate than those suggested in Kayne (1994, 49), given the analysis to follow.

5.2.8. Word order

The parallelism between the *à* of (73) and (74) and Collins and Thráinsson's higher Agr-O is imperfect, as far as word order is concerned. In their Icelandic examples with overt indirect object shift, the indirect object moves leftward, as does the finite verb. The desired word order is achieved immediately. The indirect object remains to the left of the direct object.

In French, the DP whose movement is induced by *à* functioning as probe—that is, the DP *Paul* in both (73) and (74)—ends up to the right of the direct object *une tarte* or *un livre* and also to the right of the causative V (*faire*) in (73). The question is how to derive the French–English word order difference without losing the strong parallelisms that we have seen to hold in other respects.

The challenge concerns not only the position of *Paul* in these examples but also the position of *à* itself. If *à* is a functional head above the causative, parallel to Collins and Thráinsson's higher Agr-O, then we would expect it to precede the causative, which is not the case. One possibility would be to take *à* to be unusual for French heads and to have it follow its complement: that is, to have it follow the causative VP. This is, of course, incompatible with my 1994 universal Spec–Head–Complement proposal.

On the other hand, Chomsky (2004, 110) considers an intermediate position, whereby one would have the Spec–Head part be universally valid, but not the Head–Complement part; Specs would always precede their head, but Complements could either precede or follow. From that perspective, taking *à* to be higher than and yet to follow the causative VP would not be impossible.

The problem is, that proposal wouldn't suffice. Taking *à* to follow the causative VP in (73) (and (74)) might be a way of having *à* appear after the direct object, but if the Spec of *à* necessarily precedes it, then movement of *Paul* in (73) (and (74)) will not succeed in getting *Paul* to its desired position following *à*. In a Spec–Complement–Head configuration, movement of a phrase to Spec from within the Complement will place that phrase to the left of the complement, giving in the cases at hand the radically ill-formed:

(75)   *Jean a Paul fait manger une tarte à.

(76)   *Jean a Paul donné un livre à.

I conclude that if one grants the universality of Spec–Head order, then, even if one does not grant the universality of Head–Complement order, derivation of the correct word order in (73) (and (74)) requires more movement than is sometimes assumed.

A proposal akin to one I have made for prepositional complementizers in recent work[17] would be as follows. First, *à* (located above the causative VP) induces movement of *Paul*, yielding (abstracting away from the subject of the causative V and from the auxiliary):

17. See Kayne (1999).

(77)   Paul$_i$ à fait t$_i$ manger une tarte

(78)   Paul$_i$ à donné t$_i$ un livre

Since *à* is a preposition (rather than a postposition), it then raises to an immediately higher head (labeled W in that earlier work, but perhaps assimilable to one of Cinque's [1999] functional heads):

(79)   à$_j$+W Paul$_i$ t$_j$ fait t$_i$ manger une tarte

(80)   à$_j$+W Paul$_i$ t$_j$ donné t$_i$ un livre

Subsequently, the causative VP raises:

(81)   [fait t$_i$ manger une tarte]$_k$ à$_j$+W Paul$_i$ t$_j$ t$_k$

(82)   [donné t$_i$ un livre]$_k$ à$_j$+W Paul$_i$ t$_j$ t$_k$

    An alternative derivation of a type suggested to me in the context of prepositional complementizers by Ur Shlonsky would differ from the preceding in taking *à* to be "twinned" with another functional head, call it Agr-IO.[18] This Agr-IO could be taken to match the higher of Collins and Thráinsson's two exactly, with French then having an "extra" *à* lacking in English. The derivations would look like this, starting from:

(83)   fait Paul manger une tarte

(84)   donné Paul un livre

This Agr-IO acts as a probe for *Paul*:

(85)   Paul$_i$ Agr-IO fait t$_i$ manger une tarte

(86)   Paul$_i$ Agr-IO donné t$_i$ un livre

Then *à* enters the derivation as the next head, acting as a probe for the causative VP and inducing movement:[19]

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18. See Chomsky (2001a, 43, note 16).

19. The derivation given in (87) does not immediately account for the possibility of having a stranded quantifier in:

(i)   Ils ont fait manger tous une tarte à leurs enfants. ('they have made eat all a pie to their children' = They all made their children eat a pie.)

As Guasti (1991, 214) notes, the presence of a *tous* related to *ils* yet following the infinitive appears to support the idea that the infinitive incorporates to the causative (which is not necessarily

(87)   [fait t$_i$ manger une tarte]$_j$ à Paul$_i$ Agr-IO t$_j$

(88)   [donné t$_i$ un livre]$_j$ à Paul$_i$ Agr-IO t$_j$

The derivations sketched in (83)–(88) (as well as the earlier ones in (77)–(82)) derive the desired word order, and do so while maintaining the status of *à* as a functional head above the causative and, simultaneously, the idea that *Paul* originates as the subject of the infinitive.

5.2.9.   Complementizers

Movement of *Paul* in (85) and (86) to Spec,Agr-IO will be similar to the derivation of sentences with prepositional complementizers, adopting Shlonsky's suggested modification, and taking Agr-Infin to occur in place of Agr-IO. For example, the derivation of *Jean commence à comprendre* ('J begins to understand') will look like this (abstracting away from subjects):

(89)   commence comprendre

Agr-Infin enters the derivation and induces movement of the infinitival (nominal[20]) IP:

(90)   comprendre$_i$ Agr-Infin commence t$_i$

Then *à* enters the derivation, inducing movement of the VP headed by *commence*:

(91)   [commence t$_i$]$_j$ à comprendre$_i$ Agr-Infin t$_j$

With a matrix verb like *essayer* ('try') instead of *commencer*, the prepositional complementizer would be *de* ('of') rather than *à*:

(92)   Jean essaie de comprendre. ('J tries to understand')

I assume that there is a head-to-head relation between Agr-Infin and V and a distinction between Agr-Infin(*à*) and Agr-Infin(*de*) such that the appropriate Agr-Infin is introduced above (not below, as in more familiar approaches) a given V. Another head-to-head relation between *à* or *de* and Agr-Infin will ensure the desired matching.

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incompatible with the text proposal). Alternatively, stranded quantifiers, rather than being analyzed à la Sportiche (1988), should be related to sentences like (see Kayne [1975, sec. 1.9]):

(ii)   They went, the one to Paris, the other to London.

These, in turn, look like intricate cases of gapping. An approach to gapping à la Johnson (1994) might then carry back over to (i), without requiring incorporation.

20. The infinitive morpheme -*r*(*e*) is nominal in Romance languages; see Kayne (1999, discussion of (4)ff.).

This way of thinking about prepositional complementizers has the property that movement of IP into the Spec of the prepositional complementizer (or its Agr twin) is not limited to head-final languages. It is rather the (unique) way in which UG allows these complementizers to "get together with" their associated IP. Furthermore (contrary to Kayne 1994, 53), the movement in question is not movement of the complement of some head into the Spec of the same head.

One intuition behind this proposal is that the relation between a prepositional complementizer and its associated IP is not akin to the relation between a verb and a thematic argument but, rather, to the relation between a head like T or *v* (or Agr) and a DP that moves into its Spec (or into the Spec of its twin). If the relation between prepositional complementizer and associated IP is not akin to a theta-relation, then Chomsky's (2004, 110) division of labor between external and internal Merge would independently have led us to question the familiar and traditional, but I think incorrect, idea that complementizer and IP "get together" as the result of one merging directly with the other.

The same intuition holds for the dative *à* that I have primarily been concerned with in this chapter. The relation between it and its associated DP is not a theta-relation but much more like the relation between *v* (or Agr-O) and the accusative DP that moves into its Spec. If this is correct, then *à* and DP should not be put together by external Merge but only by internal Merge (movement).

As we have seen, this leads to the conclusion that (leftward) VP-movement must have a role in derivations involving either complementizer *à* or dative *à*. We might think of this kind of VP-movement as being to English VP-preposing (illustrated in (93)) what scrambling is to topicalization:[21]

(93)   He said he would do it and do it he will.

5.2.10.   Finite complementizers

The derivational similarities between prepositional complementizers and prepositions are strong if the preceding is on the right track. (I take all prepositions of the *of*, *at*, *to*, *by*, *with*, *from*, *for* type to be good candidates for derivations of the sort under discussion.) Complementizers like English *that* can be analyzed in parallel fashion (i.e., as entering the derivation above VP and acting as a probe for a finite IP merged within VP), as I suggested briefly for the case of relative clauses in earlier work.[22]

On the one hand, finite sentential complements might be directly parallel to infinitival sentential complements. On the other hand, there might be a requirement to the

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21. For extensive argumentation in this direction, see Koopman and Szabolcsi (2000). Note that this VP preposing of (93) is sometimes obligatory:

(i)   I said he would do it and do it he has.

(ii)   . . . and he has done/*do it.

Example (i) recalls the Dutch and German IPP phenomenon; for recent discussion, see Koopman and Szabolcsi.

22. See Kayne (1998b).

effect that arguments must invariably be nominal.[23] Now I mentioned in the discussion of (89)–(91) that French infinitival clauses are, in fact, nominal, in which case they can be an argument of V (later to be moved up to *à* or *de*, setting aside cases where there is no overt complementizer).

Finite clauses in French and English, however, are almost certainly not nominal in and of themselves. If so, it may be that they are not permitted to be arguments of V. Although I do not pursue this question here, I think this suggests that finite complement clauses must be associated with something like *it*, in the spirit of Rosenbaum (1967) (whereas gerunds usually must not be, and what we call infinitives may or may not be). The complementizer *that*, or in French *que*, may still enter the derivation outside of VP and induce movement of (finite) IP, in a way similar to what happens in the case of relative clauses.

5.2.11. Case

From the perspective of Chomsky (2004), we would expect the lexical DP that ends up preceded by *à* to have structural Case. This is of course compatible with the fact that French lexical DPs never have any Case morphology (nor do non-clitic pronouns). There are some morphological distinctions in third-person clitics, which may or may not be assimilable to Case morphology.[24] Let me set them aside and briefly turn to a question concerning French causatives—namely, Why is "dativization" apparently sensitive to transitivity? That is, why do we have the following?

(94)   Jean a fait manger une tarte *(à) Paul. ('J has made eat a pie to P')

(95)   Jean a fait manger (*à) Paul.

There are at least two distinct questions here. One is why *à* is required in (94). I take Rouveret and Vergnaud (1980) to be correct in seeing this in terms of Case licensing.[25] In present terms, without the *à* and Agr-IO pair, in French there would not be enough functional heads of the required kind. A second question is why *à* is not possible in (95). This question is complicated by the fact that, although (95) is perfectly representative of sentences in which the infinitive has no complement whatsoever, it is not completely true that *à* requires the presence of a direct object. For example, Rouveret and Vergnaud (1980, 133) give:[26]

23. See Kayne (1982).
24. See Emonds (1976, 232).
25. See also Koopman (1992).
26. See also Kayne (1975, chap. 3, note 9):

(i)   Cela fera voir juste à ton ami. ('that will-make see right to your friend')

and chap. 4, note 4:

(ii)   *?Elle fera téléphoner à Marie à Jean. ('she will-make telephone to M to J' = She will have J call M.)

(96)   Cela a fait changer d'avis / *de chemise à tout le monde. ('that has made change of mind / of shirt to all the world' = That made everyone change their mind/shirt.)

It may be that Agr-IO (for the most part) requires the presence of Agr-DO.

A third question is why the embedded subject *Paul* in (95) follows the infinitive. It does in (94), according to the analyis developed above, as the result of its moving up to *à*, plus the subsequent preposing of the causative VP (which no longer contains it). This does not carry over to (95). It may be that the verb–subject order in (95) is to be related to that in "stylistic inversion" sentences such as:[27]

(97)   Qu'a mangé Paul? ('what has eaten P')

5.3.   Conclusion

Prepositions are not merged with what we think of as their objects. Rather, prepositions enter the derivation outside VP and subsequent to merger of a phonetically unrealized Case-licensing functional head (perhaps dispensed with by postpositions). That functional head acts as a probe attracting to its Spec what we think of as the object of the preposition. The preposition itself is a probe for VP, which moves to Spec of the preposition, producing the desired word order. The argument has been pursued here almost entirely with respect to certain instances of French *à*, but if we are correct, it must generalize well beyond.

5.4.   Appendix: Constituent Structure

The derivations sketched in (83)–(88) produced the derived structures repeated here:

(98)   [fait t_i manger une tarte]$_j$ à Paul$_i$ Agr-IO t_j

(99)   [donné t_i un livre]$_j$ à Paul$_i$ Agr-IO t_j

If the infinitive has both a direct object and a PP complement, *à* is necessary, and the word order facts are complex; see Kayne (1975, chap. 3, note 82).

Additional examples of a dativized subject are available if one looks at causatives in which the embedded subject becomes a dative clitic, but I am setting those aside in this essay.

27. On which, see Kayne and Pollock (1978; chap. 1 in this volume). Some link with "stylistic inversion" is suggested by Rouveret and Vergnaud (1980, 133), at least for some cases in which the infinitive is unaccusative.

That (95) does not involve head-raising of V is suggested for unergatives by the fact that the construction is "delicate" in the presence of a complement PP; see Kayne (1975, chap.4, note 24):

(i)   ?Cela fera penser tout le monde à Jean. ('that will-make think all the world to J' = That will make everyone think of J.)

These have the property that *à Paul* is, strictly speaking, not a constituent (*Paul* is in Spec,Agr-IO and *à* is the next head above that). This bears on the question of pied-piping, in sentences like:

(100)   A Paul, Jean a fait manger une tarte. ('to P, J has made eat a pie')

(101)   A Paul, Jean a donné un livre. ('to P, J has given a book')

and similarly for their Wh-counterparts, as in:

(102)   le garçon à qui Jean a fait manger une tarte ('the boy to whom J has . . .')

(103)   le garçon à qui Jean a donné un livre

If *à Paul* and *à qui* are not constituents, how can they be moved?

    One possible answer would be based on the observation that in (98) and (99) *à Paul Agr-IO t* is a constituent, so that (100) and (101) could be thought of as involving moving of that (remnant) constituent, and similarly for (102) and (103). A consideration that goes against this approach would be the following: Webelhuth (1992, 129) has noted that the Germanic languages other than English have the counterpart of (104), but not the counterpart of (105):

(104)   the boy whose sister John invited to the party

(105)   the boy the sister of whom John invited to the party

Webelhuth's generalization is that pied-piping is Spec-based: *who* in (104) is in the Spec of the larger phrase *whose sister* and can therefore pied-pipe it; in (105), *whom* is not in the Spec of *the sister of whom* and therefore cannot (in non-English Germanic) pied-pipe it. (English will have some means of evading this restriction.)

    Now Webelhuth further notes that non-English Germanic does allow the counterpart of:

(106)   the boy to whom John spoke

This leads him (p. 142) to treat preposition-based pied-piping as special. If (106) is truly an exceptional kind of pied-piping, then taking (100)–(103) to be instances of movement of *à Jean/qui Agr-IO t* is plausible.

    The alternative is to take (106) not to be an exceptional case of pied-piping, by taking it not to be a case of pied-piping at all, and similarly for:

(107)   To whom did John speak?

This alternative is more natural from the present perspective on prepositions than it would be from the more usual perspective in which prepositions are merged directly with their objects (and form a constituent with them right away).

What I have in mind more specifically is the following: Take (107) to involve object scrambling across the subject, in a way intended to recall Japanese or German. This will require a stage in the derivation (abstracting away from the auxiliary) such as:

(108)   whom Agr$_{to}$ John

Whether Agr$_{to}$ is merged directly in this high position or moved there from a lower position is left an open question. But granted (108), it is natural to have the next step in the derivation be the introduction of *to* itself:

(109)   to whom Agr$_{to}$ John

To enters the derivation just above Agr$_{to}$ much as *à* enters just above Agr-IO in (98) and (99).[28]

   In this way, the derivation of (107) need involve no pied-piping: no movement of a constituent containing both *to* and *whom*.

   This would give us a partially new way of thinking of (6)–(9), repeated here with essentially equivalent English examples:

(110)   ?Who did John fall asleep while talking to?

(111)   *To whom did John fall asleep while talking?

Instead of (111) reflecting a restriction on PP-movement, it could now reflect a restriction on Agr$_{to}$, which cannot appear above the matrix subject and yet be related to an argument originating within an adjunct IP.

   Relevant here are sentences like:

(112)   ?To whom was John speaking to?

These are sometimes found. They could be thought of as having two instances of Agr$_{to}$: one below the (derived position of) the subject and one above. At issue is the status of:

(113)   ?To whom did you think he was speaking to?

(114)   ??To whom were you wondering what to say to?

(115)   *To whom did he fall asleep while talking/speaking to?

Example (113) does not seem appreciably different from (112). Example (114) is a bit worse by virtue of being a case of extraction from a Wh-island. But (115) seems much worse, essentially like (111).

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28. This bears on the question whether all functional heads need to attract something to their Spec; see Kayne (1998b, (45)).

If these judgments are accurate, the strong deviance of (111) must be due not to the absence of *to* inside the adjunct but to its presence in the matrix. The formulation given above holds: Agr_{to} cannot appear within the matrix and simultaneously be related to a position within the adjunct. (It may be that the adjunct-introducing element, here *while*, blocks movement of Agr_{to}.)

In conclusion, the analysis of (110) and (111) and their French counterparts (6)–(9) does not depend on P DP being a constituent in the strict sense; nor does prepositional pied-piping in general, whether thought of as movement of 'P DP Agr-P t' or in terms of scrambling, as in the discussion beginning at (107). (Similarly, an account of the facts of (10)–(27) above, which falls outside the scope of this article, does not depend on P DP being a PP constituent.)

6

Pronouns and Their Antecedents

6.1.   Binding as movement

The similarity between binding and movement played a part in discussions of trace theory in the early to mid-1970s, with an attempt then to think of movement (antecedent–trace relations) in binding terms (see Fiengo 1977, 53). Conversely, in the work of Lebeaux (1983) and Chomsky (1986, 175) in the early to mid-1980s, an attempt was made to rethink part of Condition A of Binding Theory in terms of movement.

More recently, O'Neil (1995; 1997) and Hornstein (1999) have proposed reinterpreting obligatory control in movement terms, and Hornstein (2001) has further developed a movement approach to Condition A and also indirectly to Condition B.

In this chapter, adopting the derivational perspective of Chomsky's (1995; 2000; 2001a) work, I explore the idea that binding should be rethought in movement terms even more generally, including what we think of as Condition C effects.

If the obvious similarity between Condition C and the prohibition against downward movement can successfully be expressed, then we can dispense with the notion

of "accidental coreference," in the sense of Lasnik (1976, 13). (The term could be retained for cases of "mistaken identity.") All instances of "intended coreference or binding" will involve a movement relation.

In attempting to integrate into a movement perspective core Condition C effects involving pronoun and antecedent, and in attempting to dispense with the notion of accidental coreference, here I go beyond what Hornstein (2001) tried to accomplish (although the spirit is much the same). I also take a very different tack from his (and from Burzio's [1991]) on Condition B, which I do not think is derivable as a side effect of Condition A. I argue that the opposite is, in fact, closer to the truth: that is, there is a sense in which Condition B (or what it follows from) is more basic than Condition A (more exactly, more basic than the existence of reflexives).

In the spirit of the Lebeaux and Chomsky proposals concerning Condition A, I argue that neither Condition B nor Condition C is a primitive of UG. The effects of both follow, in a derivational perspective, from basic properties of pronouns and basic properties of movement.

6.2.   Clitic doubling

In addition, the execution is different from that of Hornstein (2001). Hornstein takes pronouns (in many cases) to reflect the spelling out of the trace of movement. But if one interprets movement as copy + deletion or nonpronunciation, as in Chomsky (1995, 202), this is not entirely natural.[1] Movement will leave a typically unpronounced copy of the full antecedent; to get from there to the pronunciation of a pronoun requires an additional mechanism (see Hornstein [2001, 178]) that may not be consonant with Chomsky's (1995, 225) inclusiveness condition (if the pronominal is not part of the numeration) and in any event has a countercyclic character that I would like to avoid.

I prefer to have the pronoun present in the numeration—more specifically, to have it derivationally form a constituent with its antecedent. In addition, I take the position that clitic doubling and antecedent–pronoun relations should be unified more than they have been.

Clitic doubling involves a clitic pronoun and an associated DP that together correspond to a single theta role:

(1)   Le doy un libro a Juan. (Spanish: 'him(dat.) I-give a book to J' = I am giving a book to John.

In contrast, antecedent–pronoun cases such as (2) involve two distinct theta roles— one for the antecedent, and a distinct one for the pronoun:

(2)   John thinks he's smart.

1. See Cinque's (1990, 61) argument against taking clitics to be the spelling out of a trace, made on the basis of the non-licensing of parasitic gaps by clitics; similarly, see E. Hoekstra's (1999) argument against taking the pronoun in (Dutch and Frisian) left dislocation to be the spelling out of a trace.

I propose that that very real difference is nonetheless compatible with substantial unification.

I adopt an approach to clitic doubling of the sort found in Kayne (1972, 90) and Uriagereka (1995, 81), in which clitic and double are merged together,[2] and then are subsequently separated. Oversimplifying in various ways,[3] we have the following sort of derivation, for the French interrogative subject clitic doubling example in (3):

(3)   Cela est-il vrai? ('that is it true')

(4)   [cela il] est vrai → verb movement
       est_i [cela il] t_i vrai → movement of the double
       $cela_j$ est_i [t_j il] t_i vrai

In (3) and (4), movement of the double *cela* has the effect of bringing the double to a position leftward of the clitic *il*. In the Spanish example (1), the double *Juan* ends up to the right of the clitic *le*. I take this Spanish fact to reflect the preposing of VP (or some bigger projection, perhaps including all of *le doy un libro*) induced by the preposition *a*, much as in Kayne (1998b; 1999; chapter 5 in this volume). A possible (oversimplified) derivation would be:

(5)   doy un libro [Juan le] →[4]
       [Juan le]$_i$ doy un libro t_i →[5]
       $Juan_j$ [t_j le]$_i$ doy un libro t_i → merger of *a*
       a $Juan_j$ [t_j le] doy un libro t_i →
       [[t_j le] doy un libro t_i]$_k$ a $Juan_j$ t_k

6.3.   Antecedent and pronoun

Generalizing this to (2), the proposal is for a derivation of (2) of this sort:

(6)   thinks [John he] is smart →
       $John_i$ thinks [t_i he] is smart

2. Sportiche's (1995a; 1995b) approach to clitic doubling likewise has the pronoun in the numeration, but differs in having the pronoun merged into a sentential functional head position (with the double then moving to it). Whether his approach to clitic doubling (and his related recent ideas on determiners) could be unified with the antecedent–pronoun relation of (2) in a way parallel to the text proposal (i.e., whether the movement-based proposal developed in this essay could be recast in his terms) is left an open question.

3. For recent, more detailed discussion of the French complex inversion illustrated in (3), see Pollock (2000).

4. The movement of [*Juan le*] may accomplish what classic clitic movement is intended to accomplish.

5. The extraction of the double *Juan* here from within [*Juan le*] is intended to recall right-dislocation (which does not involve rightward movement); see Kayne (1994, 83) and especially Cecchetto (1999) and Villalba (1999).

From within the lower sentence, *John* moves into the theta position of the matrix verb (and then raises further).

In this derivation, the double *John* moves from within the doubling constituent [*John he*] into a higher theta position. The essential difference between this case and (5) is that in (5) (in the second movement step) the double *Juan* moves from within the doubling constituent [*Juan le*] into a higher non-theta position.

Although the derivation in (6) countenances movement (of *John*) into a theta position, it does not assign two theta roles to *John*; the lower theta role is assigned, rather, to the larger constituent [*John he*] (conceivably also to the head *he*).

6.4.   Control

Movement into a theta position is also proposed by O'Neil (1995; 1997) and Hornstein (1999; 2001),[6] but since they do not start from a doubling structure, they also have to allow a given argument to bear more than one theta role, which the proposal illustrated in (6) does not need to do.

In the specific case of control, they have *John* in (7) bearing two theta roles:

(7)   John tried to solve the problem.

The approach to (6) just proposed does not lead to that conclusion; rather, it leads to the claim that there is a pronominal double in (7) that is not pronounced:

(8)   tried to [John PRO] solve the problem

PRO is now the counterpart of *he* in (6). The double *John* moves into the theta position of *try*; it does not thereby get a second theta role, since the subject theta role of *solve* is born by [*John* PRO].

It is natural to think of Case in a similar fashion. In (6), the nominative Case determined within the embedded sentence is born by [t$_i$ *he*]. The antecedent *John* bears no Case at all within the embedding; it gets nominative Case in a derived position within the matrix.

This solves a severe problem for the O'Neil and Hornstein approaches to control that has been noted by Mark Baltin (pers. comm.)—namely, that their assimilation of obligatory control to raising leads to the expectation that the kind of Case inheritance found with raising constructions will also be found with control, contrary to fact. More specifically, in a language like Icelandic, as discussed by Thráinsson (1986, 252), a raised subject generally (see Sigurðsson [1989, 96]) carries along its quirky Case (if it has one), but a controller always shows a Case determined by the matrix predicate, never a Case determined by the embedded predicate. This is expected given (8): the embedded quirky Case, if there is one, will go to [*John* PRO], not to *John* itself, so that *John* will show only the Case determined by the matrix. (A similar point holds for (6).)

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6. Though it is rejected by Chomsky (2000, 143, note 35).

6.5.   Merge and Move

Movement into a theta position, even if it does not imply that an argument can bear more than one theta role, appears to lead to an unwanted asymmetry, if we compare:

(9)   John thinks he's smart.

(10)   John thinks you're smart.

In (9), on the reading where *John* is the antecedent of *he*, the subject theta position of *think* is filled by movement, whereas in (10) it is filled by simple merger. (That is also true of (9), on the reading where *John* is not the antecedent of *he*.)

 The apparently disparate treatment of (9) and (10) can be resolved if all phrasal merger is taken to have something in common with movement. Even in the case where the phrase merged with the selector is not part of the syntactic object containing the selector, what is merged with the syntactic object headed by the selector can be thought of as a copy (see the suggestion by Chomsky mentioned in Bobaljik and Brown [1997, 349n]). The other copy, located within the "derivation space" (the set of syntactic objects belonging to the derivation) but not within the syntactic object headed by the selector is not pronounced.[7]

6.6.   Condition C

Questions arise concerning the internal structure of the constituent [*John he*] that appears in (6). I assume, following Uriagereka (1995, 81), that *John* is in the highest Spec of that constituent, either as a result of movement from within or as a result of direct merger to that Spec. As for the pronoun, it might be a simple head and exhaust the remainder of the constituent; more likely, the post-Spec structure is more elaborate, as he suggests.

 More centrally important to what follows is the following claim (cf. Chomsky's [2001a, 13] Phase Impenetrability Condition and the earlier ban against movement of non-maximal phrases):

(11)   Extraction of a phrase from within a doubling constituent like [*John he*] is limited to extraction of the Spec.

(Conceivably, in some languages, a pronoun can be extracted by head movement—but see notes 4 and 23.)

 Consider now:

(12)   He thinks John is smart.

7. This differs from Nunes (2001, 322), who has nonpronunciation depend on c-command.

Given (11), (12) is not derivable from:

(13)   thinks John-he is smart

because the pronominal part of [*John he*] is not extractable (except perhaps by head movement, which would not suffice to get *he* into the subject theta position of *think* as would be needed in (12)).

Nor is (12) derivable from a structure that would look like:

(14)   [John he] thinks is smart

by movement of *John* into the subject position of *is smart*. This is so, on the uncontroversial assumption that rightward movement to a non-c-commanding position is prohibited by UG.

If we now compare (12) and (15):

(15)   John thinks he is smart.

we see that from the present perspective (including (11)) the contrast between (15) and (12) is essentially that between upward movement (legitimate) and downward movement (illegitimate).[8] A parsimonius theory of UG should need to say about (15) versus (12) little more than that.

It is usual, however, to think that (12) (more exactly, the reading of (12) in which *he* takes *John* as antecedent) has another potential source, if *he* can "accidentally" corefer with *John* (cf. Lasnik 1976). This possibility appears to be a reasonable one given sentences like:

(16)   He is smart.

in which *he* seems to have no linguistically characterizable antecedent, yet the sentence seems to have an interpretation.

I think it is essential, however, to attribute compelling importance to the way in which the contrast between (15) and (12) mimics the contrast between upward and downward movement. This parallel will be directly and simply expressed by UG only if there is no "accidental coreference":

(17)   Antecedent–pronoun relations as in one reading of (15) *require* movement out of a constituent of the form [*John-he*]. That is the *only* way to express an antecedent–pronoun relation.[9]

8. This parallel was alluded to in Kayne (1994, 158). For recent discussion of the question of why downward movement is illegitimate, see Epstein (2001).

9. I assume that mistaken identity examples do not involve syntactically represented cases of antecedent and pronoun.

(In effect, (17) says that the language faculty expresses antecedent–pronoun relations through a combination of a local Spec–non-Spec relation (internal to the doubling constituent, where the non-Spec is pronominal) and movement.[10])

If there is no accidental coreference in the familiar sense, then, given (11), the ungrammaticality of (12) in the relevant reading reduces to the ban against rightward movement to a non-c-commanding position. Given this approach, the exclusion of (12) (in the relevant reading) does not actually depend on Condition C as we have come to know it. Put more strongly:

(18)   Condition C is superfluous: that is, it is not a primitive part of UG.

6.7.   More on Condition C and on apparently antecedent-less pronouns

If there is no accidental coreference (since a pronoun's antecedent must be its own Spec), what should one say about (16)? I would like to suggest that (16), with an unstressed *he*, is unacceptable in isolation.[11] (With a stressed, deictic *he*, (16) is grammatical, presumably because it then includes an unpronounced demonstrative.) It is possible of course to have:

(19)   John is famous. He's smart, too.

I take *he* here to have an antecedent, namely *John*. When a pronoun successfully takes a phrase in a preceding sentence as its antecedent, the two sentences in question form a single syntactic entity, akin to coordination.[12] In other words, (19) reduces to, or is strongly similar to, the following, in which *John* starts out as Spec of *he* (I return to the c-command question later):

(20)   John is famous, and he's smart, too.

Examples of a sort discussed by Hankamer and Sag (1976), such as:

(21)   Watch out! He's got a knife.

I take to be grammatical with an unstressed *he* only if there is an unpronounced demonstrative—that is, (21) in its well-formed reading is akin to (22) (in which *that man* starts out as Spec of *he* and then moves to a nonthematic dislocated position; compare in part the clitic-doubling derivation in (5)):

(22)   Watch out! That man, he's got a knife.

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10. A point of similarity to Chomsky (1995, 211) is that no indices are needed.
11. This is similar to McCawley (1970, 178).
12. For a similar point, see E. Hoekstra (1999).

Taking (21) to be equivalent to (22) (apart from the silent topic or dislocated phrase in (21)) is to treat (21) as being similar to German sentences with well-attested silent topics.

In discussing Condition C so far, I have only considered cases in which a pronoun c-commanded a potential antecedent. I have argued that the impossibility for a pronoun to take a DP that it c-commands as antecedent reduces to the ban on rightward movement to a non-c-commanding position and does not require attributing Condition C as primitive to the language faculty.

The question arises as to whether other restrictions—for example, those on "epithets"—that have sometimes been taken to fall under Condition C (see Lasnik and Stowell [1991, 709]) can be understood in comparable fashion. This restriction is illustrated in:

(23)   Smith's wife thinks that the poor guy should drop out of school.

(24)   Smith thinks that the poor guy should drop out of school.

Taking *the poor guy* to be *Smith* is natural in (23), but not possible in (24). Because this looks like a distinction based on c-command, it is plausibly thought of as a subcase of Condition C, which would then prohibit epithets like *the poor guy* from taking a c-commanding antecedent, whether local or not. From this perspective, the relevant reading of (24) would be excluded in exactly the same way as (25) is excluded with *Smith* as the antecedent of *he*:

(25)   He thinks that Smith should drop out of school.

However, in other environments, the two cases diverge somewhat:

(26)   He probably doesn't even realize that we're planning to fire Smith next week.

(27)   Smith probably doesn't even realize that we're planning to fire the poor guy next week.

With *he* dependent on *Smith*, (26) continues to be impossible, like (25). But (27) with *the poor guy* dependent on *Smith* seems better than (24), and in particular better than the relevant reading of (26). (Comparable French examples are discussed by Ruwet [1990, §7].[13]) I conclude from this discrepancy that the epithet-antecedent question should be kept partially separate from the pronoun-antecedent question—and more specifically, that (24) and (25) are not excluded for identical reasons.

13. Another type of example from English is:
 (i)   Smith is so unhappy that everybody I know wants to offer the poor guy a job.
(ii)   Smith isn't unhappy enough yet for people to be willing to offer the poor guy a job.

Somewhat similar to (23) and (24) is:

(28)   Smith's wife thinks that Smith should drop out of school.

(29)   Smith thinks that Smith should drop out of school.

With the two *Smith*s intended to be the same person, (28), although not perfect, is appreciably better than (29). Again, this looks like a c-command difference, with *Smith* apparently required to be disjoint from any c-commanding phrase. In light of (26) versus (27), though, we need to ask about:

(30)   Smith probably doesn't even realize that we're planning to fire Smith next week.

It seems to me that (30), while less possible in the intended interpretation than (27), is nonetheless not quite as bad as (26), and similarly for:

(31)   He'll only have to act as if everybody finds Smith trustworthy.

(32)   Smith will only have to act as if everybody finds Smith trustworthy.

(33)   He'll only agree to help if you ask Dawkins yourself.

(34)   Dawkins will only agree to help if you ask Dawkins yourself.

With the intended coreference in question, (32) and (34) seem more possible than (31) and (33). I tentatively conclude that the movement-based account that I have been suggesting for (26) (excluded because *Smith* would have had to move rightward and downward to a non-c-commanding position) should not be expected to transpose simply to (29).[14]

However, one contrast does fall together with that between (26) and (35):

(35)   Smith doesn't even realize that we're planning to fire him next week.

This one contains a version of quantifier stranding:

(36)   Fortunately, my students haven't all of them seen that film.

(37)   *Fortunately, they haven't all of my students seen that film.

Example (36) is possible in some varieties of English (not mine), but I doubt that (37) is. Example (36) can be derived from:

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14. For partially similar skepticism, see Chomsky (1981, 227). See also note 39 below.

(38)   haven't all of [my students them] seen that film

by raising *my students* from within the doubling constituent up to a higher specifier position (a nonthematic one, in this case).[15]

There is no parallel derivation for (37), for a combination of two reasons. First, from (38), the pronoun cannot raise to a higher Spec position, given (11). Second, since (rightward) lowering is not available, (39) is not a possible source:

(39)   [my students they] haven't all of seen that film

6.8.   Strong crossover

Consider now an example of "strong crossover," in which *he* cannot take *John* as antecedent:

(40)   John he thinks she's in love with.

This works out as follows. For *he* to have *John* as antecedent, *he* and *John* must start out as a doubling constituent—that is, a pronoun can be interpreted only via its filled Spec and must therefore have one.[16] Yet starting from:

(41)   thinks she's in love with [John he]

he by itself could not move to matrix subject position, given (11); thus, there's an important element in common between (40) and (12), repeated here, as expected:

(42)   He thinks she's in love with John.

The only remaining option for the relevant reading of (40) would be to try to move [*John he*] as a whole in (41), yielding:

(43)   [John he]$_i$ thinks she's in love with t$_i$

15. Locality conditions must be at issue in an attempted remnant movement derivation of (ii):
  (i)   ?My students should have been all of them congratulated.
  (ii)   *All of them should have my students been congratulated.
      Note that in the right-dislocation example (see note 5):
(iii)   ?They've seen that film, all of my students.
they is doubled by *all of my students*, not by *my students* alone.
      16. The notion "start out" is oversimplified; see note 36 below, where it is suggested that the Spec of a pronoun can be filled by Move, as well as by pure Merge.

and then to topicalize *John*. But (43) itself is ill-formed, parallel to the following (in which two theta roles have been assigned to the same phrase):[17]

(44)   *He/*John thinks she's in love with.

A short-distance topicalization example corresponding to (40) would be:

(45)   John he considers intelligent.

Again, given (11), *he* cannot by itself reach subject position starting from:

(46)   considers [John he] intelligent

Example (45) in the relevant interpretation could not be derived, either, from:

(47)   [John he] considers intelligent

by lowering *John* and then topicalizing it, since the lowering step would be impermissible. Nor is (45) derivable, starting from (46), via movement to subject theta position of [*John he*], followed by topicalization or dislocation of *John*, parallel to the well-formed:

(48)   John, he's considered intelligent.

since I have maintained the prohibition against arguments ([*John he*] in (46)) receiving two theta roles.

Finally, one cannot start from (47) and, in an attempt to derive (45), simply topicalize or dislocate *John*, since that would leave the embedded small clause subject theta position unfilled: that is, the embedded subject theta role would remain unassigned.

Somewhat better than (45) in the relevant reading is:

(49)   ??John even HE considers intelligent.

(50)   ??John he HIMSELF considers intelligent.

The status of these does not seem to me to be appreciably different from that of:

(51)   ??Even HE considers John intelligent.

17. The doubling constituent [*John he*] does move within the embedded sentence in the derivation of:

(i)   John thinks that he will be blamed.

followed by movement of *John* alone to the subject theta position of *think*.

(52)   ??He HIMSELF considers John intelligent.

These two (and hence the previous two) may in part reduce to the question of:

(53)   His wife considers John intelligent.

which I return to later. (If this is correct, (49) and (51) may require an unpronounced counterpart of HIMSELF.) The expectation would then be that (49)–(52) should be impossible in languages that disallow (53).)

     Also better than (45) in the relevant reading is:

(54)   ??John's wife he considers intelligent.

In this case, the non-topicalized version is worse:

(55)   *He considers John's wife intelligent.

Example (54) falls in part under the discussion of (56) (see sec. 6.17).

(56)   John's wife thinks he's intelligent.

     In summary, strong crossover fits in directly to the movement-based reductive approach to Condition C set out in the previous two sections.

6.9.   Condition B

There is a familiar contrast (in the relevant readings) between (57) and (58)/(59):

(57)   John thinks he's smart.

(58)   John thinks highly of him.

(59)   John considers him intelligent.

Why are (58) and (59) not derivable in parallel fashion to (57), starting from, for example:

(60)   thinks highly of [John him]

with movement of the double *John* to subject theta position?

     From the standard non-movement perspective on these, there are two kinds of answers that have been given. One is stated in terms of Chomsky's (1981, 188) Condition B. A second (which has something in common with Chomsky's [1981, 65] "avoid pronoun" proposal) is of the sort pursued in different ways by Reinhart (1983), Burzio (1991), Hornstein (2001), and Safir (2004)—namely, that (58) and (59) are

excluded as a consequence of the existence of the corresponding sentences with reflexives:

(61)   John thinks highly of himself.

(62)   John considers himself intelligent.

   Lasnik (1980) takes the independence of Condition B effects to be clear in part on the basis of overlapping reference effects (subsumed under Condition B in Chomsky and Lasnik [1993] and Chomsky [1995, 97])—for example:

(63)   ?We consider me intelligent.

The deviance of this example cannot be attributed to the existence of a parallel reflexive-containing sentence, given:

(64)   *We consider myself intelligent.

Lasnik's position might appear to be weakened to some extent by the fact that (63) is not completely unacceptable.[18]
   It is consequently important to take into account a fact pointed out to me about ten years ago by Luigi Burzio—namely, that in Italian the status of (63) is sharper with clitics than with non-clitics, as in:

(65)   ?Consideriamo me intelligente. ('we-consider me intelligent')

(66)   *Mi consideriamo intelligente. ('me we-consider intelligent')

When, as in (65), the (accusative) pronoun is not a clitic, the Italian example has approximately the status of the English one, whereas when the accusative pronoun is made a clitic, as in (66), the sentence is sharply out.
   The ungrammaticality of (66) clearly supports (given the fact that there is no reflexive counterpart to it at all) the idea that there are Condition B effects that are independent of the existence of reflexives. The same facts hold in Italian if we reverse singular and plural (judgments from Guglielmo Cinque pers. comm.):

(67)   ?Considero noi intelligenti. ('I-consider us intelligent')

   18. Although clearly worse, as expected, than:
 (i)   Our doctor considers me intelligent.
However, it is not clear that (ii) is much better, with overlapping reference (Chomsky 1973, 241), than (iii):
 (ii)   The soldiers' wives insulted the officers.
(iii)   The soldiers insulted the officers.

(68)   *Ci considero intelligenti. ('us I-consider intelligent')

With non-clitic *noi*, the sentence is intermediate in acceptability; with clitic *ci* it is sharply out. Similarly in the third person, in the relevant interpretation:

(69)   ?Considera loro intelligenti. ('he/she-considers them intelligent')

(70)   *Li considera intelligenti. ('them he/she-considers intelligent')

With non-clitic *loro*, overlapping reference is marginal; with clitic *li* it is impossible.

    Why are these Condition B effects in Italian very sharp with clitics but not with non-clitics? A plausible proposal would be that the Condition B effect is dampened in (65), (67), and (69) by the presence of extramorphological material, either overt (if the morpheme *-e*[19] of *me* is relevant, for example) or covert (if *me*, *noi*, and *loro* in these examples are all accompanied by a covert—approximate—counterpart of English *self*, but without the possessive structure or of Italian *stesso* ('same'),[20] which allows Italian to dampen the Condition B effect, in some way partially akin to what will be suggested below for English overt *self* (with possessive structure). (Clitics would be incompatible with such extra morphological material.[21])

    In conclusion, then, the ungrammaticality of (66), (68), and (70) supports the independence of Condition B, leaving us with the question of how best to understand Condition B effects and especially with the question of why there should be such a condition in UG in the first place.

    Although the second question is not usually asked by those who accept an independent Condition B, I will attempt to give a partial answer, which has something in common with Lebeaux's (1983, 726) and Chomsky's (1986, 175) ideas that Condition A involves the application of movement that resembles overt clitic movement.[22] (I address Condition A below.)

    The proposal so far has been that the reading of (57) in which *he* takes *John* as antecedent must involve a derivation in which *John* and *he* start out together as part of one "doubling" constituent (which gets the theta role of *smart*). *John* itself gets no theta role within the lower sentence; its theta role comes about as the result of its

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    19. On this morpheme, see Kayne (2003).

    20. On the use of *same* with reflexives in some languages, see Safir (1996).

    21. See Kayne (1975, sec. 2.6); as would be weak pronouns—see Cardinaletti and Starke (1995).

    It may be that covert morphemes of this sort also underlie children's Condition B "errors" (i.e., children have Condition B—or rather what underlies it—but have greater latitude than adults in the use of covert morphemes here). Setting aside (50) and (52), such covert morphemes would be expected to leave intact Condition C effects, which seems correct—see Thornton and Wexler (1999, 31, 50, 106).

    The fact that children basically get things right with quantified antecedents (Thornton and Wexler, p. 28) suggests a link with the fact that in local contexts Italian nonreflexive pronouns show a preference for nonquantified antecedents; see Kayne (2003, discussion of (165)).

    22. See also Pica (1987).

moving into the subject theta position of *think*. If that were the whole story, (58) and (59) would be derivable in similar fashion, incorrectly.

Let me therefore add to this picture the idea that in moving from within the doubling constituent up to the position in which it gets its theta role, *John* must pass through an intermediate position. The required intermediate position is available in (57) but not in (58) or (59).

One way to formulate this idea would be to say that *John*, in these derivations, must pass through an intermediate A-bar position. The question of why Condition B effects exist would then become the question of why such successive cyclicity need hold.

A potentially attractive answer is to say that it is precisely because *John* originates within a doubling constituent. My proposal, more specifically, is that the crucial intermediate step is actually movement of the doubling constituent itself.

Assume, thinking of Romance clitic movement (and Icelandic object shift), that unstressed pronouns must invariably move.[23] Assume further that a pronoun heading a doubling constituent—for instance, the *he* of [*John he*]—in moving pied-pipes the whole doubling constituent, so that the crucial intermediate step is in effect induced by properties of pronouns.

I will remain vague about where [*John he*] moves to except for the following claim:

(71)   The pronoun (hence, the doubling constituent) must move to a position above the subject theta position (i.e., outside the thematic part of the structure).[24]

Put another way, the core idea is:

(72)   There is no appropriate licensing position for the pronoun within VP or between VP and the subject theta position.

In (57), repeated here, [*John he*] starts out in the subject theta position of the embedded sentence:

23. See Hestvik (1992). I take stressed pronouns to contain unstressed ones as a subpart, as alluded to in the discussion of (49) and (51).

Thinking of Kayne (1998a), I take pronoun movement and the associated pied-piping to be overt. All languages such as English in which object pronouns are preceded by V must have a means of moving the verb sufficiently high (past the pronoun), either by phrasal or by head movement. Thus in:

(i)   John thinks Mary will praise him.

him directly reflects the position to which the doubling constituent moves (it is not likely that the pronoun moves anywhere by itself).

The idea that English pronouns move in a different way from nonpronominal DPs is supported by well-known facts such as the following (see Maling 1976):

(ii)   I'll buy them/*the books all.
(iii)   I'll talk to them/*the kids all.

24. See my claim (Kayne 1994, 42) that clitics are never adjoined to V.

(73)   John thinks he's smart.

Given (71) and (72), movement of [*John he*] to the lower Spec,IP suffices. Subsequently, *John* itself will move up to the subject theta position of *think*.

In (58), a variant of which is repeated here, there is, desirably, a problem:

(74)   John praises him.

In the reading in which *him* takes *John* as antecedent, there must be a doubling constituent [*John him*] that originates in the object theta position. By virtue of (71) and (72), [*John him*] must raise to a position above the subject theta position. But then *John* would be too high to be able to move into that subject theta position, with the result that *John* would get no theta role (and the subject theta role would remain unassigned). Consequently, (74) is impossible in the intended reading.

Another potential derivation of (74) must be excluded—one in which *John* moves into the subject theta position prior to the pied-piping of the doubling constituent. Let me take this to be a locality effect (which needs to be made precise), with the DP in subject theta position then interfering with movement past it of a doubling constituent containing a trace or copy of that same DP.

The derivation of (59), repeated here, raises a related question:

(75)   John considers him intelligent.

For a coreferential reading to be possible, [*John him*] would have to start out in the theta positon of *intelligent* and then move to a higher intermediate position before *John* moves up into the subject theta position of *consider*. If there were such a position available, the coreferential reading would be derivable, incorrectly. In this case, one could plausibly say that the small clause is too "small"—that there is no available intermediate pronoun position within it. While possibly correct for small clauses, that kind of answer might not be sufficient for infinitives:

(76)   John considers him to be intelligent.

An alternative (or additional) proposal would be that "raising-to-object" must apply first and that once it does [*John him*] is too high in the structure for there to be any available intermediate position above it, yet below the subject theta position of *consider*.[25]

In summary, Condition B is not a primitive of UG. Condition B effects come about because pronoun–antecedent relations involve movement from within a doubling consituent, and because that movement must find an intermediate landing site

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25. Movement of [*John him*] to a clitic-like position within the infinitive prior to "raising-to-object" must not be possible, perhaps because pronoun-driven movement must follow Case-driven. Relevant is whether the raising-to-object landing site is above or below the subject theta position in the matrix.

somewhere between the theta position of the doubling constituent and the theta position of the double. When those two positions are too close together to allow for the presence of the required intermediate position, we find what have come to be called Condition B effects.[26]

6.10.   Why are there reflexives?

The question of why there are reflexives is not usually asked explicitly. Discussions of (the relation between Condition A and) Condition B often take the existence of reflexives for granted.[27] It is reasonable, instead, to take the existence of reflexives as a fact about UG that needs to be understood.

English tolerates perfectly well the familiar ambiguity of:

(77)   John thinks he's smart.

The pronoun *he* can take *John* as antecedent or not. (From the present perspective, *he* is part of [DP *he*], where DP is either *John* or some phrase other than *John* that is not visible; see the discussion of (16)–(22).) Why then should English (and UG, more generally) bother with having reflexives, with their complex syntax?

The existence of Condition B effects (reinterpreted here in terms of UG properties of pronouns and movement) provides an answer if we grant that UG needs to allow for the expression of sentences in which object and subject are coreferential. (Without reflexives, (74)–(76) would not be expressible.)

6.11.   English-type reflexives

Why does the addition of *self* make coreference available in the following?

(78)   John thinks highly of himself.

(79)   John considers himself intelligent.

The answer must be that *self* makes available an intermediate position for the pronoun that is not available in the absence of *self*. It may be that the structure is:

(80)   thinks highly of D^0 [John-he] ('s) self

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26. In (i), *him* must reach a position above the subject theta one, and *John* must move into its theta position after *'s mother* has moved out of subject theta position (see sec. 6.17):

(i)   John's mother praises him a lot.

27. A notable exception is Pica and Snyder (1997).

such that Spec,DP counts as an intermediate pronoun position to which [*John he*] can raise prior to *John* raising to the subject theta position of *think*. Put a bit less specifically, the presence of the noun *self* licenses a possessive-type DP structure (see Helke [1971; 1973]), one of whose Specs fulfills the pronoun's need (so that [*John he*] has no need to raise to a position above the theta position of *think*).[28]

If the needs of [*John he*] are met DP-internally in (80), then the c-command and locality requirements on the antecedents of reflexives (i.e., on the position to which *John* subsequently moves) do not follow directly from the present set of proposals. This is particularly clear from:

(81)   John wants me to photograph his dog/*himself.

(82)   I want John to photograph my dog/*myself.

John can move long-distance out of a doubling constituent [*John his*] that is the possessor of *dog*, but not of *self*, and similarly for [*I my*] in (82). *Self* also imposes much stricter c-command requirements:

(83)   John's sister likes his dog/*himself.

(84)   My sister likes my dog/*myself.

It may well be that Helke (1971; 1973) was correct to emphasize common properties of *self*-reflexives and idiomatic possessives:[29]

(85)   John blew his top.

These share the locality and c-command properties of *self*:

(86)   John doesn't want me to blow my/*his top.

(87)   John's sister blew her/*his top.

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28. Italian-type reflexives with *stesso* ('same'), which is not a noun, presumably achieve a similar effect somewhat differently; for relevant discussion, see Safir (1996).

Helke's (1971; 1973) proposal for possessive structure in English is very clearly supported by those varieties of English that have *hisself* and *theirselves*, and by the Amsterdam Dutch that has as a reflexive *z'n eigen* ('his own') with an empty noun (Postma 1997, 299–300). The independence of the pronominal part and *self* is further supported by those varieties of English (like mine) in which number needn't match, as in:

 (i)   If someone buys themself a new car, . . .
(ii)   ?We each bought ourself a different kind of car.

For a different view, see Zwart (2002).

29. For recent discussion, see Postma (1997) and references cited there.

Alternatively, or in addition, the locality and c-command requirements on the antecedents of ordinary reflexives may be related to the following (see Burzio [1986, 112] on emphatic pronouns in French and Italian; also Jayaseelan [1997]):

(88)   John wants me to do it myself/*himself.

(89)   John's sister fixed it herself/*himself.

I will not pursue these (important) questions here.[30]

6.12. *Zich*-type reflexives

R. Huybregts pointed out in Pisa in 1979 that Dutch reflexive *zich* has both pronominal and anaphoric properties, in particular that to a certain extent it displays anti-locality effects of the Condition B type (for more recent discussion, see Veraart 1996). To a certain extent, Italian reflexive non-clitic *sé* shows Condition B effects, too (see Kayne 2003, discussion of (163)).

If Dutch *zich*, Italian *sé*, and similar elements in Scandinavian show such effects, then they should be analyzed as entering a doubling constituent subject to the movement requirements proposed above for ordinary pronouns. *Sé* and its counterparts differ from ordinary pronouns, however, in needing a c-commanding antecedent and in needing their antecedent to be relatively local, but not systematically as local as in the case of English reflexives.

In the preceding section on English reflexives, I suggested (see (83), (84), (87), and (89)) that the fact that c-command must hold between antecedent and reflexive may not be specific to what we normally think of as binding theory. In the case of *sé*-type elements, too, it would be desirable not to have to stipulate a c-command requirement.

To approach a solution, let us look at the locality facts. On the one hand, these *sé*-type elements (with various interesting differences among them) may generally not be separated from their antecedents by an indicative clause boundary. On the other hand, they can often be embedded in an infinitive within which their antecedent is not found, and to a lesser extent in a subjunctive.

The fact that the antecedent–*sé* relation is sensitive to distinctions like indicative, subjunctive, and infinitive recalls comparable distinctions found with certain more familiar kinds of movement, such as quantifier (*tout/rien* 'everything(all)'/'nothing') movement of the French type:[31]

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30. Except to note, adapting a suggestion of Daniel Seely's, that in the spirit of this essay, (i) should be derived from (ii):

 (i)   John fixed it ((all) by) himself.
 (ii)   fixed it ((all) by) [John him] self

with *John* moving into the subject theta position of *fix*, and similarly for Italian emphatic pronouns.

31. For recent detailed discussion, see Cinque (2001a).

(90)   Il a tout voulu refaire. ('he has all wanted to-redo')

(91)   ?Il a tout voulu qu'ils refassent. ('he has all wanted that they redo(subj.)')

(92)   *Il a tout dit qu'ils ont refait. ('he has all said that they have(indic.) redone')

In turn, this similarity between the antecedent–*sé* relation and the movement of *tout* and *rien* recalls the fact that, on the whole, Italian *sé* prefers that its antecedent be a quantified phrase. See Kayne (2003, discussion of (165)), especially my proposal there (134) that *sé* can have a plural antecedent only via the intermediary of an abstract distributor, like *each*, and that that distributor is responsible for certain locality restrictions with plural antecedents.

What all of this suggests is that we should generalize the distributor idea even further:

(93)   The antecedent of *sé* must always be quantified; when there is no overt quantifier or distributor, there must be a covert one; c-command must hold, as with movement of *tout* and *rien*.

(94)   This is true even for singular antecedents, in which case the distributor is degenerate, distributing over a singleton.[32]

(95)   It is the relation between the distributor and *sé* that is sensitive to indicative versus subjunctive versus infinitive.

Thus an Italian sentence like:

(96)   Gianni ha parlato di sé. ('John has spoken of *sé*')

will look like:

(97)   Gianni ha *DB* parlato di sé.

where *DB* is the abstract (and, here, degenerate) *each*.

In addition to the relation between *DB* and *sé* to which I am attributing the locality effects, there is a relation between *DB* and the antecedent, here *Gianni*. Since a "floating" distributor must be c-commanded by its "antecedent":

(98)   Those numbers are each divisible by a different prime.

(99)   *The sum of those numbers is each divisible by a different prime.

32. The differences in Italian between singular and plural antecedents of *sé* must now be rethought.

it follows, given that *DB* must c-command *sé*, that the antecedent of *sé* must c-command *sé*.

We can now say that *sé* is like ordinary pronouns in being part of a doubling constituent (which yields the Condition B type effects), but that its double is (unlike that of ordinary pronouns) necessarily a *DB* (whence the locality effect), which is, in turn, related to a DP (yielding the c-command effects), in ways that I will not explore any further here.[33]

6.13. Backward pronominalization

So-called backward pronominalization, as in (100), is not expected if movement respects the extension condition and if antecedent–pronoun relations must invariably be expressed by movement of the sort proposed here:

(100) His mother is angry at John.

Although this at first seems like an unwanted conclusion, given the acceptability of (100), things look different if one takes into account the fact that many languages allow sentences like (100) much less readily than English, or not at all.[34]

This fact suggests that the correct theory of UG will make backward pronominalization harder to come by. Consider the following proposal: (100) is only derivable as a counterpart of the topicalization example (101):

(101) John his mother is angry at.

Example (101) has an acceptable "strict" reading (with a possible follow-up: *but she's not angry at his little sister*), but the imaginable "sloppy" reading is for me appreciably more difficult.[35]

The acceptability of (101) is itself a challenge. If we start, for example, from:[36]

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33. The fact that some instances of *sé*-type elements don't show anti-locality of the Condition B sort (e.g., inherent reflexive *zich*; all instances, apparently, of German *sich*) remains to be understood. Discussion of Romance reflexive clitics is beyond the scope of this chapter.

34. See Huang (1982) on Chinese, Craig (1977, 150) on Jacaltec, Allan et al. (1995, 473) on Danish; also Jayaseelan (1991, 76) on some speakers of Malayalam.

35. My English here is more restrictive than that of Lasnik and Stowell (1991, 697), who would apparently accept, with a sloppy reading:

(i) John his mother is angry at, Bill his mother isn't.

36. I assume that *J* could not start in object theta position, get Case, and then move to Spec of *he* (and then to topic), for reasons that need to be elucidated.

In (i), I take *John* to move from Spec of the lower *he* to Spec of the higher *he* before moving to a theta position:

(i) John$_i$ thinks he$_i$'ll say he$_i$'s hungry.

(102)   [John his] mother is angry at

we express correctly the relation between *John* and *his*, but we have no phrase capable of bearing the object theta role of *angry at*. One possible analysis would be the following. In the strict reading, (101) has covert structure that if overt would look like:

(103)   Somebody (who is) John his mother is really angry at.

with an analysis:

(104)   [somebody (who is) _____] [John his] mother is angry at

in which the object theta role of *angry at* is now born by the (moved) topicalized phrase *somebody* (*who is*) ____. *John* moves from within the doubling constituent contained within the subject phrase [*John his*] *mother* to the position indicated by '____' (see sec. 6.17), yielding:

(105)   [somebody (who is) John$_i$] [t$_i$ his] mother is angry at

Example (100) is then derived from a structure like (104) via leftward movement around the "topic" of everything that follows it.

    At a first approximation, the expectation is, now, that backward pronominalization should be unavailable in English in cases where topicalization is unavailable. This may account for a contrast mentioned by Jayaseelan (1991):

(106)   It was John's pride that saved him.

(107)   What saved him was John's pride.

Him can take *John* as antecedent in the cleft (106) but not in the pseudo-cleft (107). Example (106) is to be analyzed like (105). The unacceptability of pseudo-cleft (107) can from the current perspective be related to the impossibility of topicalization seen in:

(108)   *John's pride what saved him was.

    Coming back to the necessary comparative syntax question, languages that disallow backward pronominalization may be languages that disallow leftward move-

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Martha McGinnis (pers. comm.) has called my attention to the question of relativized minimality (Rizzi 1990) here—that is, to the fact that there seems to be no effect. The most telling case is:

(ii)   Mary's brother$_i$ knows that their father$_j$ thinks that he$_i$ should show him$_j$ more respect.

The lack of such an effect might be related to the question whether movement of the double to a higher theta position can be interpreted as attraction.

ment around a topic[37] or that disallow either empty resumptives or covert *somebody* (*who is*), or both.

The unacceptability (weak crossover) of:

(109)   *His mother was angry at every little boy.

would then, in part, reduce to the deviance of **somebody who is every little boy*, and perhaps similarly for the sloppy reading of (100) or (101)—but I will not pursue the issue here.)

6.14.   Epithets again

As noted in the discussion of (27), epithets do not show a consistently strong Condition-C-like effect. Another example is:

(110)   Smith probably doesn't even appreciate the good things we've been saying about the idiot these days.

This contrasts with:

(111)   The idiot probably doesn't even appreciate the good things we've been saying about Smith these days.

Taking *Smith* as antecedent of *the idiot* seems quite a bit harder in (111) than in (110). Although a bit weaker, this contrast obviously recalls that holding if we replace *the idiot* here by *he/him*. It suggests that we take (111) to be a Condition C effect of the familiar sort, like:

(112)   He probably doesn't even appreciate the good things we've been saying about Smith these days.

Now I have proposed that (112) be thought of as involving the prohibition against rightward movement to a non-c-commanding position. For that idea to extend to (111), it must be the case that (110) derives from a doubling structure via upward movement, just like:

(113)   Smith probably doesn't even appreciate the good things we've been saying about him these days.

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37. Compare the existence of languages that disallow right-dislocation, such as Haitian (Michel DeGraff, pers. comm.); perhaps similarly Haitian also disallows Heavy-NP Shift (see Dejean 1993) (despite being VO; this, like the existence of scrambling in VO Slavic, is relevant to Saito and Fukui (1998).

Just as (113) involves (leftward, upward) movement of *Smith* from within the doubling constituent [*Smith him*], so (110) must involve the same movement from within a doubling constituent of the form [*Smith the idiot*].[38] If we now say, generalizing the earlier proposal about pronouns, that epithets can take an antecedent ONLY via a derivation involving movement out of a doubling constituent,[39] (111) will be unavailable parallel to (112).

Recall that my account of Condition B effects in section 6.9 depended in part on the idea that unstressed pronouns have to move to a licensing position outside *v*P. If epithets are unlike pronouns in that respect, then, despite the similarity between (111) and (112), we should not expect to find Condition B effects with epithets. That this expectation may hold is shown by the approximately equal status of:

(114)   Smith would like the idiot to be reelected.

(115)   Smith would like the idiot's sister to be reelected.

The unacceptability of these and of (24), as opposed to (110) and (27), would then need a new account.

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38. On the importance of *the* and *that*, see Aoun and Choueiri (2000, 34n).

39. This generalization to epithets would not be readily available to Hornstein's (2001) pronoun-as-copy approach.

For me, it is essential that [*Smith the idiot*] be an available doubling constituent with *Smith* in Spec and hence extractable, but not the reverse. In:

 (i)   That idiot Smith made another mistake.

that idiot is therefore expected not to be a constituent.

Presumably, constituents of the form [*Smith the idiot*] or [*Smith him*] can *only* be interpreted in "antecedent"–epithet/pronoun fashion and require movement of *Smith*; in any event, their relation to apposition needs to be looked into. On the possibility that this treatment of epithets should be generalized to all nouns (with an appropriate determiner), see Ruwet (1982, chap. 7) and Lasnik and Stowell (1991, 708n).

Phi-feature clash may underlie the fact that (i) has no interpretation in which *I* takes *John* as antecedent:

(ii)   John thinks I'm smart.

but one needs to take into account English quotative contexts and the more extensive use of first- and second-person pronouns in Kannada; see Nadahalli (1998).

If the marginal acceptability of the proper name examples in (30), (32), and (34) groups them with (110), then [*Smith Smith*] must be a well-formed doubling constituent and the extra restrictions on . . . *Smith* . . . *Smith* . . . as compared with . . . *Smith* . . . *he* . . . would be due to another factor. In which case the relatively well formed double proper name example (28) would be derived via a doubling constituent plus movement. The contrast between English and the extra possibilities with proper names found in Malayalam (see Jayaseelan 1991) remains to be understood.

6.15.   Condition C reconstruction effects

In the following, *he* cannot take *John* as antecedent:

(116)   How many pictures of John did he take (with his new camera)?

The same is true of:

(117)   He took five pictures of John.

Condition C as usually interpreted can relate (116) to (117) by taking advantage of the fact that (116) strongly resembles (117) prior to Wh-movement and at LF, as in Chomsky's (1995, 206) discussion. Put another way, (116) can be excluded if Condition C applies at the appropriate point.

But that approach to (116) depends on the interpretation of Condition C as a kind of filter (see Lasnik 1976). The proposal I have been outlining has no Condition C, strictly speaking, and the way in which Condition C effects are obtained is not filter-like. Condition C effects come about, instead, because the antecedent (starting from within a doubling constituent) cannot reach certain positions relative to the pronoun.

From this perspective, (116) is excluded in part parallel to (117) (the antecedent cannot move rightward to a non-c-commanding position), but now there is another question: Why could (116) not be derived via the following?

(118)   how many pictures of _____ did [John he] take

with *John* moving to the position following *of*.

One might of course respond by noting that that would require leftward movement to a non-c-commanding position. While apparently to the point, that response would leave open the well-known cases in which Wh-movement has opposite behavior:

(119)   Which of the pictures that John took yesterday did he destroy today?

Here *he* can take *John* as antecedent.

There may be a link here to a proposal of Huang's (1993) concerning:

(120)   *Mary is wondering how proud of herself John is.

His account was that Wh-movement had to carry along a subject position associated with *how proud of herself* and that the presence of that subject prevented *herself* from taking *Mary* as antecedent. In my terms, this must be interpreted as a fact about the impossibility of movement of the double *Mary* in:

(121)   is wondering how DP $_{subject}$ proud of [Mary her] self John is

up to the subject theta position of *wonder*. This movement view is supported (although much more needs to be made precise) by the fact that Wh-movement is also not possible here:

(122)   *Which girl have you been wondering how proud of _____ John is?

Huang's account of (120) in terms of extra material obligatorily associated with *how proud of X* can be adapted to:

(123)   How proud of Mary is she?

in which *she* cannot take *Mary* as antecedent.
    Let me make a proposal (related to those of Kayne 2001b), in part inspired by Ross (1969) in addition to Huang (1993) and in part by the English:

(124)   He's real smart, John is.[40]

(125)   He's talked to I don't know how many people!

and in part by Gulli's (2003) work on the Italian:

(126)   E' andato a Parigi è andato. ('he-is gone to P he-is gone')

The proposal is that (123) has hidden structure (a bit more than what Huang postulated) resembling the almost possible (perhaps dialectal):

(127)   ?She's how proud of him is she?

In other words, (123) is impossible in the relevant reading because it would have to correspond to:

(128)   ?She's how proud of Mary is she?

which is impossible with *Mary* as antecedent of *she*, just as in:

(129)   She's proud of Mary.

which has no valid derivation that would include the needed [*Mary she*]. (A full account of (128) will have to make sure that there is no point in the derivation at which *Mary* precedes every *she*.)

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40. As brought to my attention by Ian Roberts (pers. comm.), British English has:
(i)   He's real smart, is John.
supporting the approach to (124) suggested in Kayne (1994, 78).

Returning to (116), the Condition C effect there will now follow if the structure is obligatorily of the (128) sort:

(130)   ?He took how many pictures of you/John did he take?

Example (119) will be distinguishable from (116) if (119) need not have such hidden structure. There is, of course, the familiar and difficult question of what underlies the difference between (119) and (116). The adjunct versus complement distinction adopted by Chomsky (1995, 204) does not seem quite right—see Nunes (2001, 320n) and references cited there—also the fact that the relative in:

(131)   The ones *(John bought yesterday) he resold today.

is obligatory, given the "head" *ones*. I leave this question open.

6.16.   Further Condition C reconstruction effects

Consider now:

(132)   . . . and ask me to help him John will.

(133)   . . . and ask me to help John he will.

John cannot antecede *he* in (133). It may be that these apparent instances of VP-preposing should be analyzed as close relatives of (124), as in:

(134)   . . . and John will ask me to help him John will.

(135)   . . . and he will ask me to help John he will.

The problem with the latter then is the *he . . . John* relation, as in (128).
    A somewhat different type is:

(136)   He seems to John's wife to be tired.

in which *he* cannot take *John* as antecedent, despite the availability of that interpretation in:

(137)   It seems to John's wife that he's tired.

Why can *John* not move from within [*John he*] leftward to the possessor position prior to subject-to-subject raising? The answer may be that the source of *John seems to Mary to be tired* is closer to (138) than to (139):

(138)   It seems (that) you're tired to Mary.

(139)   It seems to Mary (that) you're tired.

The greater naturalness of the latter may be misleading; it disappears under preposition stranding:

(140)   ?Who did it seem (that) I was tired to?

(141)   ??Who did it seem to (that) I was tired?

If in (136) subject-to-subject raising applies to:

(142)   seems [X to be tired] to Y's wife

the unwanted interpretation will be avoided, as long as the final word order is determined after subject-to-subject raising, perhaps by factoring out infinitival *to* in the manner of Kayne (1999).[41]

6.17.   Sideward movement

The availability of (119) with *John* the antecedent of *he* looks like that of:

(143) The woman that John is talking to doesn't like him/the guy.

Given my analysis, in order for *John* to antecede *him*, *John* here must originate within a constituent [*John him*] (and similarly for [*John the guy*]; see sec. 6.14), and the derivation must involve "sideward" movement in the sense of Nunes (2001), Bobaljik and Brown (1997), and Hornstein (2001), on the expectation that overgeneration can be kept in check, as they discuss. (I must take such sideward movement to be limited to leftward movement.[42])

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41. If (i) really involves raising of the *seem* type, then I would propose a comparable analysis:
(i)   He strikes John's wife as being tired.

42. This remains to be made precise. See Kayne (2000b) on the possibility that derivations are built from right to left (in addition to being built from bottom to top), using as a primitive "immediate precedence" (from which a limitation to one specifier per head might follow).

Thinking of Epstein (2001), it may be that sideward movement is impossible with instances of Attract, if movement of the double to a theta position is not an instance of Attract (perhaps relevant to the fact that movement of the double violates islands freely—compare some instances of resumptive pronouns in Wh-constructions).

The contrast between (143) and (i) (with *him* bound by *many a man*):
(i)   *The woman that many a man has spoken to doesn't like him.

must be due to an orthogonal property of scope (for relevant recent discussion, see Bianchi 2001). In sentences like (ii), in the bound pronoun reading, the double can be *every young man* only if *every* is not interpreted until it reaches its scope position:

Somewhat like (143) is:

(144)   Every farmer who owns a donkey loves it.

It remains to be seen whether the double of *it* can be taken to be as simple as *a donkey* (for relevant discussion, see Sauerland 2000).

6.18. Circularity

Higginbotham and May (1981) and Higginbotham (1983, 405) discuss cases like:

(145)   His wife just saw her husband.

in which it cannot simultaneously hold that *his* takes *her husband* as antecedent and *her* takes *his wife* as antecedent. In present terms, this is because if, for example, *her* is given *his wife* as antecedent, we need:

(146)   [his wife her] husband

But then *his* needs as its double the minimal phrase containing *her* and *husband*, which, however, contains *his*, leading to a regress.
      Bach (1970) has:

(147)   The man who shows he deserves it will get the prize he desires.

This may escape the regress problem through relative clause "extraposition"—for example, the antecedent of *it* may be *the prize* (not including the relative).

6.19. Transitivity of coreference

Lasnik (1976, 11) discusses examples like:

(148)   The woman he loved told him that John was a jerk.

(ii)   Every young man thinks he's immortal.

The alternative is to treat *every* as Sportiche has treated *the* in recent work and to have the double be just *young man*.

      Recall from note 36 that movement from a theta position into the Spec of a doubling constituent should be precluded. The fact that movement from the Spec of a doubling constituent does not (as far as I know) give rise to reconstruction effects would follow if all binding and scope-related reconstruction effects had to be analyzed approximately as in (128) and (130)—see Kayne (2001b).

in which it is not possible for *he*, *him*, and *John* to all be coreferential. To avoid the complication of a backward pronominalization configuration (see sec. 6.13), let me take a simpler (in certain respects) example:

(149)   He says John thinks he's smart.

The two *he*s are in a legitimate coreference configuration, as are *John* and the second *he*. "Transitivity of coreference" might lead one therefore to expect the sentence to be possible with all three coreferential, incorrectly.
    In present terms, we can have:

(150)   [John he] is smart

followed by movement of *John* to the subject theta position of *think*, but that leaves the initial *he* in (149) isolated. The two *he*s could be related if a silent DP double of the second *he* moved to the Spec of the first *he*, but that would omit *John*. As in note 36, we can have, with two essential movement steps:

(151)   John says he thinks he's smart.

but no automatic transitivity of coreference is expected under the proposal presented here.

6.20.   Split antecedents and overlapping reference

The following example:

(152)   John told Bill that they should leave.

might, thinking of (153), involve a relation with only one of the apparent antecedents:

(153)   John told me that they had decided that Bill would go first.

Alternatively (see den Dikken et al. 2000 and Vassilieva and Larson 2001) at least some plural pronouns may be hidden instances of coordinate pronouns, so that *they* in (152) could be *he and he*, with each pronoun having a distinct antecedent.
    Sentences like:

(154)   I think we should leave.

will require a doubling constituent of the form [*I we*], given the Condition B effects discussed in sec. 16.9.

6.21.   Conclusion

I have explored a movement-based approach to pronoun-antecedent relations that attributes Condition C and Condition B effects to properties of movement and that eliminates both as primitives of UG. The existence of reflexives is traceable back to Condition B. No use is made of accidental coreference in the sense of Lasnik (1976).

7

On Some Prepositions
That Look DP-Internal

English of *and French* de

7.1. Mostly English

7.1.1. Subextraction

The prepositions considered in this chapter are primarily English *of* and French *de* (*d'* before a vowel) in sentences like:

(1)   John has lots of money.

(2)   Jean a beaucoup d'argent.

In such examples *of* and *de* appear to be contained within the phrases *lots of money* and *beaucoup d'argent*, respectively, and similarly for:

(3)   John was admiring a picture of Mary.

in which *of* appears to be contained within a constituent *a picture of Mary*.
    This last example allows:

(4)   Who was John admiring a picture of?

Chomsky (1977) proposed (based in part on Bach and Horn 1976) that this kind of "subextraction" is possible only if a "readjustment" rule has previously applied, breaking up the object phrase. In Kayne (1998b) I suggested that no readjustment rule is needed, if one gives up a certain standard assumption about prepositions. The proposal was that *of* in (3) can be merged outside the VP, in which case *a picture of Mary* in (3) will automatically not be a phrase or a constituent.

    I now consider the possibility that the same holds of (1) and (2): that is, despite appearances in those, too, *of* and *de* can be merged outside VP. For English (1) this is clearly called for, given the proposed account of (4), since extraction of a parallel sort is sometimes possible in the case of (1), too:

(5)   Money John has lots of.

I begin by spelling out the proposal for English and then turn in more detail to French.

7.1.2.   P and K merged above VP

The derivation I suggested for (4) rested on the idea that *of* in (3) (and (4)) can be merged outside VP:

(6)   admiring [John a picture] → merger of *of*
         of admiring [John a picture] → movement of *John* to Spec,*of*
         John$_i$ of admiring [t$_i$ a picture] → merger of W and raising of *of*
         of$_j$+W John$_i$ t$_j$ admiring [t$_i$ a picture] → movement of VP to Spec,W
         [admiring [t$_i$ a picture]]$_k$ of$_j$+W John$_i$ t$_j$ t$_k$

    More recently, in chapter 5, I adopted a suggestion of Ur Shlonsky's (pers. comm.) that, transposed to this case, would amount to replacing the W above *of* in (6) by an Agr-*of* that is below *of* (and selected by *of*). The revised derivation of (3) would then look like:

(7)   admiring [John a picture] → merger of Agr-*of*
         Agr-*of* admiring [John a picture] → movement of *John* to Spec,Agr-*of*
         John$_i$ Agr-*of* admiring [t$_i$ a picture] → merger of *of*
         of John$_i$ Agr-*of* admiring [t$_i$ a picture] → movement of VP to Spec,*of*
         [admiring [t$_i$ a picture]]$_j$ of John$_i$ Agr-*of* t$_j$

This derivation (like that of (6)) has the intended property that *a picture of John* (in the last line) is not a constituent.

    A possible further improvement is suggested by the observation that Agr(eement) is the name of a relation, strictly speaking, and therefore cannot plausibly be drawn from the lexicon. Thinking of Bayer et al.'s (2001) revealing use of K(ase) in their

study of German,[1] let us, then, replace Agr-*of* in (7) by K-*of*. (Whether this K-*of*—or K-*de*—is closer to genitive or to dative will not matter for what follows.)

In German, K is often realized with overt Case morphology (more on D than on N), in particular in the presence of a preposition. An example is:

(8)   mit dem Mann ('with the+K-dat. man')

The suffix *-m* is the dative Case morpheme K that here cooccurs with the preposition *mit*. (In English and French, K never has overt realization, other than with some pronouns.)

In addition, I take K, like P, to be mergeable above VP (and to have an EPP feature). The derivation of (3) is now:

(9)   admiring [John a picture] → merger of K-*of*
       K-*of* admiring [John a picture] → movement of *John* to Spec,K-*of*
       John$_i$ K-*of* admiring [t$_i$ a picture] → merger of *of*
       of John$_i$ K-*of* admiring [t$_i$ a picture] → movement of VP to Spec,*of*[2]
       [admiring [t$_i$ a picture]]$_j$ of John$_i$ K-*of* t$_j$

From the perspective of Chomsky (2001a), K in (9) should turn out to be an interpretable head parallel to T (or Asp or *v*),[3] K should be associated with a set of phi features, and the phrase moving to Spec,K should have (abstract) structural Case. Overt realization of the phi features is arguably what we call adpositional agreeement.[4] That K is interpretable is suggested by the well-known fact that, with certain locative prepositions in German, the accusative versus dative distinction correlates with a difference in interpretation (directional versus nondirectional).

In addition to the possibility of preposition-stranding, (1) shares with (3) the more specific property that the stranding of *of* is degraded if *of* is followed by a particle:

(10)   Tell me who you're touching up a picture of.

(11)   ??Tell me who you're touching a picture of up.

This effect can be traced back to the fact that the last step of (9) will carry the particle along with the VP, resulting in (10). Example (11) can be derived only through recourse to something extra (particle preposing, in Kayne 1998a).

1. On K, see also Bittner and Hale (1996) and Siegel (1974); for a general perspective into which the pair P,K might be integrable, see Simpson and Wu (2002b).

2. In a partly different way, movement of VP to Spec,P is also found in Barbiers (1995, chap. 4).

3. A separate question is whether certain prepositions—for example, *of*—are themselves uninterpretable ("empty prepositions"; see Chomsky's 1995 Full Interpretation principle).

4. Which may require that P and K end up contiguous with one another, thereby possibly excluding adpositional agreement in SVO languages; this would differ from the account suggested in Kayne (1994, 49).

The same effect is seen with (1):

(12)   Money he's been handing out lots of.

(13)   ??Money he's been handing lots of out.

This parallel behavior suggests, in combination with the very existence of (12), that (1) allows a derivation comparable to the one given for (3) in (9):

(14)   has [money lots] → merger of K-*of*
       K-*of* has [money lots] → movement of *money* to Spec,K-*of*
       money$_i$ K-*of* has [t$_i$ lots] → merger of *of*
       of money$_i$ K-*of* has [t$_i$ lots] → movement of VP to Spec,*of*
       [has [t$_i$ lots]]$_j$ of money$_i$ K-*of* t$_j$

Again as intended, *lots of money* in the last line of (14) is not a constituent.[5]

7.1.3.   *Of* and Case theory

Of is not always possible:

(15)   John has (*of) money.

This is brought out by the familiar pair:

(16)   They destroyed (*of) the documents.

(17)   They approved the destruction *(of) the documents.

The usual way of approaching this last pair is to say that accusative Case is not available in derived nominals. Thus in (17) *the documents* needs some other (structural) Case, which is provided by *of* (or by K-*of*).

There is also the converse question of the obligatory absence of *of* in (15) and (16). Let me assume that *of*/K-*of* cannot be introduced above VP earlier than the head that is responsible for objective Case.[6] Consequently, the direct objects in (15)–(16) will be checked for objective Case. In turn, that will make them ineligible for further

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5. It might be that *a picture of John* and *lots of money* are sometimes constituents (when there's no extraction); the text discussion could be adjusted accordingly.

As for exactly why extraction of *who* or *money* from within a constituent of the form *a picture of who* or *lots of money* would not be possible, Chomsky's (2001a, 13) Phase-Impenetrability Condition may be relevant.

For the question of (apparent) pied-piping in:

(i)   (?)the person of whom John was admiring a picture

see chapter 5, Appendix).

6. I am leaving aside the interaction of *of* with subjects.

Case-related movement ("inactive"; see Chomsky [2001a, 6]), in particular for movement to Spec,K-*of*.

Partially similar to these facts is the contrast:

(18)   John went to Paris.

(19)   *John went of Paris.

Case-licensing by *of* is not sufficient. Arguably, this is because *of* cannot be merged prior to *to*.

One might think that overt *to* is needed for theta-assignment, but the following suggests otherwise:

(20)   John went there.

There would seem to be a null preposition here (cf. Emonds 1985, Larson 1987), given:

(21)   John's trip there went smoothly.

If *of* could be merged prior to *to*, it could presumably be merged prior to the null counterpart of *to*, in which case (19) might be derivable, incorrectly.

More directly important to the main thread of this essay than (18)–(21) is:

(22)   John bought a pound of apples.

(23)   *John bought a pound apples.

The question is why *apples* here needs Case ("provided" by *of*/K-*of*) in addition to the objective Case associated with the containing phrase *a pound of apples*.

I would like to pursue an approach that amounts to taking Vergnaud's original Case proposal to the extreme. To take one simple example, he reasoned as follows. In some languages, *the documents* in (16) would have morphological Case. If we assume that it has abstract Case in English (and similar languages), we can account for certain restrictions (e.g., concerning the availability of overt subjects of infinitives).

Consider now:

(24)   They helped those ten important people.

In a language like Russian, the demonstrative, the numeral, the adjective, and the noun would each bear (suffixal) morphological Case. Assuming that each of those four is nominal (+N), we can now understand the UG Case filter in much the way that Emonds (2000, 351) does:[7]

7. He wasn't directly concerned with DP-internal Case (see his p. 362, note 39), however.
If the *-ing* of English gerunds is +N, the difference between (25) and Chomsky's (1981, 49, (6)) is diminished (see also Rouveret and Vergnaud [1980, 190]). On Case and Romance

(25)   +N Case Filter: Every nominal (+N) element requires Case.

Russian visibly displays the required Case on each of the subparts of the object, in sentences like (24). English displays it visibly on none. Other languages (e.g., German and Hungarian) might display it visibly on some, but not all, of the subparts.

An independent question is whether the specific Case found on each of the four subparts of an argument is the same. In Russian, sometimes it is, sometimes it is not.[8] The important point is that each requires some Case, which may or may not be realized in a visible fashion.

Given the +N Case Filter (25), it follows immediately that *apples* in (22) and (23) needs Case (despite not corresponding to a full argument).

The English facts concerning the presence of overt *of* are, of course, different with numerals:

(26)   John bought three apples.

(27)   *John bought three of apples.

This is true even if the numeral takes an indefinite article:

(28)   John bought a million apples.

(29)   *John bought a million of apples.

The fact that subextraction is possible in (22):

(30)   Apples he bought a pound of.

indicates, given our earlier discussion, that *of* and K-*of* can be merged above VP:

(31)   bought [apples a pound] → merger of K-*of*
       K-*of* bought [apples a pound] → movement of *apples* to Spec,K-*of*
       apples$_i$ K-*of* bought [t$_i$ a pound] → merger of *of*
       of apples$_i$ K-*of* bought [t$_i$ a pound] → movement of VP to Spec,*of*
       [bought [t$_i$ a pound]]$_j$ of apples$_i$ K-*of* t$_j$

Prior to what is shown in (31), the containing phrase 'apples a pound' has had its objective Case checked (see the discussion of (15) and (16)). The pair *of*/K-*of* (more precisely, K-*of* alone) is responsible for checking the Case of *apples*. Two questions

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infinitives, whose integration into the text proposal remains to be accomplished, see Kayne (1999, discussion of (15)–(17)) and references cited there.

I am taking nominative to be a Case (contrary to Bittner and Hale [1996, 6]) whose frequent realization as zero is to be compared to that of third person and of singular in agreement systems.

8. See Franks (1995, 93–129).

arise: Why does *apples* in (28) not need *of*/K-*of*? And how do (*a*) *pound* in (22) and (*a*) *million* in (28) meet the Case requirement imposed by the +N Case Filter formulated in (25)?

The answer to the first of these must take into account the fact that English differs in this area from some other nearby languages. For example, the need for *of* seen in (22) does not hold in German (see van Riemsdijk 1998), and the required absence of *of* in (28) distinguishes English from French:

(32)   Jean a acheté un million de pommes. ('J has bought a million of apples')

(33)   *Jean a acheté un million pommes.

I take it to be (virtually) certain that *pommes* in (32) is Case-licensed parallel to *apples* in (31).[9] In addition, the Case-licensing of *apples* in (28) is arguably identical to that of *apples* in (26). Both (26) and (28) are probably to be thought of as similar to the Russian counterpart of (24), in which all four parts of the object would bear the same (dative) Case. In other words, the proposal is that in (26) the numeral *three* and the noun *apples* bear the same (here, accusative) Case.

7.1.4.   Case is limited to lexical items

The standard assumption is that this Case is also the Case of the whole phrase *three apples*. From a minimalist perspective, this is a notable redundancy, given (25). (Why should *three apples* need to have Case in addition to its (immediate) +N subparts having that same Case?)

The alternative (which I take to be the more attractive) is to take Case to be a feature of lexical items only. In (26), *three* and *apples* will each have structural Case that will be valued under agreement with a probe (*v*, in Chomsky [2001a, 6]). Valuation (i.e., assignment of a value under agreement) will take place separately for *three* and for *apples*, though the result will look like Case-agreement, much as in Chomsky's (2001a, 18) discussion of past participles (except that here what is at issue is Case within DP). Independent principles will (at least in English) prevent *three* from being moved to the Spec of that probe independently of *apples*, and vice versa. Conversely, principles of pied-piping (to be worked out) will allow *three apples* to move to the Spec of the relevant probe.

Although *apples* in (26) can have its Case valued by *v*, that must not hold in English (22), with *a pound* instead of *three*. Still, English *a million* does act like *three*,[10] whereas French *un million* acts like *a pound*. As in the discussion of (15) earlier, the

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9. To consider the possibility of an objective (English) versus oblique (French) difference of the sort proposed for prepositions in Kayne (1981c) would take us too far afield.

10. If *a* is nominal, the phrase *a million apples* will contain three elements, each bearing the same Case. Possibly this is the result of DP-internal movement (see Uriagereka's suggestion mentioned in Kayne [1994, 161, note 53]), which leads to the question of:

(i)   *I have apples three.

assumption is that Case (on *apples*) will be checked or valued by *v* if it can be (i.e., if *apples* is accessible to *v*), thereby precluding subsequent merger of *of*/K-*of*, so that (27) and (29) are excluded.[11]

In (22) (and (32)), *apples* is not accessible to *v* (presumably as the result of a blocking effect induced by *a pound*,[12] in English as opposed to German). Subsequent merger of K-*of* will have the structural Case of *apples* valued by K-*of*, and *apples* will move to Spec,K-*of*, as in (31). (Although the structural Case of *a pound* will have been valued by *v*, whether movement of *a pound* takes place is not clear.)

7.1.5.   English *few* and *little*; unpronounced NUMBER and AMOUNT

There is a distinction in English between:

(34)   John has few books.

(35)   John has little money.

Little cannot be replaced by *few*:

(36)   *John has few money.

Nor, keeping the interpretation constant, can *few* be replaced by *little*:

(37)   *John has little books.

This kind of number agreement is not found in French, where *peu* is used both with plurals and with singulars:

(38)   Jean a peu de livres. ('J has few of books')

French simple numerals are like English:

 (ii)   Jean a trois (*de) pommes. ('J has three of apples')

With right-dislocation, we have:

(iii)   Jean en a trois, *(de) pommes. ('J of-them has three of apples')

where Case-valuation of *pommes* by *v* is not available, presumably because right-dislocation in-volves (leftward) movement; see Cecchetto (1999) and Villalba (1999). Right-dislocation with no (overt) clitic acts the same:

(iv)   Jean a pris les rouges, *(de) pommes. ('J has taken the red of apples')

11. Beyond the scope of this article is English '*s*, as in *a woman's picture* versus **butter's pound*. I also leave aside here the question of nominative Case.

12. In which case, the relative order of *a pound* and *apples* within the DP in the derivation (31) should be reversed, and similarly elsewhere.

(39)   Jean a peu d'argent. ('J has little of money')

The fact that *peu* in these examples must be followed by *de*:

(40)   *Jean a peu livres/argent.

will have a role later on. For now, it is sufficient to note that we can express this by saying that *peu* blocks the (accusative) Case valuation of *livres* and *argent* that holds in (26) and (28), as well as in (34) and (35).

    The *few/little* distinction is of course paralleled by:[13]

(41)   John doesn't have many/*much books.

(42)   John doesn't have much/*many money.

English has no *of* in such cases:

(43)   *John has few of books.

(44)   *John doesn't have many of books.

and similarly with *little* and *much*:

(45)   *John has little of money.

(46)   *John doesn't have much of money.

We can thus say that *few*, *little*, *many*, and *much* do allow (accusative) Case valuation of the NP *books* or *money*, parallel to English numerals.

    In contrast, *few* looks more like an adjective and less like a numeral with respect to the comparative suffix *-er*, and similarly for the superlative *-est*:

(47)   John has fewer books than Bill.

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    13. In my English, simple *much* is a polarity item (cf. Klima [1964a, 284]):

 (i)   *John has (very) much money.

To a lesser extent, this holds for me with *many*:

 (ii)   John doesn't go to many concerts.
(iii)   ?John goes to many concerts.

Example (i) contrasts with:

(iv)   John has much more money than Bill.

    Also:

 (v)   John is smarter than Bill by a lot/*much.

We can express this by taking (47) to be as in:

(48)   fewer NUMBER books

Similarly, (34) is:

(49)   few NUMBER books

That is, *few* is, in fact, an adjective interpreted like *small* whose associated noun can only be an unpronounced counterpart of *number*. Unpronounced NUMBER will allow the same Case to be valued on *books*, as reflected in the absence of *of* in (34) and (47), even though the overt noun *number* does not allow this and so requires *of*:

(50)   John has a small number *(of) books.

In the same vein, (35) is:

(51)   little AMOUNT money

Here it is immediately plausible that *little* in (35) is really an adjective (modifying AMOUNT).[14]

Something more needs to be said, however, given:

(52)   John has a few books.

(53)   John has a little money.

The analysis will again be:

(54)   a few NUMBER books

(55)   a little AMOUNT money

The difference in interpretation between *a few/a little* and *few/little* may be attributable to the necessary presence of an unpronounced ONLY with the latter pair. This ONLY is probably absent in the comparative example (47); the comparative is likewise incompatible with *a*:

14. Although with overt *amount*, *little* is not entirely natural:

 (i)   ?John has a (very) little amount of money.

NUMBER and AMOUNT, as well as *number* and *amount*, may be identical but for one feature, given:

 (ii)   John has a large number/*amount of friends.
(iii)   John has a large amount/*number of money.

(56)   *John has a fewer books than Bill.

It is arguably ONLY that is responsible for negative polarity licensing in:

(57)   Few chemists will have anything to do with that.

If unpronounced ONLY is incompatible with *a*, we can account for:

(58)   *A few chemists will have anything to do with that.

The adjectival character of *few* is also brought to light by *enough*:

(59)   John became wealthy enough to retire.

(60)   John owns few enough houses as it is.

As discussed by Bresnan (1973, 285) and Jackendoff (1977, 151), adjectives move leftward past *enough*. If *few* is an adjective, (60) is not surprising. Nouns act differently:[15]

(61)   John owns enough houses/*houses enough as it is.

Somewhat similarly, *too* takes adjectives directly, as opposed to nouns:

(62)   John is too wealthy.

(63)   *John has too money.

If *few* is an adjective (and the same for *little*, *many*, *much*), the following is expected:[16]

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15. In what is for me archaicizing English, there are some examples showing noun movement:

(i)   John has (*this) bread enough to feed his family.

The restriction concerning determiners was noted by Bresnan (1973, 285), who seems to accept examples like (i) more readily than I do. Note also:

(ii)   *John owns a few enough houses as it is.

presumably akin to (56).

Bresnan (p. 286) takes *enough* to be parallel to *much*, which I (in agreement with Jackendoff [1977, 151]) do not, in particular because of (60).

I agree with Bowers (1975, 552) that (iii) is relatively acceptable, suggesting that what moves past *enough* (here, *more interesting*) is, in general, a phrase rather than a head:

(iii)   Is he a more interesting enough player than John to warrant our hiring him?

16. That *few*, *little*, *many*, and *much* are adjectives was proposed by Bowers (1975, 542), though he did not postulate the presence of NUMBER and AMOUNT.

Given the variety of adverbs in *-ly* that English has, the absence of (ii) needs elucidation:

(i)   They arrived in large/small numbers.
(ii)   *They arrived manily/fewly.

(64)   John has too few friends.

Unpronounced NUMBER and AMOUNT cannot occur with adjectives other than *few* and *little* (and *many* and *much*), at least in the presence of *a*:[17]

(65)   *John has a small/large books.

(66)   *John has a small/large money.

The preceding proposal for *few* and *little* carries over directly to *many* and *much*, which can now be taken to be adjectives with an interpretation like that of *large* that cooccur only with unpronounced NUMBER and AMOUNT. There is thus no need to postulate a category Q for *few*, *little*, *many*, and *much*. Their specificity is in effect inherited from the nouns NUMBER and AMOUNT that they modify.[18]

NUMBER, which I have represented as singular, takes plural verb agreement, as in (67), like overt *number*:

(67)   (A) few linguists know(*s) the answer to that question.

(68)   (Only) a small number of linguists know(*s) the answer to that question.

The presence of NUMBER with *few* and *many* provides an answer to a puzzle noted by Svenonius (1992, 106). If *few* and *many* are adjectives, like *numerous* and *famous*, why does one find the following contrast?

(69)   Few/many are very intelligent.

17. It may be that NUMBER occurs with numerals:

  (i)   John has three NUMBER books.

in classifier-like fashion; see Cheng and Sybesma (1999). An important difference between numerals and MANY/FEW is discussed by Doetjes (1997, 189–193)—cf. perhaps *John is three/ *few years old*.

A (structural) distinction between classifier and nonclassifier nouns would allow one to account for:

 (ii)   The number three is a small number.
(iii)   *The number three is a few.

if NUMBER can only be a classifier.

18. In dispensing with this Q category, I am departing from Bresnan (1973) and Carlson (1977, 523), who introduces an abstract AMOUNT that is realized as *much* or *many*, rather than modified by them.

Number and *amount* can be plural only in restricted ways:

  (i)   Large/*ten numbers of people came to the party.
 (ii)   Large/*ten amounts of flour have gone to waste.

In part this recalls:

(iii)   (*Large/*ten) Oodles/hundreds of people came to the party.

(70)   *Numerous/*famous are very intelligent.

The answer lies in:

(71)   A small/large number are very intelligent.

Conversely:

(72)   *Few/*many ones can be found in this city.

(73)   ?Numerous/(?)famous ones can be found in this city.

Again, *few* and *many* are parallel to overt *number*:

(74)   *A small/large number of ones can be found in this city.

The status of (69) and (72) reflects the presence of NUMBER (which is not present in (70) or in (73)[19]).

Many and *much* differ from *few* and *little* in being less able to take *a*:

(75)   *John has a many books.

(76)   *John doesn't have a much money.

Possible is:[20]

(77)   John has a great/good many books.

This in turn is not possible with *few*:

(78)   *John has a great/good few books.

From the perspective of my proposal, this can be related to the contrast:

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19. More exactly, *numerous* does not modify NUMBER in the way that *few* and *many* do; whether *numerous* in some sense incorporates NUMBER is a separate question.

20. This recalls:

(i)   John has a great/good/*better/*large deal of money.

suggesting that *deal* might be an adjective rather than a noun:

(ii)   . . . a great/good deal AMOUNT of money

Better than (78) is:

(iii)   (?)John has a very few books.

pointed out by Jackendoff (1977, 130n) as a problem for his claim that *few* in *a few* is a noun.

(79)   John has a good ?large/*small number of books.

7.1.6.   Unpronounced MANY and MUCH

Number and *amount* contrast in the following way:

(80)   John has a number of chemistry books.

(81)   *John has an amount of French money.

Example (81) becomes possible if an appropriate adjective or relative clause is added, such as:

(82)   John has a large amount of French money.

This suggests that (80) contains an unpronounced adjective, perhaps MANY:

(83)   . . . a MANY number of . . .

If this is correct, then *number* can license MANY (in (80)) just as *many* can license NUMBER, as in:[21]

(84)   John has many NUMBER friends.

which is parallel to (49). (MANY and NUMBER cannot, however, license each other.)
        The postulation here of an unpronounced MANY recalls Jackendoff's (1977, 152) discussion of the contrast between (60) and:

(85)   *John owns many enough houses.

The same holds for *little* versus *much*:

(86)   John owns little enough property as it is.

(87)   *John owns much enough property.

The intended readings of (85) and (87) are expressed by:

        21. I leave open the question of *many/*few a linguist*, perhaps akin to Italian *qualche linguista* ('some linguist'), which, despite its singular form, has a plural interpretation corresponding to English *some linguists*; see also *every linguist* and (*almost*) *any linguist*.
        The licensing of MANY by *number* seems also to depend on the determiner (see Jackendoff [1977, 124n]):
(i)   *John's number of chemistry books is impressive.

(88)   John owns enough houses/property.

This suggests an analysis close to Jackendoff's, in which (88) contains unpronounced MANY or MUCH.

Other degree words take overt *many* or *much* and cannot take MANY or MUCH, for example:

(89)   John owns too *(many) houses.

(90)   John owns so *(much) property that . . .

The generalization appears to be that unpronounced MANY and MUCH occur in English with precisely that degree word that triggers leftward movement of adjectives past it, suggesting that (80) is:

(91)   MANY$_i$/MUCH$_i$ enough t$_i$ houses/property

and that in the context of a degree word unpronounced MANY and MUCH must move in this way in order to be licensed.[22]

By allowing us to have degree words take only adjectives (and never nouns), (91) provides a natural account of (61)—that is, of the fact that nouns don't move past *enough*, if we say that at least in (colloquial) English it is only the complement of *enough* that can move past it (alternatively, noun or NP movement is blocked by the intervening presence of MANY or MUCH).

Since MUCH and MANY are adjectives, it is plausible to claim that degree words are not. (If, in addition, degree words are not +N, they will not need Case.) The non-adjective *enough* therefore contrasts with its near-synonym *sufficient*, which seems clearly to be an adjective, and thereby to have distinct syntactic behavior, as in:

(92)   John is sufficiently/*enoughly rich.

(93)   John has rich enough/*rich sufficiently friends.

(94)   John has a sufficient/*enough amount of money.

(95)   insufficient(ly); *unenough

The closest French counterpart of *enough*, which is *assez*, does not call for English-type inversion:[23]

(96)   Jean est assez intelligent pour comprendre. ('J is enough intelligent to understand')

22. Cf. perhaps Rizzi's (2000, 316) discussion of null topics in German.
23. Old French was like English, and some regional dialects still are, according to Grevisse (1993, sec. 937).

Thus the English word order must be mediated by some parametric property of *enough* versus *assez*.[24]

French also has a counterpart of *sufficient*(*ly*):

(97)   Jean dépense suffisamment peu d'argent. ('J spends sufficiently little (of) money')

Unlike English, French allows:

(98)   Jean dépense suffisamment d'argent.

The interpretation is that of:

(99)   (?)John spends sufficiently much money.

Although (99) is not entirely natural, the word-for-word equivalent of (98) is far worse:

(100)   *John spends sufficiently money.

As discussed by Doetjes (1997, 102) (see also Grevisse 1993, §607), (98) is part of a more general property of French, which allows various adverbs to "look like" quantifiers, as:

(101)   Enormément d'argent a été dépensé l'année dernière. ('enormously of money has been spent the year last')

The obvious proposal, from the perspective developed so far, is that these adverbs are not quantifiers themselves but, rather, in (98) and (101) are modifiying the French counterpart of MUCH and MANY:[25]

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24. Whatever the optimal formulation of that parameter, it recalls Holmberg and Sandström's (1996) notion of "minor parameter."

25. Cf. Selkirk (1977, 316, note 13). Arguably, French has no exact overt counterpart of *much* or *many* at all. A candidate is *tant*, with complications that would take us too far afield. A pair that fits into the text discussion is:

(i)   Jean a trop peu d'argent. ('J has too little (of) money')
(ii)   Jean a trop d'argent.

where (ii) has the interpretation 'too much' and the analysis:

(iii)   . . . trop MUCH AMOUNT d'argent

The fact that (ii) contains MUCH and cannot contain LITTLE (i.e., the interpretation cannot be that of (i)), which is also true of (83) and (91), presumably reflects some notion of "markedness" that must be flexible enough to allow plural MANY to be unpronounced in (iv) (and in (83) and (91)):

(iv)   Jean a trop d'amis. ('J has too (of) friends')

(102)   suffisamment MUCH d'argent

7.1.7.   More on Case

The question now is why English prohibits (100), and similarly for:

(103)   ?He has invited enormously many people.

(104)   *He has invited enormously people.

(105)   *He has invited enormously of people.

Let me try to formulate an answer in Case terms. In (98) and (102), whose fuller structure is:

(106)   suffisamment MUCH AMOUNT d'argent

the noun *argent* is Case-licensed via *de*/K-*de*. The fact that English disallows (105) is almost certainly the same fact as:

(107)   *He has invited enormously many of people.

English *many* and MANY (more exactly, '*many* NUMBER' and 'MANY NUMBER') do not permit *of* in:

(108)   *He has invited many of people.

(109)   *He has invited enough of people.

(on (109), see (91)). In all of (105)–(109) NUMBER does not block Case valuation of *people* by *v*, so that *people* is "frozen" relative to further Case-related movement (to Spec,K-*of*).

   As for (104), a relevant fact is that French shows a sharp contrast between (98) and (101) and:[26]

(110)   *Jean dépense très d'argent. ('J spends very of money')

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   26. Possible, without *de*, is:
 (i)   Jean a très faim. ('J has very hunger')
presumably without MUCH, too. This requires further work.
   I also leave open the question of derived nominals:
 (ii)   They approved the destruction *(of) the city
See also Giusti and Leko (1995).

A possible proposal is that adverbs ending in *-ment* are (or can be) +N in French, but *très* is not, and that (110) is excluded as a result of:

(111)   The structure in (97) is well-formed only if the adverb is +N.

This, in turn, might follow from:

(112)   Unpronounced MUCH and MANY must be licensed by an overt +N element.

Proposal (112) assumes that *enough* in (88) is +N, that the licenser in (80) is +N *number*, and that *trop* in (190) below is +N.) Given (112), (104) would be excluded if English *-ly* adverbs (arbitrarily) could not be +N. A more attractive alternative would be to look to the interaction of MUCH/MANY and agreement and to say, thinking ahead, that (106) is (for reasons to be discovered) incompatible with DP-internal phi-feature agreement of the sort discussed in (124)–(161) below (which French alone would lack).[27]

In extending the requirement of Case to (nominal) subparts of arguments, the +N Case Filter may allow us to integrate:

(113)   John bought too big a house.

(114)   John bought too big of a house.

In (113), *big* and *house* both have their accusative Case valued by *v*. In the colloquial (114), this is not possible (perhaps due to a blocking effect of the adjective), so that K-*of* is needed to value Case on *house* (and perhaps also on *a*).

If *off* is nominal (and can receive some sentential Case), this might carry over to the similar pair:[28]

(115)   John fell off the table.

(116)   John fell off of the table.

although not to:

(117)   John is such (*of) an idiot!

27. Given that Catalan sometimes has agreement in the presence of *de*, this might allow an account of the fact that Catalan lacks (98) and (101) (despite having *de* in some cases parallel to (97)); see Martí Girbau (2001).

28. The significance of this similarity is supported by the fact that (114) is limited to American English (according to Kennedy and Merchant [2000, 125]), as is (116) (according to Merat [1974, 229]).

Merat (1974, 212, 229) also gives *all of the students* as less frequent in British English, raising the possibility that the blocking of simultaneous Case-valuation of *the students* and *all* is responsible for the presence of that *of*, too.

(118)   What (*of) an idiot!

The presence of the adjective in (114) seems to be part of the answer (it must be involved in the blocking), or perhaps a good part of the answer (if *off* is an adjective or at least +N).

    Note that extraction is possible in:

(119)   What table did he fall off of?

implying, given our earlier discussion, that this *of* can be merged outside VP. Extraction is not possible in:

(120)   *What did he buy too big of?

This, however, may be due to the pre-N determiner in (114) (limited to *a*; see Bennis et al. 1998),[29] in which case the *of* of (114) could be VP-external, too.

    The +N Case Filter requires that all adjectives have Case (assuming they are all +N), and thereby makes it less surprising that some are preceded by a preposition, probably Case-licensing, in conjunction with K.[30] French has, for example:

(121)   Jean a quelque chose *(de) lourd. ('J has some thing of heavy')

(122)   Jean en a un (de) rouge. ('J of-them has one of red')

To judge by:

(123)   John has something heavy

English allows accusative valuation to reach the adjective in this context, while French does not, for reasons that need elucidation. Example (122) may reflect two distinct structures—one like (121), and one like (123).[31]

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    29. If anything, the following is less bad than (120):

(i)   *What did he buy too big of a?

    30. However, I have no examples of demonstratives or numerals Case-licensed prepositionally. That numerals (except *one*) are nouns is argued by Jackendoff (1977, 128). (For my purposes, +N is sufficient.) That (121) reflects genitive-like Case was suggested by Doetjes (1997, 155n).

    31. Catalan from this perspective entirely disallows simultaneous Case-valuation of (its counterparts of) *un* and *rouge* in (122) and requires *de*; see Martí (1995).

    Adjectives in predicate position must be Case-licensed, too, given (25), as in Emonds (2000); for a different view, see Pereltsvaig (2001).

    The Case-licensing requirement on adjectives might allow rethinking Baker and Stewart (1997) in Case terms (as opposed to their theta approach).

7.1.8. Phi-feature agreement

Unlike English and French, Italian shows number and gender agreement in:

(124) Gianni ha poco tempo. ('G has little(m.sg.) time')

(125) Gianni ha poca speranza. ('G has little(f.sg.) hope')

(126) Gianni ha pochi libri. ('G has few(m.pl.) books')

(127) Gianni ha poche idee. ('G has few(f.pl.) ideas')

Italian makes no distinction of the *few/little* type, but the Italian word for *few/little* agrees in number and gender with the noun. This is so despite the fact that the structure of, say, (127) is, if we transpose our earlier proposal from English to Italian:

(128)   poche NUMBER idee

The question is why *poche* agrees with *idee* if it's really modifying NUMBER.
        Let me approach this question through English and then French. Consider:

(129)   John isn't that smart.

From a DP perspective, it would appear plausible to take *that* here to be a head whose complement is AP. On the other hand, for the case of ordinary demonstrative *that* occurring with NP, Giusti (1994, 249), Sigler (1997, 106), Bernstein (1997), and Franks (1995, 101) have proposed that *that* should be considered to raise from a lower position into Spec,D. That kind of analysis for (129) could be given the following form. Example (129) is derived from a structure resembling:

(130)   John isn't as smart as that.

Or, thinking of Bennis et al. (1998), from:

(131)   ?John isn't smart like that.

This would bring together the *all*s of the following:

(132)   John isn't all that smart.

(133)   John isn't as smart as all that.

Similarly for the *about*s of:

(134)   John is about that tall.

(135)   John is about as tall as that.

Whereas the following are now seen to display a single restriction:

(136)   *John is well over that tall.

(137)   *John is as tall as well over that.

These two contrast with:

(138)   John is well over six feet tall.

   Assume, then, that (132) is derived from:

(139)   . . . smart LIKE all that

(or perhaps from '. . . AS smart AS all that') via movement of *all that*.[32]
   French doesn't have *that* (or *this*) preceding adjectives, but it does have (with an interpretation close to *very*):

(140)   Jean est tout petit. ('J is all small')

A plausible source, parallel to (139), is:

(141)   Jean est petit comme tout. ('J is small like all/anything')

More exactly, (140) would be:

(142)   . . . petit COMME tout

with movement of *tout* (or perhaps of 'COMME tout') to some higher Spec.
   Of interest is the fact that *tout* in (140) agrees in gender:[33]

(143)   Marie est toute petite. ('M is all(f.sg.) small(f.sg.)')

Without movement, it would not:

   32. Bowers's (1975, 540) proposal to relate (i) and (ii) by rightward movement:
 (i)   John is far more intelligent than Bill.
 (ii)   John is more intelligent by far than Bill.
can be recast in terms of leftward movement of *far*, with (i) being:
(iii)   more intelligent BY far
and similarly for *two feet higher* (from 'higher BY two feet'), etc.
   33. Though arguably not in number—see Kayne (1975, sec. 1.5)—which I take to be orthogonal to the main point.

(144) Marie est petite comme tout/*toute.

Although it might not be impossible to integrate this agreement of *tout/toute* into a lexicalist checking approach of the sort considered in Chomsky (1995, 239),[34] another possibility, thinking in particular of Bernstein (1991) on DP-internal agreeement in Walloon, would be to take (143) to be:

(145) . . . tout -e petite

with the first *-e* (and perhaps also the second) an independent head.
    If this is correct, then (128) might be reinterpreted as:

(146) poch- NUMBER -e idee

with *-e* needing a +N host at PF.
    A more "extreme" case of this kind of syntactic dissociation of an agreement suffix (see also Julien [2002] and Koopman and Szabolcsi [2000, 39]) comes from Italian *tropp-* ('too'). Consider:

(147) Gianni è troppo intelligente. ('G is too intelligent')

(148) Gianni è troppo poco intelligente. ('. . . little . . .')

In the spirit of preceding proposals, we have for the first:

(149) troppo MUCH intelligente

Similarly, given:

(150) John has too many books.

(151) Gianni ha troppi libri.

the natural proposal is:

(152) troppi MANY libri

or more exactly:

(153) too many NUMBER books

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34. Note that the lexicalist approach to agreement considered by Chomsky does not directly extend to Romance subject clitics, which are strongly agreement-like in certain respects, especially in those French and Italian dialects where subject DPs are obligatorily doubled by a subject clitic, yet are not in any obvious sense analyzable as a verbal affix. Similar questions arise for obligatory object clitic doubling.

(154)   troppi MANY NUMBER libri

Compared to English, Italian has one extra element that is unpronounced.

Yet *troppi* (m.pl.) agrees with *libri*. (The other forms would be *troppo*, *troppa*, *troppe*.) The same holds if in place of covert MANY in (154) we have the overt Italian counterpart of *few* (which also agrees; see (126)):

(155)   Gianni ha troppi pochi libri. ('G has too few books')

The agreeing form *troppi* is all the more striking as it does not appear in the corresponding predicate sentence (although *pochi* continues to agree):[35]

(156)   I libri di Gianni sono troppo pochi. ('the books of G are too few (in number)')

The contrast between the agreeing form *troppi* in (155) and the non-agreeing form *troppo* in (156) recalls (in part) German, in which prenominal adjectives have an intricate agreement paradigm but predicate adjectives don't agree at all. A proposal in the spirit of (146) would be:[36]

(157)   tropp- [-i [poch- NUMBER [-i libri]]]

with multiple number and gender heads dependent in determiner-like fashion on the presence of NP (see Kester 1996 on Germanic).

Representations (146) and (157) recall Corver (1997, 140) on the Dutch counterpart of *the biggest possible N*, in which the agreement suffix follows *possible* rather the *biggest*, in effect then simply following a certain complex phrase.

If we now combine (154) and (157), (151) will be:

(158)   tropp- [[MANY NUMBER [-i libri]]]

whose Wh-counterpart (*how many books*) will be:

(159)   quant- [[MANY NUMBER [-i libri]]]

in which *quant-* + *-i* is not a constituent, from which follows the fact that it cannot be moved:

(160)   *Quanti hai comprato libri? ('how-many have-you bought books')

The impossibility of the corresponding Engish sentence:

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35. Franca Ferrari (pers. comm.) points out that clitic *ne* also yields non-agreement of *tropp-*:

(i)   Gianni ne ha troppo pochi. ('G of-them has too few')

36. Whether *tropp-* and *too* could reach their surface position by movement, as was suggested for (143) and (129), is left an open question. Note that Spanish *demasiado* ('too') looks phrasal.

(161)   *How many have you bought books?

would follow in the same way if English had an unpronounced counterpart of the *-i* of (159) that could be stranded.[37]

7.1.9.   *A little* and *a lot*

In some contexts, they look parallel:

(162)   You should help them a little.

(163)   You should help them a lot.

My proposal for *little* has been that it is an adjective that can modify unpronounced AMOUNT:

(164)   (a) little AMOUNT (money)

Lot, in contrast, appears to itself be a noun (that does not modify AMOUNT or NUMBER), as reflected by the following:

(165)   John has little/*lot money.

(166)   John has a little / *a lot money.

(167)   John has a lot of / *a little of money.

(168)   John has a whole / an awful lot of / *a whole / *an awful little (of) money.

   The *of* of these last two can be VP-external, given:

(169)   (?)What (else) does he have a lot of?

The derivation will be:

(170)   has [what a lot] → merger of K-*of*
         K-*of* has [what a lot] → movement of *what* to Spec,K-*of*

   37. Similarly for Italian *quali libri* ('which books'):
 (i)   qual- [-i libri]
and for English *which books*. In this vein, note the contrast:
 (ii)   **Whose were you talking to sister?
 (iii)   ??Who were you talking to 's sister?
See Kayne (1993, (4)–(5)).
   On *un gran numero -e* (*di*) *tavole*, compare *enough* in Dutch; van Riemsdijk (1992, 507).

what$_i$ K-*of* has [t$_i$ a lot] → merger of *of*
of what$_i$ K-*of* has [t$_i$ a lot] → movement of VP to Spec,*of*
[has [t$_i$ a lot]]$_j$ of what$_i$ K-*of* t$_j$ → wh-movement

A lot of differs from *a little*:

(171)   *What (else) does he have a little?

That the key is *of* is further suggested by:

(172)   (?)What (else) does he have hundreds of?

(173)   *What (else) does he have a hundred?

The reason must be as follows. In agreement with Chomsky (1977, 114), successful subextraction of the sort found in (169) and (172) depends on *a lot of what*, *hundreds of what* not being a constituent (when Wh-movement takes place). My proposal has been that the required nonconstituency comes about, as seen in (170), through Case-related movement (here, of *what*) to Spec,K-*of*. If in the absence of overt *of*, no such Case-related movement can take place, the impossibility of (171) and (173) will follow.[38]

   The role of *of* in making subextraction possible appears to have a close counterpart in the case of French *de*. But before turning to French, I mention one additional difference between *little* and *lot*:

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38. This suggests that English has no covert *of* that is capable of inducing movement in that way, and that accusative Case-valuation of the noun of the sort seen in (165) and (166) with *little*, as well as in:

  (i)   He has a hundred books.

takes place without movement.
      The reason for the contrast:

  (ii)   *He has a hundred of books.
 (iii)   ?What (else) does he have a hundred of?

probably involves the relation between (i) and:

 (iv)   He has a hundred of those books.

which is beyond the scope of this article.
      Other factors than just the presence of *of* must come into play with extraction, since (for me) extraction is not possible in:

  (v)   How big of a house did they buy?
 (vi)   *How big did they buy of a house?

On the other hand, Henry (2001) gives for Belfast English:

(vii)   How good has there seemed of a guide to be showing people around?

(174)   John looks a little / *a lot unhappy.

The structure with *a little* + adjective must be:

(175)   . . . a little AMOUNT unhappy

For unclear reasons, English does not allow:[39]

(176)   *John looks (too) little unhappy.

French does allow *peu* ('little') to precede an adjective (cf. Italian (148)):

(177)   Jean est peu malin. ('J is little smart')

Curiously, despite (176), English allows the comparative:

(178)   John looks less unhappy than Bill.

with, if I am correct, the analysis (cf. Bresnan [1973, 277]):

(179)   -ER little AMOUNT unhappy

   The same extra possibility with the comparative is found with *much*:

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   39. The following:
   (i)   those (*a little) unhappy children

suggests that the constituent structure of *a little unhappy* might be:

   (ii)   a [little unhappy]

in which case English does allow 'little AMOUNT' to modify an adjective, but (unlike French and Italian) requires it to be preceded by *a*.

   The contrast:
   (iii)   *John is much intelligent.
   (iv)   . . . too much so, in fact.

indicates that this *so* is not an adjective (see Corver [1997, 160] vs. his p. 128), as also suggested by:

   (v)   enough so to
   (vi)   *so enough to

and by:

   (vii)   a big enough room
   (viii)   *a so enough / enough so room

(180) *John looks / doesn't look (too) much intelligent.

(181) John looks / doesn't look more intelligent than Bill.

with the analysis:[40]

(182) -ER much AMOUNT intelligent

7.2. Mostly French

7.2.1. French *de* as parallel to English *of*

French does not have preposition-stranding in Wh-constructions in general, or with pseudo-passives, so it is not surprising that French disallows a direct counterpart to (4) and (10):

(183) *Qui admirait-il un portrait de? ('who admired-he a portrait of')

(I take this preposition-stranding difference between French and English to be orthogonal to the present discussion.) The well-formed non-Wh counterpart of (183) is:

(184) Il admirait un portrait de Marie. ('he admired a portrait of M')

with the derivation:

(185) admirait [Marie un portrait] → merger of K-*de*
       K-*de* admirait [Marie un portrait] → movement of *Marie* to Spec,K-*de*
       Marie$_i$ K-*de* admirait [t$_i$ un portrait] → merger of *de*
       de Marie$_i$ K-*de* admirait [t$_i$ un portrait] → movement of VP to Spec,*de*
       [admirait [t$_i$ un portrait]]$_j$ de Marie$_i$ K-*de* t$_j$

   Of importance for what follows is how this kind of derivation carries over to the French counterparts of (1), as in:

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40. A separate question is why (182) is difficult with "short" adjectives:

 (i) ??John is (no) more dumb than Bill.

   In (ii), *good* is probably a noun, and there's probably an unpronounced preposition:

 (ii) He isn't much good at it.

   The *much* of *much different* may be the same as that of *much more intelligent*, perhaps (note 32) derived from:

(iii) -ER much AMOUNT intelligent BY much AMOUNT

and similarly for *no/any different* and *no/any more intelligent*, e.g.:

 (iv) -ER much AMOUNT intelligent BY no/any AMOUNT

with leftward movement of '(BY) *much/no/any* AMOUNT'

(186)   Jean a peu d'argent. ('J has little of money')

Again, there is every reason to think that the *de/d'* of (186) is strongly parallel to English *of*. In other words the derivation of (186) will be:[41]

(187)   a [argent peu] → merger of K-*de*
      K-*de* a [argent peu] → movement of *argent* to Spec,K-*de*
      argent$_i$ K-*de* a [t$_i$ peu] → merger of *de*
      de argent$_i$ K-*de* a [t$_i$ peu] → movement of VP to Spec,*de*
      [a [t$_i$ peu]]$_j$ de argent$_i$ K-*de* t$_j$

Given the general unavailability of preposition-stranding in French, there is no expectation that this derivation could fit into a longer one involving preposition-stranding. Put another way, the strong parallel between the derivations of (14) and (187) is not called into question by the contrast:

(188)   What does he have lots of?

(189)   *Qu'a-t-il peu de? ('what has he little of')

7.2.2.   QP movement in French

Despite not allowing (189), French does allow extraction of a sort that is not present in English:

(190)   Jean a beaucoup/peu/trop acheté de livres cette année. ('J has lots/few/too(many) bought of books this year')

(191)   *John has lots bought of books this year.

(192)   *John has few bought books this year.

In French, *beaucoup*, *peu*, and *trop* can appear displaced from the object phrase that they go with; in English that is not possible.

There is clearly no exact parallelism between the apparent subextraction in (190) and that in (188). However, there is an important point of similarity that can be seen by taking the adjective counterpart of (13):

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41. A fuller presentation would have AMOUNT following *peu* in each line of (187), assuming *peu* to be a direct (adjective) counterpart of *few* or *little*.

The alternative would be to take *peu* to correspond rather to English *bit*—that is, to be a noun (like English *lot*; (165)ff.). This is made conceivable by the absence of any comparative form in French corresponding to *fewer*, and by the existence of *un tout petit peu* if that matches *a very little bit*. In contrast, the absence of *de* in *trop peu* ('too few/little') strongly suggests that *peu* is an adjective, since nouns in French require *de* consistently; see (33).

(193)   ??Houses he's made lots of unstable (by weakening the foundations).

This contrasts with:

(194)   Houses he's made lots of.

The deviance of (193) is almost certainly due to the same factors at work in (13): the VP-preposing step seen at the end of (14) makes the adjective non-final,[42] so to reach (193) something extra must be done that is evidently not cost-free.

　　The deviance of (193) has what I take to be a clear counterpart in French:[43]

(195)   ??Jean a beaucoup rendu de filles malheureuses. ('J has lots made of girls unhappy')

which contrasts with:

(196)   Jean a rendu beaucoup de filles malheureuses.

The pre-predicate subject of a small clause resists this quantifier displacement in French in (195) for the same reason that a pre-predicate small clause subject resists preposition stranding in English in (193). The question is, how can this similarity between (193) and (195) be expressed?

　　Since the deviance of (193) is tied up with the application of VP-preposing and since this VP-preposing is, as seen in (14) and (187), triggered by VP-external *de*, a natural proposal is:

(197)   The *de* of (190) is necessarily VP-external.

In other words, although *de* may be able to be DP-internal in (186) and (196), it must be VP-external whenever, as in (190) or (195), it occurs separated from its associated quantifier. VP-external merger of *de* will permit (190) (but will not fully permit (195), for the reasons mentioned). The nondisplaced version of (190) (which is perfectly acceptable):

(198)   Jean a acheté beaucoup/peu/trop de livres. ('J has bought lots/little/too(many) of books')

may contain a constituent *beaucoup/peu/trop de livres*, but (190) must not.

　　The derivation of (190) cannot simply be as in, for example, (199) (although (199) will be part of the correct derivation):

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　　42. It remains to be understood why (i) is not perfectly acceptable, either:

(i)   ?Houses he's made unstable LOTS of.

　　43. On (195), see Mouchaweh (1984; 1985).

(199)   acheté [livres peu] → merger of K-*de*

        K-*de* acheté [livres peu] → movement of *livres* to Spec,K-*de*

        livres$_i$ K-*de* acheté [t$_i$ peu] → merger of *de*

        de livres$_i$ K-*de* acheté [t$_i$ peu] → movement of VP to Spec,*de*

        [acheté [t$_i$ peu]]$_j$ de livres$_i$ K-*de* t$_j$

This derivation produces the desired result that *peu de livres* is not a constituent, but if stopped here it leaves *peu* in a position following the past participle *acheté*, whereas in (190) *peu* precedes *acheté*.

7.2.3.   QP movement as remnant movement

Let me propose, then, that subsequent to VP-movement to Spec,*de* French allows the phrase '[t$_i$ peu]' to move out of the VP to a position to the left of the past participle:[44]

(200)   [t$_i$ peu]$_k$ [acheté t$_k$]$_j$ de livres$_i$ K-*de* t$_j$

Since the phrase '[t$_i$ peu]' contains a trace not bound by anything within that phrase, this movement of '[t$_i$ peu]' is, like that of the VP in (199), an instance of remnant movement in the sense of den Besten and Webelhuth (1987; 1990)—see also Starke (2001) on *combien* (to be discussed below).

     That remnant movement must come into play here follows from the fact that in the derivation of (199) and (200), movement of *livres* to Spec,K-*de* takes place before movement of the phrase containing *peu*. In turn, this reflects the ideas that movement to Spec,K-*de* is a Case-licensing form of movement, that movement of (the phrase containing) *peu* is a scrambling or focus or quantifier type of movement, and that Case-licensing heads enter the derivation prior to the heads that license scrambling or focus or quantifier movement.[45]

     The analysis proposed for (190) uses remnant movement in the way indicated. One might wonder whether French just happened to choose this particular analysis (assuming its correctness), as opposed to what might at first glance seem like a straightforward alternative—namely having extraction of *peu* from within a larger phrase, *peu de livres*.

     Ideally, the learner of French need not choose at all, if the remnant movement analysis is the only one made available by UG. The reason(s) might be, on the one hand, that *peu de livres* is not a possible constituent—that is, that *de* is never

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44. Although I have represented the VP with V preceding the object, it could be the reverse at the relevant point in the derivation, thinking of a generalized version of Larson (1988); that might fit better with Chomsky's (2001a, 13) PIC.

     Strictly speaking, *peu* in these derivations is really '*peu* NUMBER'.

45. See Koopman and Szabolcsi (2000, 131).

DP-internal, always VP-external—and on the other, that even if *peu de livres* is a possible constituent, VP-external specifier[46] landing sites are not available to nonargument QPs.[47]

7.2.4.   Past participle agreement

I note in passing that there are past participle agreement facts that seem more favorable to the remnant movement analysis proposed here than to a subextraction approach to (190). Although some French speakers do not have past participle agreement with objects at all, others do. One of those for whom it is natural is Viviane Déprez, who has made the following judgments:

(201)   Il a repeint/*repeintes des bagnoles cette année. ('he has repainted of-the cars this year')

When the object *des bagnoles* follows the past participle, as in (201), agreement (represented by *-es*) is impossible. In contrast, she has:

(202)   ?Il a tant repeintes de bagnoles cette annee que . . . ('he has so-many repainted of cars this year that . . .')

In (202), agreement is appreciably more acceptable for her than in (201). From a remnant movement perspective, this can be attributed to agreement with the preposed phrase '[tant t(bagnoles)]' containing a trace or copy of *bagnoles*, a feminine plural noun.[48]

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46. I assume that a head movement analysis for *peu* is implausible—in part because it is really '*peu* NUMBER'; in part because one can have:

 (i)   Il a très peu gagné d'argent. ('he has very little earned of money')

with *très peu* clearly phrasal; in part because of (217) below; and in part for reasons of locality; see Starke (2001).

The impossibility of an interrogative in situ counterpart to (190)—namely (cf. Kayne [1975, sec. 1.5]):

(ii)   *Jean a combien acheté de livres? ('J has how-many bought of books')

needs to be rethought from the perspective of Munaro et al. (2001), in which French (apparent) Wh-in situ actually involves Wh-movement.

47. In turn, this is related to the possibility that adverbs in specifier positions are all hidden DP/PPs; for example, *often* is really *oftentimes* or *many times*—cf. Katz and Postal (1964, 141), Emonds (1976, 156), and Déchaine and Tremblay (1996). Integration with Cinque (1999) would need to be worked out.

The movement of "bare" *peu*, in addition, might be excludable a la Cinque (1990), if the empty category (or copy) left behind could not fit into a proper classification or interpretation of empty categories.

48. On the sensitivity of past participle agreement to whether or not the object has been preposed, see Kayne (1985b; 1989b), Obenauer (1994, 165–215), and Déprez (1998). The less than perfect status of (202) for Déprez might be related to the indefiniteness of the preposed object. Some speakers who have past participle agreement reject (202). There might be a correlation with whether or not they accept past participle agreement with clitic *en*.

From a subextraction perspective, however, all that is preposed in (202) is the bare quantifier *tant* (i.e., '*tant* NUMBER'), which has no phi features of its own, and, in fact, in French can never even display any via agreement:

(203) *Il a tantes repeintes de bagnoles . . .

(204) *Il a repeintes tantes de bagnoles . . .

The (marginal) past participle agreement seen in (202) would thus be harder to understand than under the remnant movement hypothesis.

7.2.5. The blocking effect of prepositions

A remnant movement approach to (200) that is based on a VP-external *de* differs from a subextraction approach in the way it interprets the blocking effect of prepositions, illustrated in:

(205)   Jean a souri à peu d'enfants. ('J has smiled at few of children')

(206)   *Jean a peu souri à d'enfants.

In Kayne (1981a) I had accounted for the contrast between (190) and (206) in ECP terms, taking there to be an empty QP in both, with that empty QP properly governed by the verb in (190) but not properly governed by either the verb or the preposition in (206).

From the present perspective, the question is why the following derivation, which tracks (199) and (200), does not result in an acceptable sentence:

(207)   souri à [enfants peu] → merger of K-*de*
         K-*de* souri à [enfants peu] → movement of *enfants* to Spec,K-*de*
         enfants$_i$ K-*de* souri à [t$_i$ peu] → merger of *de*
         de enfants$_i$ K-*de* souri à [t$_i$ peu] → movement of VP to Spec,*de*
         [souri à [t$_i$ peu]]$_j$ de enfants$_i$ K-*de* t$_j$ → movement of '[t$_i$ peu]' out of VP to the left
         [t$_i$ peu]$_k$ [souri à t$_k$]$_j$ de enfants$_i$ K-*de* t$_j$

I think that the answer lies in the last step, which arguably constitutes a preposition-stranding violation of exactly the sort found in:

(208)   *Qui as-tu souri à? ('who have you smiled at')

In (208) *qui* has been moved away from *à*; in (206) and (207) it is '[t$_i$ peu]' that has been moved away from *à* in parallel fashion, with an equally unacceptable result in both cases.[49]

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49. Preposition-stranding itself now needs to be reinterpreted in nongovernment terms, a task beyond the scope of this essay.

But *qui* and *peu* (more exactly '[t$_i$ peu NUMBER]') differ in that the pied-piping counterpart of (208) is straightforwardly acceptable:

(209)   A qui as-tu souri?

whereas the pied-piping counterpart of (206) and (207) is, for almost all speakers, not:[50]

(210)   *Jean a à peu souri d'enfants.

This is not a property specific to . . . *peu* . . . *de* . . . , to judge by the following:

(211)   *Jean n'a compris rien. ('J neg. a understood nothing')

(212)   Jean n'a rien compris.

(213)   Jean n'a pensé à rien. ('J neg. has thought to(of) nothing')

(214)   *Jean n'a à rien pensé.[51]

Nonprepositional object *rien* moves leftward obligatorily (in the absence of modification), for all speakers.[52] Comparable movement of prepositional object *rien* is generally rejected. However, I have come across one speaker (Léna Baunaz) who accepts (214) and also accepts at least some sentences like (210).

More specifically, she finds acceptable (with a certain intonation contour, including stress on the quantifier word):

(215)   Il avait à trop répondu de lettres ce jour-là pour . . . ('he had to too-many answered of letters that day-there to . . .'

(216)   Il avait à énormément téléphoné de copains. ('he had to enormously(many) telephoned of friends')

(217)   Le comité était à très peu parvenu de compromis. ('the committee was to very few reached of compromises')

(218)   Il s'était à beaucoup adressé de collègues. ('he refl.-was to many adressed of colleagues')

Although these are not as "easy" for her as:

50. See, for example, Milner (1978b, 100).

51. In literary French there are some examples resembling (214) that are fairly acceptable; see Kayne (1975, chap. 1, note 81).

52. See Kayne (1975, sec. 1.6).

(219)   Il avait à rien pensé de drôle depuis un moment. ('he had to(of) nothing thought of funny for a while')

the fact that they are acceptable to her is striking.

7.2.6.   *Combien*

This fact is not, however, entirely unfamiliar. Obenauer (1976) studied in detail the interrogative counterpart of (190):

(220)   Combien a-t-il acheté de livres? ('how-many has-he bought of books')

He noted (pp.11ff.) that if *combien* is preceded by a preposition, the sentence is often rejected, but sometimes accepted:

(221)   A combien s'est-il adressé de gens heureux? ('to how-many refl.-is he addressed of people happy')

(222)   A combien a-t-elle souri de garçons? ('to how-many has-she smiled of boys')

These interrogative examples are more widely accepted than are (215)–(218). (I suspect that the difference is related to the higher landing site with interrogatives.[53])

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53. There may be a parallel with English preposition-stranding that is yet to be explained; see Kayne (1998a, discussion of (95)–(96)).

Both subtypes are possible (to some extent) with other prepositions. Obenauer (1976, 11) gives as '??' (vs. '?' for (221)–(222)):

 (i)   Sur combien faut-il pouvoir compter de personnes? ('on how-many is-necessary-it to-be-able to-count of persons')

And Léna Baunaz accepts:

 (ii)   Il avait sur beaucoup tiré de lapins ce jour-là. ('he had at many shot of rabbits that day-there')

If, in addition to the PP, there is a direct object, the result in both subtypes is sharply impossible if the direct object intervenes:

(iii)   *A combien a-t-il montré son article de collègues? ('to how-many has-he shown his article of colleagues')

(iv)   *Il avait à beaucoup montré son article de collègues. ('he had to many shown his article of colleagues')

If *de collègues* precedes *son article*, there is some improvement in both (see Obenauer [1976, 74]; see also Androutsopoulou [1997, 26] on Greek), for unclear reasons.

The impossibility of (iii) and (iv) recalls the fact that French "stylistic inversion" can usually not produce V O S where O is a lexical direct object; see chapter 1, sec. 1.16. The parallelism is supported by the observation that there is substantial improvement if the object is idiomatic:

 (v)   A combien a-t-il rendu hommage de collègues? ('to how-many has-he rendered hommage of colleagues')

The acceptability of both types (even though limited) is notable, since it looks at first glance as if they must, for those who accept them, be an instance of movement of a nonconstituent—that is, to take just two of the examples, it looks like there must be movement of *à très peu* in (217) out of a phrase '[à très peu de compromis]'; similarly it looks like there must be movement of *à combien* in (222) out of a phrase '[à combien de garçons]'.

Starke (2001) has proposed that sentences like (221)–(222) are not that at all but, rather, instances of remnant movement. (His proposal converges with one made by Androutsopoulou 1997 for Greek sentences that I think are close to these.)

From the present perspective, with *de* VP-external in all of (220)–(222), the derivation of (220) would look like:

(223)   acheté [livres combien] → merger of K-*de*
         K-*de* acheté [livres combien] → movement of *livres* to Spec,K-*de*
         livres$_i$ K-*de* acheté [t$_i$ combien] → merger of *de*
         de livres$_i$ K-*de* acheté [t$_i$ combien] → movement of VP to Spec,*de*
         [acheté [t$_i$ combien]]$_j$ de livres$_i$ K-*de* t$_j$ → Wh-movement out of VP
         [t$_i$ combien]$_k$ . . . [acheté t$_k$]$_j$ de livres$_i$ K-*de* t$_j$

Wh-movement moves *combien* together with the trace of *livres*.[54]
    The derivation of (222) is now:

(224)   souri à [enfants combien] → merger of K-*de*
         K-*de* souri à [enfants combien] → movement of *enfants* to Spec,K-*de*[55]
         enfants$_i$ K-*de* souri à [t$_i$ combien] → merger of *de*
         de enfants$_i$ K-*de* souri à [t$_i$ combien] → movement of VP to Spec,*de*
         [souri à [t$_i$ combien]]$_j$ de enfants$_i$ K-*de* t$_j$ → Wh-movement
         [à [t$_i$ combien]]$_k$ . . . [souri t$_k$]$_j$ de enfants$_i$ K-*de* t$_j$[56]

54. Fanselow and Cavar's (2001) approach to remnant movement has in common with this the movement of a "large" constituent, but differs in that it uses selective deletion rather than prior extraction of a subpart.

Luigi Rizzi (pers. comm.) points out that a remnant movement analysis of these *combien* sentences will require rethinking the intervention and weak island effects discussed by Obenauer (1984; 1994, chap. 2), Rizzi (1990, 12), and Starke (2001).

55. This must not count as an instance of preposition-stranding. Why this type of sentence is not equally acceptable to all speakers remains to be understood. There might be a link to the judgments Milner (1978b, 156n) reports for right-dislocation.

What is moved in this step in (224) is the NP *enfants*. This distinguishes (222) from:

(i)   *De quel livre a-t-elle souri à l'auteur? ('of what book has-she smiled at the-author')

on which, see Kayne (1975, sec. 2.8, sec. 2.10).

56. If Wh-movement moved '[t$_i$ combien]' in the last step without moving *à*, we would have a preposition-stranding violation exactly as in (206) and (208):

(i)   *Combien a-t-elle souri à d'enfants? ('how-many has she smiled at of children')

In the last step, *à combien* is pied-piped along with the trace of *enfants*.[57] This remnant movement derivation does not require movement of a nonconstituent.

Starke's point about remnant movement clearly carries over to (215)–(218); for example, the derivation of (217) would be (with *de* VP-external):

(225)   parvenu à [compromis très peu] → merger of K-*de*
      K-*de* parvenu à [compromis très peu] → movement of *compromis* to Spec,K-*de*
      compromis$_i$ K-*de* parvenu à [t$_i$ très peu] → merger of *de*
      de compromis$_i$ K-*de* parvenu à [t$_i$ très peu] → movement of VP to Spec,*de*
      [parvenu à [t$_i$ très peu]]$_j$ de compromis$_i$ K-*de* t$_j$ →
      [à [t$_i$ très peu]]$_k$ . . . [parvenu t$_k$]$_j$ de compromis$_i$ K-*de* t$_j$

Given the derivations (224) and (225), the "splitting" of the PP seen in (215)–(218) and (221)–(222) is essentially due to the movement (out of the PP) of the NP *enfants* and *compromis* to Spec,K-*de*. If we ask what motivates this NP movement,

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57. Derivation (224) contains an oversimplification, thinking of chapter 5, where *à* itself is argued to be a VP-external probe. A fuller derivation would be:

(i)   souri [enfants combien] → merger of K-*à*
      K-*à* souri [enfants combien] → movement to Spec,K-*à*
      [enfants combien]$_i$ K-*à* souri t$_i$ → merger of *à*
      à [enfants combien]$_i$ K-*à* souri t$_i$ → movement of VP to Spec,*à*
      [souri t$_i$]$_j$ à [enfants combien]$_i$ K-*à* t$_j$

At this point K-*de* comes in:

(ii)   K-*de* [souri t$_i$]$_j$ à [enfants combien]$_i$ K-*à* t$_j$ → movement of *enfants* to Spec,K-*de*
      enfants$_k$ K-*de* [souri t$_i$]$_j$ à [t$_k$ combien]$_i$ K-*à* t$_j$ → merger of *de*
      de enfants$_k$ K-*de* [souri t$_i$]$_j$ à [t$_k$ combien]$_i$ K-*à* t$_j$ → movement to Spec,*de*
      [[souri t$_i$]$_j$ à [t$_k$ combien]$_i$ K-*à* t$_j$]$_l$ de enfants$_k$ K-*de* t$_l$

At this point, Wh-movement pied-pipes the phrase '[à [t$_k$ combien]$_i$ K-*à* t$_j$]'.

Clearly, the phrase moved to Spec,*de* is headed by *à*–that is, it is not a VP. Moreover, the phrase pied-piped by Wh-movement is not a maximal projection unless '[souri t$_i$]' has moved to some higher Spec in the transition from (i) to (ii)—Koopman and Szabolcsi (2000) may be relevant.

An alternative would be to reinterpret prepositional pied-piping in terms of a high merger of the preposition; see the appendix to chapter 5. That would mean a derivation for (222) like:

(iii)   souri [enfants combien] → merger of K-*de*
      K-*de* souri [enfants combien] → movement of *enfants* to Spec,K-*de*
      enfants$_i$ K-*de* souri [t$_i$ combien] → merger of *de*
      de enfants$_i$ K-*de* souri [t$_i$ combien] → movement of VP to Spec,*de*
      [souri [t$_i$ combien]]$_j$ de enfants$_i$ K-*de* t$_j$ → merger of subject and aux (plus inversion)
      as-tu [souri [t$_i$ combien]]$_j$ de enfants$_i$ K-*de* t$_j$ → merger of K-*à*
      K-*à* as-tu [souri [t$_i$ combien]]$_j$ de enfants$_i$ K-*de* t$_j$ → movement of '[t$_i$ combien]' to Spec,K-*à*
      [t$_i$ combien]$_k$ K-*à* as-tu [souri t$_k$]$_j$ de enfants$_i$ K-*de* t$_j$ → merger of *à*
      à [t$_i$ combien]$_k$ K-*à* as-tu [souri t$_k$]$_j$ de enfants$_i$ K-*de* t$_j$

Again, no recourse to nonconstituent movement would be necessary.

The derivation in (iii) abstracts away from questions about Wh-movement—see Munaro et al. (2001)—that may be relevant to the tension between (iii) and the proposal in Kayne (1998b, (45); 1999, (54)) concerning the obligatory filling of functional Specs.

the answer, from the perspective of the analysis being pursued, is Case. French *combien* and *très peu* block Case-valuation from applying simultaneously to them and to their sister constituent. Therefore K-*de* must appear; the movement of the NP to Spec,K-*de* is essential if the sentence is not to violate Case requirements. Because Spec,K-*de* is VP-external, we get the effect of splitting.

In Italian, the counterparts of *combien* and *peu* do not take a preposition before the NP:

(226)   Quanti (*di) libri hai comprato? ('how-many of books have-you bought')

(227)   Hai comprato pochi (*di) libri. ('you-have bought few of books')

In our terms, this means that Italian does allow simultaneous Case-valuation here—for example, of *pochi* and *libri* in (227). In the consequent absence of K-*di*, the French-type derivation is not available, and the correct expectation is therefore that splitting will not be possible in Italian:

(228)   *Quanti hai comprato libri?

Things are a bit more complex, however, since Modern Greek allows splitting in the absence of a preposition corresponding to French *de*, even when what is split is a PP, much as in (221)–(222). One example from Androutsopoulou (1997, 30) is:

(229) Me to BLE eghrapsa molivi (ohi me to kokkino). ('with the BLUE I-wrote pencil (not with the red)')

The derivation she proposes seems correct: the NP *molivi* scrambles out of the PP *me to BLE molivi*; subsequently, the PP '[me to BLE t(molivi)]' containing the trace of *molivi* preposes by focus movement.

The question is why Greek, but not Italian, allows this scrambling step. Greek has morphological Case on lexical DPs, and Italian does not. Nor does Bulgarian, yet some Bulgarian allows some sentences like (229) (Steven Franks and Roumyana Pancheva, pers. comm.):

(230)   Na TOZI sedjah stol. ('on THIS I-sat chair')

It remains unclear whether this difference between Italian and Greek (and some Bulgarian) has to do with DP-internal syntax (transparency to extraction; with internal structure as in (159)); or with the availability of a scrambling landing site in the latter, but not in Italian.[58]

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58. Italian must not have an unpronounced counterpart of French *de*. In addition, Catalan may show that having *de* is not sufficient to allow splitting of the French sort, in particular when *de* cooccurs with phi-feature agreement, as it can in Catalan. See Martí Girbau (2001), whose correlation between the presence of *de* (in *molts* (*de*) *llibres* ('many of books')) and nonspecificity might be interpretable in terms of splitting versus nonsplitting.

7.2.7.   More on remnant movement of *peu*

Returning to the preceding derivations, we see that the movement step indicated in the last line of (224) is simply Wh-movement of a familiar sort. More interesting is the last movement step in (225) and similarly in (199)–(200). Why does *peu* in French move leftward, even if modified by *très*, and even (for Léna Baunaz) if preceded by a preposition?

    Part of the answer may be that the movement of *peu* (similarly *beaucoup*, *trop*, *énormément*, and others) is akin to the movement of *rien* seen in:

(231)   Jean n'a rien acheté. ('J neg. has nothing bought')

Moved *rien* can be modified:

(232)   Jean n'a absolument/presque rien acheté. ('. . . absolutely/almost . . .')

and for Léna Baunaz can be preceded by a preposition, as noted earlier in (219). The movement of *rien* does not find a parallel with lexical negative phrases:[59]

(233)   Jean n'a acheté aucun livre. ('J neg. has bought no book')

(234)   *Jean n'a aucun livre acheté.

In what looks like exactly the same way, moved *peu* cannot be accompanied by a noun (contrasting with (190)):[60]

(235)   *Jean a peu de livres achetés. ('J has few of books bought')

The commonality of this restriction is emphasized by:

(236)   Jean n'a rien acheté d'intéressant. ('. . . of interesting')

(237)   *Jean n'a rien d'intéressant acheté.

especially if (236) involves remnant movement (parallel to (199)–(200)), as in:

(238)   acheté [intéressant rien] → merger of K-*de*
        K-*de* acheté [intéressant rien] → movement of *intéressant* to Spec,K-*de*

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    59. Why the Icelandic counterpart of (234) is grammatical (and usual) in contrast to French remains to be understood. The French pattern recalls Cinque (1990) on bare quantifiers, though "bare" must now be reinterpreted to accommodate remnant movement.
    60. There may be a link here to:
 (i)   J has carefully/??with care described it to them.
(ii)   J has frequently/often/?twice/*many times/*five times gone there for his vacation.

intéressant$_i$ K-*de* acheté [t$_i$ rien] → merger of *de*
de intéressant$_i$ K-*de* acheté [t$_i$ rien] → movement of VP to Spec,*de*
[acheté [t$_i$ rien]]$_j$ de intéressant$_i$ K-*de* t$_j$ → movement of *rien* out of VP
[t$_i$ rien]$_k$ . . . [acheté t$_k$]$_j$ de intéressant$_i$ K-*de* t$_j$

To be sure, movement of *rien* and movement of *peu* differ somewhat in that movement of *rien* is essentially obligatory:

(239)   *Jean n'a acheté rien.

and preferred even in cases like (236):

(240)   ?Jean n'a acheté rien d'intéressant.

whereas nonmovement of *peu* seems fully acceptable:

(241)   Jean a acheté peu de livres.

Conversely, while (231) is fully acceptable without hesitation to all French speakers (that I have ever asked), movement of *peu*, as in:

(242)   Jean a peu acheté de livres.

is more "delicate" in a way that's hard to pin down.[61] This recalls the fact that Icelandic negative phrase movement is more robust than the movement of other quantified phrases (see Svenonius 2000), and suggests that, despite the parallelisms mentioned, the movement of *rien* and that of *peu* might not be triggered in exactly the same way and might not, thinking of Cinque (1999), have exactly the same landing site.[62]

This bears, in turn, on a long-standing question concerning the relation between (242) and instances of adverbial *peu*, as in:

(243)   Jean a peu apprécié ta communication. ('J has little appreciated your talk')

I take a nonmovement adverbial approach to (242) of the sort considered in Kayne (1975, sec. 1.5) (using a nonmovement mechanism that, in fact, mimics movement) to be undesirable from a derivational perspective on grounds of theoretical redun-

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61. See Grevisse (1993, sec. 295) and Milner (1978b, 98).
62. Relevant is Milner (1978b, sec. 2.3.3) on the compatibility and incompatibility of moved *peu* (and similar elements) with various types of adverbs.
    The movement of '[t$_i$ peu]' in (242) might well be expected to correlate with interpretive effects; for relevant discussion, see Obenauer (1983, 82; 1994, 111ff.), Doetjes (1997, chap. 10) and Vinet (2001, 85ff.). Some of the psych-verb restrictions discussed by Obenauer might fall out from the object being prepositional—see Landau (2001); others recall Landau (1999) on restrictions on possessive datives.

dancy. In addition, the parallel with adverbs is not perfect. For example, Viviane Déprez (pers. comm.) finds passably acceptable:

(244)   (?)Elle a tout plein acheté de bouquins. ('she has all full bought of books')

but a comparable position for adverbial *tout plein* is very marginal for her (see Doetjes [1997, 178]):

(245)   ??Elle a tout plein rigolé. ('she has all full had-fun')

The remnant movement approach that I have been pursuing is compatible with these facts.[63]

7.3.   Conclusion

In conclusion, many instances of French *de* ('of') and English *of* that look DP-internal can be reanalyzed as being VP-external. What looks like movement of bare "quantifiers" such as *peu* ('few'/'little') turns out to be remnant movement (as Androutsopoulou 1997 had proposed for Greek and Starke 2001 for interrogative *combien*). In many cases there is reason to postulate the presence of an unpronounced AMOUNT or NUMBER or an unpronounced MUCH or MANY, both in French and in English.

The Case filter should apply to all +N elements, much as Emonds (2000) had suggested. In particular, each +N subpart of DP must get its own Case, sometimes in a way that parallels Chomsky's (2001a, 18) discussion of participles. This leads to the proposal that (non-head) phrases never have Case.

63. Non-remnant movement is explicitly argued for by Milner (1978a, 690–692); non-movement is aruged for by Doetjes (1997, chap. 10).

Whatever triggers the movement of *peu*—and of *tout plein* in (244)—must not allow:

 (i)   *J'ai un million lu de livres. ('I have a million read of books')

which contrasts for Isabelle de Crousaz with:

(ii)   Il avait un peu acheté de chocolat pour lui faire plaisir. ('he had a little bought of chocalate to him/her make pleasure')

Obenauer (1983, 80) had found a fairly similar example to be impossible.

8

A Note on the Syntax of Quantity in English

8.1. *Few* and NUMBER

Let me begin by expanding on a proposal made in chapter 7 concerning *few*, *little*, *many*, and *much*. As is well known, *few* has regular comparative and superlative forms that make it natural to take *few* to be an adjective, as in Jespersen (1970a/1914, 106):

(1)   John has fewer books than Bill.

(2)   John has the fewest books of anybody I know.

Given this, the general parallelism between *few* and *little*, *many*, and *much*, combined with the more specific fact that they, too, have comparative and superlative forms,[1] leads to the natural conclusion that *little*, *many*, and *much* are also adjectives.

The weight of (1) and (2) in suppporting this conclusion is related to the observation that nouns do not allow comparative *-er* or superlative *-est*:

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1. Even though they are partially irregular. Instead of **manier–*maniest* and **mucher–*muchest*, one has *more* and *most* (which show the initial *m-* and also *-r* and *-st*). Instead of (i) and (ii):

  (i)   *John has littler money than Bill.
 (ii)   *John has the littlest money of anybody.

one has *less* and *least*, which both have the initial *l-*; *least* in addition has the *-st*. See Bresnan (1973, 276).

(3)   John has more money than Bill.

(4)   *John has monier than Bill.

(5)   John has the most money of anybody.

(6)   *John has the moniest of anybody.

and similarly for prepositions:

(7)   John is more for the Democrats than the Republicans.

(8)   *John is forer the Democrats than the Republicans.

(9)   This argument is the most to the point of all of them.

(10)   *This argument is toest the point of all of them.

and for adverbs:[2]

(11)   John spoke more slowly than anybody else.

2. As opposed to (many) adjectives in *-ly*, as:
 (i)   John is lonelier now than he's ever been.
 (ii)   That's the liveliest he's ever been.
See Aronoff (1976, 93). (I leave open the question of other varieties of English that seem to allow adverbial *-lier/-liest*; see Jespersen [1974/1949, 357].) Thinking of Katz and Postal (1964, 105, 164) and Emonds (1976, 157), a plausible proposal would be that adverbial (but not adjectival) -*ly* is an affixal noun, so that (12) and (14) reduce to (4) and (6).
    This would make superfluous recourse to the idea (see Emonds [1985, 201n]) that (12) and (14) are excluded because English has the property of disallowing more than one inflection per word. That that property is derivable will probably also turn out to hold for the other two cases he mentions:
    On the incompatibility of English -*s* and past tense in:
 (i)   John talked(*s) a lot.
note that the same holds of German -*t*:
 (ii)   Er spricht. ('he speaks')
 (iii)   Er sprach(*t). ('he spoke')
and similarly for Persian -*ad* (Moshiri [1988, 39])—the point being that German and Persian both allow their past tense inflectional suffixes to cooccur with other agreement endings (just as English arguably does, if the others are all zero). This suggests that there is something very specific about the -*s* (and -*t*/-*ad*) ending that is at issue, rather than any counting of inflectional suffixes in Emonds's or in Bobaljik and Thráinsson's (1998, 59) sense. On English -*s*, see Kayne (1989c; 1995), Postma (1993, 34), and Solà (1994).
    On the incompatibility of plural -*s* and possessive -*s* in English, see Kayne (1995, note 7).

(12)   *John spoke slowlier than anybody else.

(13)   It was John who solved it the most quickly of anybody.

(14)   *It was John who solved it the quickliest of anybody.

Adverbs might seem to allow counterexamples:

(15)   John spoke faster than anybody else.

(16)   It was John who spoke the fastest.

But a more reasonable interpretation is that *fast* and *quickly* are not of the same category. *Fast* is an adjective used adverbially in (15) and (16), whereas *quickly* is not an adjective (although it contains the adjective *quick*). This distinction between *fast* and *quickly* is supported by:

(17)   John is a fast/*quickly runner.

and by:[3]

(18)   John ran quickly/*fast away.

Prepositions (or particles) might appear to provide counterexamples, too, thinking of *inner*, *outer*, and *upper* (though not *innest*, *outest*, or *uppest*), but these are arguably not true comparative forms, given:

(19)   John lives on a much lower/*upper floor than Bill.

(20)   *John has a much inner/outer office than Bill.

The well-known case of *near* is somewhat different:

(21)   Robin Hood lived nearer the forest than the lake.

(22)   It was Robin Hood who lived nearest the forest.

(23)   He lived very near the forest.

Given these, it seems clear that *near* is an adjective (in which case, the forms *nearer* and *nearest* are not surprising), albeit an irregular one (relative to English) in that it can take a nonprepositional complement (with an unpronounced counterpart of *to*).[4]

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3. On (18), see Kayne (1985a, 106).
4. On unpronounced prepositions, see Emonds (1976, 79), Kayne (1983b), and Larson (1985; 1987). On *near*, note also *very near*, *pretty near*, and *nearness*; *right near* might suggest a second unpronounced P. Adjectives taking a complement with no visible preposition are more common in Swedish; see Platzack (1982).

    Since only adjectives can combine with *-er* and *-est*, the possibility of (1) and (2) strongly supports the adjectival status of *few*.

    Adjectives also differ from nouns in allowing a preceding *too*, as in:

(24)   John is too rich.

(25)   *He has too money.

In this way, too, *few* acts like an adjective:

(26)   John has too few friends.

    In some cases, prepositions are clearly incompatible with *too* (and contrast with the adjective *near*):

(27)   He lived too near the library.

(28)   *He lived too by/in/at the library.

In other cases, one can to some extent have:

(29)   John is too in love.

(30)   John is too into linguistics.

There is still a difference between these and adjectives:

(31)   John is too much in love / into linguistics.

(32)   *John is too much rich.

Again, *few* patterns with the latter:

(33)   *John has too much few friends.

Thus, the contrast between (26) and (33) reinforces the adjectival status of *few*.[5]

    5. The acceptability of:

 (i)   John speaks too quickly.

probably indicates:

 (ii)   . . . [too quick] -ly

thinking of (see note 2):

(iii)   John speaks in too quick a manner.

(In any event, no one would take *few* to be an adverb.)

This much seems uncontroversial, but there is a further conclusion imposed, I think, by the similarity between (1) and (2) and:

(34)   John has a smaller number of books than Bill.

(35)   John has the smallest number of books of anybody I know.

These suggest that although *few* is an adjective, it does not directly modify *books* in (1) or (2), or in:

(36)   John has few books.

Instead, we should take *few* to be a modifier of an unpronounced noun that I will represent as NUMBER and that is strongly similar to the pronounced noun *number*. This means that (1), (2), and (36) are to be represented as containing:

(37)   fewer NUMBER books

(38)   fewest NUMBER books

(39)   few NUMBER books

From this perspective, the adjective *few* itself is very much like the adjective *small*, except that *few* is generally restricted to modifying NUMBER.[6]

I note in passing that the postulation of unpronounced NUMBER in (37)–(39) is further supported by the observation that, to some degree, *few* can also modify overt *number*. Although this is not at all possible with bare *few*:

(40)   *John has few number (of) books.

it becomes a bit better for me with *too*:

(41)   ??John has too few a number of books to qualify for a fellowship.

and superlative *fewest* seems to me moderately acceptable:

(42)   ?John has the fewest number of books of anybody I know.

---

6. The Swedish counterparts of *small* and *few* share the (apparently) idiosyncratic property of lacking superlative forms; see Holmes and Hinchliffe (1994, 108, 115, 207).

The postulation of unpronounced NUMBER is parallel to that of unpronounced PLACE in chapter 4, based in part on Katz and Postal (1964, 133). See also Chomsky (1965, 234) on the English plural indefinite article and Longobardi (1994) on Italian.

The text proposal is similar to Muromatsu's (1998, 105, 158) proposal that weak determiners like *many* are adjoined to a classifier and that English has an unpronounced 'pro' classifier. Still, NUMBER seems closer to a "measure" in her terms than to a classifier.

8.2.   The preposing of *few* within DP

Of course, having *small* in place of *few* in (42) would yield a fully acceptable sentence, as seen in (35). Similarly *small* itself is fully acceptable in:

(43)   John has a small number of books.

(44)   John has too small a number of books to . . .

(45)   John has a smaller number of books than Bill.

In contrast, *small* is impossible in the counterpart of (40), without *a*:

(46)   *John has small number (of) books.

Similarly:

(47)   *John has smaller number (of) books than Bill.

   The contrast between (46)/(47) and (36)/(1) with respect to *a* (necessary with *small* but not with *few*) needs to be addressed, given the hypothesis embodied in (37)–(39), which assimilates *few* and *small* to a significant degree.
   At first glance it would seem that (46) and (47) are perfectly regular and (36) and (1) irregular, in that English count nouns very generally require an overt article in the singular:

(48)   John bought a/the (good) book.

(49)   *John bought (good) book.

Thus (46) and (47) are regular on the assumption that overt *number* is an ordinary count noun. Correspondingly, (36) and (1) look irregular on the parallel assumption that NUMBER is a count noun. Put another way, (37) and (39) might lead one to expect an obligatory *a* in (36) and (1) (repeated here), which is not the case:

(50)   John has few books.

(51)   John has fewer books.

whereas, in fact, *a* would be impossible in the comparative example:

(52)   *John has a fewer books.

(I return later to *a few*).
   The assumption that *number* is an ordinary count noun is less straightforward than it might appear, given:[7]

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   7. See Payne and Huddleston (2002, 352). Note in this regard:

 (i)   *J has a small number of friends and B has a large one.

(53)   *John has three (hundred) numbers of books in his library.

However, we do have:

(54)   There are enormous numbers of books in this library.

which contrasts with:

(55)   *There are enormous waters in this barrel.

Taking this contrast to indicate that *number* should not be considered a mass noun, I conclude that, in fact, the unacceptability of (46) and (47) can plausibly be assimilated to that of (49).

     If despite (53) we treat *number*, given (54), as a subtype of count noun, we must say something specific about (50) and (51). On the assumption that unpronounced NUMBER shares the count property of *number*, these are now unexpected in that they fail to contain an article and yet are acceptable. A similar absence of article is found in:

(56)   John has too few books.

with as a first approximation the representation:

(57)   too few NUMBER books

     In the case of (57), the question arises as to where *a* would be expected to appear, given:[8]

(58)   John has too small a number of books.

_____

 (ii)   *Given the small number of friends that J has and the large one (of friends/enemies) that B has, . . .

(iii)   *The linguists were there in large numbers and the physicists were there in large ones, too.

For recent discussion of *one*, see Llombart-Huesca (2002).

     I leave aside the question of the relation between the *number* under discussion and that in:

(iv)   There are three numbers written on this piece of paper.

Probably related to (iv) is:

 (v)   John says he has one number of books in his library, but his wife will give you a different number.

     8. This question is specific to English, among the Germanic languages, in that English seems to be the only one to have (58), with AP preceding the indefinite article. The specificity of English here might be derivable from the absence in English (as opposed to the rest of Germanic) of any adjectival inflection; see Jespersen's (1970a, 111) similar proposal concerning *a delightful three weeks* and Kester's (1996, chap. 5) on the English need for *one* in cases like *an intelligent *(one)*.

(59)   *John has a too small number of books.

Pursuing the parallelism between *small* and *few*, this suggests that (57) should be revised to:

(60)   too few A NUMBER books

where A is an unpronounced counterpart of *a*. One question is now that of understanding why overt *a* is not possible in that position:

(61)   *John has too few a books.

A plausible answer is that overt *a* requires a singular noun (which *books* is not) and that NUMBER (as opposed to overt *number*) is neither singular nor plural.[9]

   In contrast to *a*, the unpronounced A of (60) evidently does not require a singular noun, again taking NUMBER to be neither singular nor plural, so that there is no truly singular noun in (60). Now this account of (61), in terms of a singular requirement on *a*, will clearly carry over to:

(62)   *John bought too big a houses.

with an adjective (*big*) less specialized than the adjective *few* (which only occurs with NUMBER).

   There is, however, a sharp contrast elsewhere between *few* and adjectives like *big*, as follows. The well-formed singular counterpart of (62) is (cf. (58)):

(63)   John bought too big a house.

Surprisingly, this has no well-formed plural counterpart at all, neither (62) nor:[10]

(64)   *John bought too big houses.

Whereas with *few* we do have (56), repeated in essence here:

(65)   John bought too few houses.

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9. One way to express this would be to say that NUMBER is incompatible with Num^0.
10. The impossibility of (64) was noted by Bresnan (1973, 308n).
   The singular/plural contrast is not affected by *of*:

 (i)   John bought too big of a house.
(ii)   *John bought too big of houses.

This would not be surprising if *of* comes into the derivation outside VP (see chap. 7), but there are many details to be worked out that I will not pursue here.

Any analysis that recognizes the adjectival character of *few* (which is very difficult to avoid; see the discussion of (1)–(23) earlier, as well as the remainder of this chapter) must attempt to come to grips with (64) versus (65).

8.3.   AP movement within DP

My attempt will take advantage of the presence of NUMBER in (65) versus its absence in (64). Consider first Hendrick's (1990) proposal that in:

(66)   How big a house did John buy?

there has been Wh-like movement of *how big* within the larger object phrase *how big a house*. From this perspective, it is natural to take the contrast between (63) and:

(67)   *John bought big a house.

to indicate, on the one hand, that *too big* in (63) has moved leftward within *too big a house* in a way parallel to the movement of *how big* in (66) and, on the other hand, that it is *too* that is responsible for the movement of *too big*. Put another way, *how* pied-pipes *big* (within the DP) in (66), as in Hendrick's proposal. Correspondingly, *too* pied-pipes *big* in (63). (The landing site of *too big* might be different from that of *how big*, thinking of Rizzi 1997.) The reason for the impossibility of (67) is that there is no pied-piper present.[11]

Movement of AP past a determiner of the sort postulated by Hendrick is arguably to be assimilated to the movement of relative clauses past D proposed by Kayne (1994, 94) for prenominal relatives in languages that have them.[12] In fact, it seems to me that English allows (63) fairly well, in clear cases of reduced relatives:

(68)   (?)The trouble is, he was reading too recently arrived a letter.

That this is essentially similar to (63) is supported by the fact that the plural counterpart is not possible, just as (64) is not:

(69)   *The trouble is, he was reading too recently arrived letters.

---

11. Therefore the *-er* of:

(i)   *John bought bigger a house.

must not be a legitimate pied-piper. As Bresnan (1973, 288) notes, better is:

(ii)   ?John didn't buy big enough a house.

From my perspective, this means that *enough* can to some extent pied-pipe *big* even though it follows it; see Webelhuth (1992, 128).

Turkish has the equivalent of **big a house* even with bare adjectives; see Kornfilt (1997, 109).

12. See also Whitman (1981, 415).

The DP-internal movement seen in (63) and (66) is obligatory:

(70)   *A how big house did John buy? / *John bought a how big house?

(71)   *John bought a too big house.

Therefore, the plural counterparts, namely (64) and:

(72)   *How big houses did John buy?

would be expected to be possible with comparable (obligatory) movement of *too big* or *how big*.

To understand why they are not, let me take over an idea from Bennis et al. (1998), generalizing from their discussion of cases like:

(73) What a (beautiful) house he's bought!

to the AP-movement cases that are our primary interest here (and which are not found in Dutch[13]). Like Hendrick, Bennis et al. take (73) to involve DP-internal Wh-movement (of *what*). They add the crucial ideas that, first, in such exclamatives the *a* is located in the head position into whose Spec *what* has moved[14] and, second, the presence of *a* in that position is necessary to meet a requirement akin to the V-2 requirement.

In direct contrast to (72), the plural counterpart of (73) is possible in English:

(74)   What (beautiful) houses he's bought!

I take the difference to depend on the difference between movement of AP (*how big*) and movement of something that is closer to a bare determiner (*what*). In (66) and (72), *how big* has moved into the Wh-Spec within DP. In the singular case, the head of that projection must be realized as *a*:

(75)   *How big house did John buy?

Assume now that in English that head position must always be filled by an overt element. In the plural example (72), *a* is not possible because English *a* (unlike its Dutch counterpart, as Bennis et al. show) strictly requires a following singular N (cf. the discussion of (61) and (62)):

(76)   *How big a houses did John buy?

Assume further that English has no other element capable of filling that head position (and compatible with plural). Then it follows that English cannot express (72).

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13. Henk van Riemsdijk (pers. comm.); see Corver (1990).

14. They argue, in addition, that this *a* moves up from within a lower small clause; that idea is probably orthogonal to the text discussion.

Why then should (74) be possible? Let me speculate that this difference in behavior between *how big* and *what* (whereby *what* in (74) apparently does not require the corresponding head position to be filled) should be stated as follows. *How big* is lexical (i.e., contains *big*) and needs a filled head position; *what* is not lexical and does not need one.[15]

Pursuing the parallelism between *how big* and *too big*, we can now say that *a* in (63) has the essential role of filling the head position into whose Spec *too big* has moved. In the plural counterpart (64), *a* would not be possible since it requires a singular; nor does English have any other element capable of doing so, with the result that (64) is impossible.

This brings us back to (65) (repeated here): that is, to the acceptability of *too few houses* and similarly *how few houses*:

(77)   John bought too few houses to qualify . . .

(78)   How few houses did John actually buy?

contrasting with **too big houses* in (64) and with **how big houses* in (72). Thinking back to (41) and to similar (marginal) examples:

(79)   ??John bought too few a number of houses to qualify . . .

(80)   ??How few a number of houses did John actually buy?

it seems clear that we want to say that in (77) and in (78) there has taken place (the by now familiar) movement of *too* or *how* + Adj (here, *too few* and *how few*) to some DP-internal Spec. Then, the question is why the associated head position does not need to be filled, in the case of *few*.

The relevant structure (simplified) is (and similarly for *how*):

(81)   too few X^0 NUMBER houses

where X^0 is the head in question. I think the answer to why these are possible lies in looking more carefully at the reason for the impossiblity of **too big houses* (as seen in (64)). The idea was that in:

(82)   *too big X^0 houses

English has no appropriate X^0. Assume now that the general requirement imposed by UG is that X^0 have appropriate syntactic features, but not necessarily that it be phonologically overt. As stated before, *a* is inappropriate because it requires the fol-

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15. Thinking of Wood (2002, 108) on English *such* and of Poletto (2000, 74) and Poletto and Pollock (2002) on North Italian dialects, it may be that *what* in (73) and (74) actually adjoins to the head position in question, which *how big* could not do. This leaves open the impossibility of the word-for-word equivalent of (74) in Dutch.

lowing N to be singular.[16] In the spirit of Bennis et al. (1998), let me take English to have a zero allomorph of *a*, call it A, that is similar to *a* in excluding plurals but differs from *a* in being slightly more generous, in the sense that A requires non-plural (rather than singular, as *a* does).

If by an "elsewhere" effect,[17] the presence of a following singular N forces the choice of *a* over A, A itself will be in effect limited to cases in which the following N is neither plural nor singular. Thinking of the discussion of (61) and (62), we note that NUMBER has exactly the property of being neither plural nor singular. Consequently, A can fill X^0 in (81),[18] but not in (82), thereby making (77) possible, but not (64), as desired.

8.4.   Bare *few*

The contrast between (63)/(66) and (67), with the adjective *big*, illustrates the fact that AP (or reduced relative) movement to Spec,X^0 depends on pied-piping by *too* or *how* or some similar element. The same should hold, then, if the adjective is *few*. AP movement to Spec,X^0 must take place in (77) or (81), but not in:

(83)   John bought few houses.

despite the fact that this example looks just like (77) apart from the *too*.

This difference in movement between *too* or *how few* and *few*, I think, is what underlies the (marginal) contrast between (79) or (80) and (40), repeated here:

(84)   *John has few number (of) books.

The generalization seems to be that *few* can (marginally) cooccur with overt *number* only if such movement has in fact taken place.

From this perspective, and from the fact that comparative adjectives in *-er* do not show evidence of such movement:

(85)   *John has bigger a house than Bill.

it follows that *fewer* should not be able to cooccur with *number*:

(86)   *John has fewer (a) number of books than Bill.

except, given the improvement in:[19]

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16. For Bennis et al. (1998), this would reflect a Spec-head relation holding when *a* is in a lower position; see note 14. I am leaving aside questions about mass nouns.

17. For syntactic examples, see Kayne (1989c, sec. 1) and the references cited there.

18. In addition, NUMBER must be licensable by *few* (and *many*), but not by *small* (or *big* or *large*). Otherwise (72), for example, would be possible with the interpretation of:

(i)   How large a number of houses did John buy?

19. See Bresnan (1973, 288).

(87)   John doesn't have any bigger a house than Bill.

in:

(88)   ??John doesn't have any fewer a number of books than anybody else.

which seems correct (to the marginal degree of (79)).

    Conversely, the greater acceptability of superlative *fewest* in combination with *number* ((42), repeated here):

(89)   ?John has the fewest number of books of anybody I know.

suggests that superlative adjectives or AP in *-est* must, in general, raise to some higher Spec (almost certainly not the same one as for *too* or *how* + adj.). Put another way, the contrast between (89) and:

(90)   *John still has the few number books I lent him.

means that *biggest* must have raised in:

(91)   John has the biggest house of anybody.

in a way that *big* does not in:

(92)   John bought a/the big house.

Although the head into whose Spec *biggest* has raised in (91) cannot be realized as *a*:

(93)   *John has the biggest a house of anybody.

the raising of *biggest* may be showing through in:

(94)   John has the biggest of houses.

as opposed to:

(95)   *John has the big of houses.

but I will not pursue this any further.

8.5. *A few*

Returning to (83) and (84), and more specifically to the conclusion that bare *few* does not raise, we are not at all surprised by the impossibility of:

(96)   *John has few a houses.

which is excluded, first, because without raising, *few* could not come to precede *a* and, second, because this *a* would require a following singular N (which holds neither of *houses* nor of NUMBER).

    If bare *few* does not raise, however, we might wonder if it could be preceded by *a*. The exact expectation also depends in part on the licensing conditions for *a*. The fact is, of course, that the following is possible:

(97)   John has a few houses.

    If this *few* is the same as those previously discussed (which were not preceded by *a*), then it must be an adjective followed by the unpronounced noun NUMBER:

(98)   a few NUMBER houses

But now there is a paradox. If the *a* of (97) is itself the same as the other instances of *a* that we have seen, it must, as before, require the presence of a singular noun, which is apparently lacking in (98) (recall that NUMBER has been taken to be neither singular nor plural: see the discussion of (81)).

    What this paradox suggests is that *few* and *a few* are not as simply related to each other as it might seem at first glance, a conclusion that is supported by several considerations. First, *a few* has no corresponding comparative:

(99)   John has fewer books than Bill.

(100)   *John has a fewer books than Bill.

Second, there is a difference in interpretation between *few books* and *a few books* that can be brought out simply with polarity items:

(101)   Few physicists know anything at all about linguistics.

(102)   *A few physicists know anything at all about linguistics.

Third, *few* pairs with *many*, but alongside *a few* there is no *a many*:[20]

(103)   Many physicists know something about linguistics.

(104)   *A many physicists know something about linguistics.

---

    20. This is so in contemporary English. Curme (1977a/1935, 32, 58) has *a many* as once common but now poetic or archaic or popular; see also Jespersen (1974/1949, 431).

Fourth, for me, although not for some other speakers of English, there is also a (smaller) difference with *very*:

(105)   Very few linguists went to that conference.

(106)   A (?very) few linguists went to that conference.

although I find (106) better with *only*:

(107)   Only a very few linguists went to that conference.

   The acceptability of (107) means, given that *very* is normally excluded with nouns:

(108)   *Very linguists go to conferences.

(109)   *John ate very bread yesterday.

that the *few* of *a few* is a not a noun.[21]

   Let me suggest, then, that the way to understand *few* versus *a few* is to say that English allows NUMBER to optionally be singular.[22] When NUMBER is singular and modified by *few*, *few* will necessarily be preceded by *a* (yielding *a (very) few*), just as *small* is necessarily preceded by *a* in:

(110)   A (very) small number of linguists went to that conference.

(Overt *number* is singular.)

   When NUMBER is not singular (as before, NUMBER is never plural), it cannot be preceded by *a* (since *a* requires a singular), in which case we have (when there is no AP movement) just *(very) few*.

---

21. This is contrary to Jespersen (1970a/1914, 107), who seems to take *few* to be a noun in phrases like *a select few*; alternatively, there is an unpronounced PEOPLE (in addition to NUMBER)—see, in particular, the discussion of (180)–(186); see also Pollock (1998, 323). In Jackendoff's (1977, 130) *A miserable few people showed up*, I take *miserable* to be modifying NUMBER.

   In (107), *very* is clearly the intensifying *very* of:

 (i)   Only a very small number of linguists . . .

and not the *very* of:

 (ii)   The very person just walked in that I was telling you about.

unless *very* in (ii) is really modifying an unpronounced adjective such as EXACT, which seems plausible, even for examples like Pullum and Huddleston's (2002a, 533) *the very picture of innocence*.

   22. This implies that "singular" cannot be equated with "unmarked for number."

We have now reached an account of the contrast between:

(111)   Few people left.

and:

(112)   *Small number of people left.

which we can see to be due to the presence of nonsingular, nonplural NUMBER in (111) versus singular *number* in (112). (Overt *number* can never be nonsingular.) The article *a* is called for by the singular noun *number* but not by the nonsingular NUMBER.

We thus have, for *few books* versus *a few books*:

(113)   few NUMBER(nonsing.) books

(114)   a few NUMBER(sing.) books

with *few* an adjective in both.

8.6.   *Many*

Generalizing to *many* our proposals concerning *few*, we should now think of:

(115)   John doesn't have many books.

as:

(116)   John doesn't have many NUMBER(nonsing.) books.

where *many* is an adjective with an interpretation like that of *large* or *big*.[23] As noted earlier in (104), there is no:

(117)   *John has a many books.

Given the proposal in (114), this would seem to mean that the following is unavailable in contemporary English (see note 20):

(118)   *a many NUMBER(sing.) books

23. The fact that *of* is obligatorily absent:

(i)   *John doesn't have many of books.

can, in the spirit of chapter 7, be attributed to NUMBER (as opposed to *number*) allowing its Case to be shared by the following NP, so that *of* is unnecessary (and impossible).

A natural way to express the difference between *a few* and **a many* is to say that NUMBER(sing.) is favored by the "small" component of interpretation[24] that distinguishes *few* from *many* ('small' is closer to 'singular' than is 'non-small').

This difference between *a few* and **a many* appears to be of relevance to the marginal possibility mentioned earlier (e.g., (79)):

(119)   ??John bought too few a number of houses to qualify for assistance.

(120)   ?John has the fewest number of houses of anybody I know.

for which there is for me no counterpart—not even a marginal counterpart—with *many* or *most*:

(121)   *John bought too many a number of houses to qualify for assistance.

(122)   *John has the most number of houses of anybody I know.

We can account for these by noting that all four of them contain *number*, which is singular. But by (114) versus (118), only *few* is compatible with singular NUMBER. Generalizing from NUMBER to *number*, we expect that *few*, but not *many*, will be compatible with singular *number*, which is the desired result that will account for (119)–(122).[25]

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24. This is related to the well-known difference between *many* and *few* seen in:

 (i)   How many books does John have?
 (ii)   How few books does John have?

whereby (i) is more "neutral" than (ii).

 The difference between *a few* and **a many* is paralleled by:

(iii)   John has a little money.
(iv)   *John has a much money.

suggesting:

 (v)   . . . a little AMOUNT(sing.) money

whereas without *a*, as in *John has little money*, we have:

(vi)   . . . little AMOUNT(nonsing.) money

On AMOUNT, see chapter 7.

 25. The impossibility of:

 (i)   *John has a few number houses.

might be at least in part related to the possibility of *a few houses* (with NUMBER(sing.)), in that (119) has no counterpart with NUMBER(sing.):

 (ii)   *John bought a too few houses.

 The incompatibility of *many* and singular *number* does not hold in:

(iii)   ?John's enemies are many in number.

Conversely, given that the proposal to elucidate (118) revolved around the notion "singular," there is no expectation that the contrast between *a few* and *a many* will be found with plural *numbers*. This seems to be true:

(123)   *John bought (too) few/many numbers of houses.

(124)   *John has the fewest/most numbers of houses . . .

These all seem bad.

Similar to (119)–(120) versus (121)–(122), in contrast, are the following:

(125)   The first few classes went well.[26]

(126)   *The first many classes went well.

(127)   The same few students are always arriving late.

(128)   *The same many students are always arriving late.

(129)   They'll be here in another few days.

(130)   *They'll be here in another many days.

(131)   They come by every few days.

(132)   *They come by every many days.

which suggests that these pairs all necessarily contain singular NUMBER (and cannot contain nonsingular NUMBER).

Of special interest is (131), given that *every* is known to require a singular noun. That requirement is met by singular NUMBER.[27]

(see Higginbotham [1987, 68]) which contrasts with:

(iv)   *His friends are/were small/large/a large number/a small number in number.

I will not pursue this here.

Given *a great* and *a good many*, one also needs to pursue:

(v)   *John has the greatest/best many number of houses . . .

26. Note the contrast between NUMBER and AMOUNT:

(i)   The first few days he spent there went well.
(ii)   *The first little time he spent there went well.

There is a marginal possibility of nonrestrictive *many* in (126) and (128) that should be set aside.
27. In:

(i)   They come by every three days.

either the numeral must be a singular noun, as in Jackendoff (1977, 128), or else singular NUMBER must be present.

The disfavoring of *many* with NUMBER(sing.) can for some reason be overridden in the context of the two adjectives *great* and *good*, but not others. Thus (133) and (134):

(133)   John has a great many books.

(134)   John has a good many books.

contrast with:[28]

(135)   a *large/*big/*small/*bad many books.

In some varieties of English (though not mine), *a few* can also appear with *good* (and *fair*):[29]

(136) John has a good few books.

8.7.   GOOD

The fact that *a* can go with *many* only if *good* (or *great*) is present, combined with the existence of (136), suggests the following hypothesis—namely, that *a few* is like (*)*a many* in requiring an extra adjective (in addition to *few/many* itself). The difference is that with (*)*a many* that adjective must be overt. With *a few*, the required adjective can be overt (in some varieties of English), as in (136). Otherwise it can be left unpronounced (but must be present):

(137)   a GOOD few NUMBER(sing.) books

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28. Like (135) is *a very many* and *quite a many*. In part like *many* here is:

 (i)   John has a great/good deal of money.

which is impossible with other adjectives:

 (ii)   John has a *large/*big/*small/*bad deal of money.

and impossible with no adjective:

(iii)   *John has a (very) deal of money.
(iv)   *John has quite a deal of money.

This suggests:

 (v)   a great/good MUCH deal of

with *deal* a noun. See chapter 7 on *lot* (which also takes *of*) and on unpronounced MANY and MUCH.

Why overt *much* contrasts with *many*:

 (vi)   *John has a great/good much money.

remains to be understood.

29. See Payne and Huddleston (2002, 392).

In effect, when NUMBER is strictly singular, it calls for an adjective (of a very limited kind) above and beyond *few* or *many*.[30] (I am taking this unpronounced adjective to be closer to *good* than to *great*.)

We are now in a position to return to (100), repeated here:

(138)   *John has a fewer books than Bill.

On the assumption that *-er* cannot play the licensing role of GOOD, (138) would have to be:

(139)   *a GOOD fewer NUMBER(sing.) books

Thus to exclude (138), it would suffice to show that this GOOD is incompatible with comparatives. As an initial step, the corresponding overt *good* of:

(140)   A good many linguists went to the conference.

is incompatible with an immediately following comparative form of *many*:

(141)   *A good more linguists went to this conference than that one.

This would be:

(142)   *a good more NUMBER(sing.) linguists.

The GOOD and *good* in question seem close to the *good* of:

(143)   John wants a good large box of candy for his birthday.

where the interpretation is approximately that of *very large* or of *real large*. A similar instance of *good* is found in:

(144)   The box of candy he got was good and large.

Now, in neither of these can *large* be replaced by a comparative:

(145)   *John wants a good larger box of candy for his birthday.

30. It may be the case that *very* in *a very few* has the same role as *good* or GOOD, so that *a very few books* is:

(i)   a very few NUMBER(sing.) books

without the extra adjective. Alternatively, *very* might itself be an adjective of an unusual sort.
    On unpronounced GOOD, see chapter 7 on *a number of*.

(perhaps interpretable with the literal reading of *good* but not with the reading *very much larger*). The same holds for:

(146)   *The box of candy he got was good and larger (than mine).

While possible with the literal *good* (as in . . . *was both good and larger than mine*), (146) is impossible with the *good* of (144).

　　If I am correct to take the *good* of *a good many* to be close or identical to that of (143) and (144), then the impossibility of (141) or (142) will reduce to that of the relevant interpretation of (145) and (146). Since (138) is almost certainly to be assimilated to (141), it, too, is now accounted for, given the postulation of GOOD in (137).

　　Just as *large* in (144) cannot be replaced by *larger* (holding the interpretation of *good* constant), so can it not be replaced by *too large*:

(147)   *The box of candy he got was good and too large.

(* in the special interpretation of *good* at issue). Tranposing to (140), we now correctly expect the unacceptability of:

(148)   *A good too many linguists went to the conference.

Transposing further by replacing *many* by *few* and *good* by GOOD, as in (137), we account similarly for:

(149)   *A too few linguists went to the conference.

On the assumption that the incompatibility of this *good*/GOOD with other than a bare adjective is unlikely to be affected by movement of AP, we also account for:

(150)   *Too many a good linguists went to the conference.

(151)   *Too few a linguists went to the conference.

　　As in (147), the special interpretation of *good* under consideration is not available in:

(152)   *The box of candy he got was good and so large.

(possible with the literal interpretation of *good*). Parallel then to (148) and (149) are:

(153)   *A good so many linguists went to the conference.

(154)   *A so few linguists went to the conference.

This last example reflects the ill-formedness of:

(155)   *a GOOD so few NUMBER(sing.) linguists

which will almost certainly also yield an account of the otherwise surprising:

(156)   *Such a few linguists went to the conference that it was considered a failure.

on standard assumptions about *such*.[31]
    The contrast between (156) and:

(157)   So few linguists went to the conference.

is due to the absence of GOOD with *so few linguists* (cf. (81)). GOOD appears with *many* and *few* only when *a* does, as suggested also by:

(158)   *Good many linguists went to the conference.

Like (157) versus (156), I think, is:

(159)   Why did they invite so many linguists?

(160)   *Why did they invite such a good many linguists?[32]

8.8.   *Numerous*

Although sentences with *numerous* and sentences with *many* are very similar in interpretation in pairs like:

(161)   Many linguists find syntax fascinating.

(162)   Numerous linguists find syntax fascinating.

numerous and *many* differ sharply in certain respects, for example:

(163)   As many/*numerous linguists like syntax as like phonology.

This is part of a more general difference. Just as *as many* is possible, so are *so many*, *too many*, *how many*, and *that many*. When *numerous* is part of a larger DP as in (162) and (163), however, no such combination is possible:[33]

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    31. See Bresnan (1973, 299) and recently Wood (2002).
    32. Worse still is:

(i)   **Why did they invite so good a many linguists?

suggesting that this *good* is by itself very sharply incompatible with *so* and *such* (whereas in (160) *such* can be construed with *many*, although that still yields one asterisk, for the reason given).
    33. As noted by Pullum and Huddleston (2002a, 540).

(164)   *So numerous linguists like syntax that . . .

(165)   *Too numerous linguists like syntax for . . .

(166)   *How numerous linguists like syntax?

(167)   *Do that numerous linguists really like syntax?

It is not that *numerous* itself is incompatible with these degree words since in predicative contexts we can perfectly well have:

(168)   John's friends are as numerous as Bill's.

(169)   . . . are so numerous that . . .

(170)   . . . are too numerous for . . .

(171)   How numerous are John's friends?

(172)   John's friends aren't all that numerous.

The contrast between (163)–(167) and (168)–(172) is, of course, a familiar one that holds for ordinary adjectives, such as:

(173)   *How intelligent linguists is the search committee looking for?

(174)   How intelligent are those linguists?

There is also a contrast between (173) and its singular counterpart:[34]

(175)   How intelligent a linguist is the search committee looking for?

In the discussion beginning at (64), I proposed, largely following Hendrick (1990) and Bennis et al. (1998), that (173) is impossible because DP-internal movement of the AP *how intelligent* must be licensed by a head X^0 that is available (as *a*) in (175) but that is unavailable in (173). It is clear that that account will carry over to *how numerous* (and to *as*, *so*, *too*, and *that numerous*), on the assumption that *numerous* is an adjective whose occurrence within DP is strongly similar to the occurrence of other adjectives, like *intelligent*, within DP.

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34. The fact that *numerous* does not go with a singular:

 (i)   *How numerous a linguist are they planning to hire?

(ii)   *John's friend is numerous.

is orthogonal to the present discussion.

The acceptability of (168)–(172) is straightforwardly assimilable to that of (174) and parallel sentences, like *John's friends are as/so/too/that intelligent*. They do not involve the DP-internal AP movement seen in (163)–(167), so the problem faced by (173) does not arise.

In the discussion beginning at (81), I proposed that the well-formedness of examples like (163) with *as many* (and similarly for *so* and *too many*, *so* and *too few*, etc.) is due to the fact that in such examples there is an unpronounced NUMBER:

(176)   as many NUMBER linguists

that is not present with ordinary adjectives. (This NUMBER provides a nonplural noun that the licensing X^0 is compatible with.) The point now is that for (163)–(167) to be assimilated to the case of ordinary adjectives, *numerous* must differ from *many* (and *few*) in not occurring with NUMBER:[35]

(177)   many/few NUMBER linguists

(178)   numerous (*NUMBER) linguists

A potentially interesting way of expressing this difference between *many* and *numerous* would be to say that *numerous* actually incorporates *number* (and that *many* and *few* do not):[36]

(179)   number$_I$+ous t$_i$ linguists

in which case the difference in behavior between *many* and *numerous* seen in (163)–(167) would be due to the inability of the trace of *number* to count as a nonplural noun (moreover, incorporated *number* itself would not be accessible to the X^0 in question).

The difference between (177) and (179) might also be responsible for:

(180)   Many linguists like phonology, but many don't.

(181)   *Numerous linguists like phonology, but numerous don't.

Here again, *numerous* patterns with ordinary adjectives (despite not being one):

35. The GOOD of (137) is found only in combination with *a* and so does not appear in (176) or in (177).

36. In this case, (i) would be excluded parallel to (ii) with a modifier:

  (i)   *Large numerous people like syntax.

(vs. *A large number of people* . . .)

 (ii)   John is (*linguistic) bookish.

On incorporation, see Baker (1988).

It might be interesting to ask why there is no suffix such that '*num(b)er*+suffix' is interpreted as *few*.

(182)   *Good linguists like phonology, and good like syntax, too.

(183)   *Good linguists like phonology, but bad don't.

A plausible proposal is that *many*, and similarly, *few*:

(184)   Many linguists like phonolgy, whereas (very) few like chemistry.

allow the "unpronounced NP" construction of (180) and (184) specifically as a func-
tion of the presence of covert NUMBER (vs. its absence in (182) and (183)), just as
an unpronounced NP is possible with overt *number*:

(185)   A large number of linguists like phonology, but a large number don't.

It may be that adjectives and reduced relatives:

(186)   Old letters should be read quickly, but recently arrived *(letters) shouldn't be.

generally need to be licensed by a noun or NP, that the unpronounced lexical NP in
all these examples has been moved,[37] and that the trace of that NP is not sufficient
for or interferes with the licensing of the adjective or reduced relative.[38] (Whereas in
(180) and (184) the adjectives *many* and *few* can be licensed by unmoved NUMBER,
just as *large* is licensed by *number* in (185).)

In a partially similar way, the trace of *number* in (179) may not suffice to li-
cense the adjective *-ous* in (181), though the deviance of (181) may be less severe
than that of (182) and (183).[39] (This somewhat lesser deviance would reflect the fact
that *numerous* is unlike *many* or *few* in that *numerous* is not followed by unincorpo-
rated NUMBER; but neither is it like ordinary adjectives, in that *numerous* has in-
corporated the noun NUMBER found with *many* and *few*.)

8.9.   Polarity and modification

There is also a polarity difference between *many* and *numerous*. Despite their being
similar in interpretation, *many* and *numerous* differ sharply in polarity. As Pullum
and Huddleston (2002b, 827) have noted, bare *many* is to some extent a familar type
of negative polarity item. Differential judgments are sometimes quite clear, though
less so than with *much*:

(187)   He hasn't gone to many classes this semester.

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37. See Pollock (1998, 324).

38. In the spirit of Kester (1996), adjectival inflection, which English lacks, may also suf-
fice to license adjectives or reduced relatives.

39. Probably related to this is the fact that Curme (1977a/1935, 32) gives an example with
numerous of his comrades, which is marginal for me.

(188)   ?He's gone to many classes this semester.

(189)   Not many students are into chemistry these days.

(190)   ?Many students are into chemistry these days.

Numerous is more like (or very much like) a positive polarity item. It is natural where *many* is not:

(191)   He's gone to numerous classes this semester.

(192)   Numerous students are into chemistry these days.

and either impossible:

(193)   *Not numerous students are into chemistry these days.

or strange:[40]

(194)   ?He hasn't gone to numerous classes this semester.

where *many* is natural.
    If we replace *many* in (187)–(190) by *very many*, the polarity judgments become sharper, as in:

(195)   Not very many students are into chemistry these days.

(196)   ??Very many students are into chemistry these days.

Moreover, it is difficult to see a difference in interpretation between (189) and (195), raising the possibility that the former contains an unpronounced counterpart of *very*:

(197)   not VERY many students

and similarly for the 'not many' interpretation of (187):

(198)   . . . hasn't gone to VERY many classes . . .

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    40. Example (194) is somewhat possible with *numerous* having scope over negation, or with contrastive stress on *numerous* (with *numerous* being contrasted with, e.g., *a fair number*), or with irony, as in:
(i)   He hasn't exactly gone to numerous classes this semester.
    For recent discussion of positive polarity, see Szabolcsi (2002).

More generally put, it may be that scalar reversal with adjectives (as opposed to universal quantifiers) always depends on the presence of either *very* or VERY.

    If so, then (193) reduces to:[41]

(199)   *Not very numerous students are into chemistry these days.

which contrasts sharply with (195). But the positive counterpart of (199) is worse than (196):

(200)   *Very numerous students are into chemistry these days.

This is almost certainly related to:

(201)   Incredibly many students are into chemistry these days.

(202)   *Incredibly numerous students are into chemistry these days.

(although the marginality of (196) is in need of explanation). The impossibility of (200) and (202) does not reflect a simple general property of *numerous*, given:[42]

(203)   John's enemies are very/incredibly numerous.

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    41. In all the examples with *numerous*, I am abstracting away from the (for me, somewhat marginal) possibility of interpreting *numerous* as if it were part of a reduced relative. Payne and Huddleston (2002, 393) give:

 (i)   numerous tiger populations

in the sense of:

(ii)   tiger populations that are numerous

    42. Similarly:

  (i)   John's enemies are pretty numerous.
  (ii)   *Pretty numerous students are into chemistry these days.

Pretty is for me fairly incompatible with *many*, although worse with *not*:

 (iii)   *?Pretty many people appreciate linguistics.
 (iv)   *Not pretty many people . . .

Better than (iii), for unclear reasons, is:

 (v)   (?)Pretty few people appreciate linguistics.

    Given (203), it is unlikely that (202) is significantly similar to:

 (vi)   *incredibly all students
 (vii)   *incredibly every student

    See also:

(viii)   almost all students
 (ix)   almost every student
  (x)   *almost numerous students

    To distinguish (203) from (202) and (200), let me propose tying the unacceptability of (202) and (200) to the earlier discussion of (164)–(172) (and to that following (64)), e.g.:

(204)   *So numerous linguists like syntax that . . .

which contrasted with:

(205)   John's friends are so numerous that . . .

The proposal there was to tie (204) to the corresponding (familiar) fact about ordinary adjectives:

(206)   *So smart linguists like syntax that . . .

and to exclude both (204) and (206) by saying that *so numerous* and *so smart*, and the like, have to raise within DP in English, that that raising must be licensed (following Hendrick 1990 and Bennis et al. 1998) by an appropriate head, and that an appropriate head is unavailable in English in plural cases like (204) and (206) (although available in the singular and with *many* and *few*).

    We can therefore exclude (202) and (200) on the assumption that *very numerous* and *incredibly numerous* must raise within DP in a way parallel to *so numerous* and *so smart*. Now in the case of *so smart*, the raising in question must depend on *so* (similarly, on *too*, *as*, *how*, *that*, and *this*), given:

(207)   John had never met so smart a linguist.

(208)   *John had never met smart a linguist.

(209)   *John had never met very/incredibly smart a linguist.

In light, especially, of (209), the conclusion must be that the raising of *very* and *incredibly numerous* must depend on some property specific to *numerous* (since *very* and *incredibly* by themselves do not trigger raising).

    Not all instances of DP-internal modified *numerous* are ill-formed, however:

(210)   John's very numerous friends are preparing a surprise party for him.

(211)   We're planning to invite all of John's incredibly numerous friends.

The key would appear to be that in (210) and (211) the scope of *very* and *incredibly numerous* is DP-internal,[43] whereas in (202) and (200) the scope of *very* and *incredibly numerous* is meant to be sentential or DP-external.

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    43. This scope is arguably internal to a reduced nonrestrictive relative, parallel to:

(i)   John's friends, who are very/incredibly numerous

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8.10. Scope in English and French

This suggests that the raising of *very* and *incredibly numerous* in (202) and (200) (to a high Spec position within DP) is to be understood in terms of scope. Without such raising, scope would remain DP-internal. Sentential scope of *very* and *incredibly numerous* is achievable only via such raising, but the result of such raising is ill-formed because of the unmeetable licensing requirement in question. Hence (202) and (200) are impossible with a sentential scope interpretation.[44]

The question now is how to understand the bare *numerous* of (192), repeated here:

(212)   Numerous students are into chemistry these days.

which contrasts with (202) and (200) in that bare *numerous* is possible with sentential scope. Since I have taken (202) and (200) to be excluded for essentially the same reason as (206) (although the motivation for raising is distinct in the two cases), it is natural to take (212) to be well-formed for the same reason as is the "bare" counterpart of (206), namely:

(213)   Such smart students like syntax that . . .

It may be that the licensing requirement on bare *such* is different from that holding with phrasal *so smart*, as in the discussion of exclamative *what* versus *how big* following (74), in which case the licensing requirement on bare *numerous* is plausibly distinct from that on phrasal *very* and *incredibly numerous*. Alternatively, as in note 15, *such* (and exclamative *what*) can, as heads, adjoin to the head X^0 in question and fulfill the licensing requirement that way, in which case *numerous* can be taken to do the same.[45]

The exclusion of (204) has been claimed to depend on the specifics of AP movement and licensing heads in English. As we have seen in (200) versus both (203) and (210), *very numerous* is excluded in similar fashion when it must move for scope reasons. On a narrow (DP-internal or relative-clause-internal) scope reading, it does not move (at least not as high) and there is no violation.

44. In some examples, a DP-internal scope interpretation may be marginally available:

(i)   ?John gets frightened by very numerous ants.

See note 41.

45. Alongside:

(i)   John has numerous admirers.

there is no:

(ii)   *John deserves amountous admiration.

This may be related to:

(iii)   *John has an amount of intelligence.

See chapter 7, Sec. 1.6.

French differs from English in allowing *so numerous* and *very numerous* with sentential scope:

(214)   Jean connaît de si nombreux linguistes que . . .

(215)   Nous avons invité de très nombreux linguistes.

The word-for-word English counterparts (setting aside the *de*[46]) are not possible:

(216)   *John knows so numerous linguists that . . .

(217)   *We've invited very numerous linguists.

From our perspective, this is not surprising, since French also has a counterpart of (206):[47]

(218)   Jean connaît de si belles filles! ('J knows *de* so beautiful girls')

Again, English rejects:

(219)   *John knows so beautiful girls!

In all likelihood, these French–English differences are related to others found with indefinite singulars. English pairs like:

(220)   *We saw a so beautiful painting that . . .

(221)   We saw so beautiful a painting that . . .

in which *so beautiful* precedes *a* and cannot follow it, do not transpose to French, which positions phrases like *so beautiful* after the indefinite article *un* (just as with bare adjectives):

(222)   Nous avons vu un si beau tableau que . . . ('we have seen a so beautiful painting')

(223)   *Nous avons vu si beau un tableau que . . .

If I am correct in thinking that the French–English contrast seen in (215) versus (217) (which involves scope but no degree *so/si*) is of the same ilk as those in (218)–(223), then the natural conclusion is to interpret all of these in terms of scope and to

46. For recent discussion of this *de* ('of'), see Pollock (1998, 312–315, notes 21, 24). This *de* may well be like those discussed in chapter 7 in having the property of entering the derivation outside VP, rather than forming a constituent with *si nombreux linguistes* or *très nombreux linguistes*; see Kayne (2001c).

47. I have chosen an adjective that is prenominal to enhance the contrast with English.

say that, just as *very numerous* must raise DP-internally for sentential scope in (217),[48] so must *so beautiful* (in which the need for scope comes from the presence of *so*) raise in (219) and (221) for scope reasons (with (219) then in violation of licensing requirements previously discussed).

From this perspective, French differs from English in that French can assign proper scope to *si beau* in (222) and to *très nombreux* in (215) without raising them in the English fashion.[49] (As seen in (223), raising in French in such a case is impossible; the same is probably true of (215), though the absence of a visible article there makes the question more complex.)

If this French–English proposal is on the right track, it supports the suggestion made earlier that English (200) and (202) are to be assimilated to (206). The contrast between *numerous* and *many* with respect to *very* ((200) vs. (196)) and *incredibly* ((202) vs. (201)) is now seen to reduce to (216) versus:

(224)   John knows so many linguists that . . .

As in the discussion of (176), *many*, because it occurs with unmoved NUMBER, can raise in a way that *numerous* cannot.[50]

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48. On *so* and *si* having sentential scope in (221) and (222), see Rouveret (1978); see also Kayne (1994, 24) on:

(i)   Nobody's children ever have anything bad to say about them.

in terms of c-command out of a larger phrase.

49. One needs to ask why. One type of answer, in the spirit of Kayne (1998a), would be that French actually does raise *si beau* and *très nombreux*, with the raising obscured by subsequent movement(s). A second would be that French *un* and English *a* do not have the same syntactic status (and similarly for their unpronounced plural counterparts). A third might attempt to relate all this to the difference in relative position of noun and adjective. (These three possibilities are not mutually exclusive.)

On the impossibility of (223), see also note 8. Relevant, too, is the absence in French of any exact counterpart to English *such a linguist*, *what a linguist!*, *many a linguist*, or *quite a linguist*. (French *un* can be preceded by *tout* ('all') and by *pas* ('not').)

Potentially important here is Wood's (2002, 109) discovery (for certain varieties of English, not including mine) of:

(i)   a such a

Compare *a half a dozen eggs*, noted by Schibsbye (1970, 285).

50. Similarly for:

 (i)   John bought fewer houses than Bill did.
 (ii)   Of all the linguists, it's John who's written the fewest articles.

versus:

(iii)   *John bought less numerous houses than Bill did.
(iv)   *Of all the linguists, it's John who's written the least numerous articles.

with *few* patterning like *many*, as expected, since *few* is like *many* with respect to NUMBER.

Like *very* is *pretty*:

 (v)   John's friends are pretty numerous.
(vi)   *Pretty numerous linguists have published in *Linguistic Inquiry*.

In the discussion of (212) and in note 15, I mention the possibility that bare *numerous* must raise, too, via head movement. If this is correct, then it is natural to take bare *many* and *few*, too, to raise when they have sentential scope. In other words, DP-internal, head raising could well be necessary in:[51]

(225)   John knows many/few linguists.

as opposed to the case of ordinary adjectives, as in:

(226)   John knows smart linguists.

Assume now, as in the discussion of (213), that in such examples, *such* raises alone—that is, without the adjective itself raising. Assume further that this is the only derivation available for *such smart N*: *such* must raise without the adjective doing so at all. Then from the fact that *numerous*, *many*, and *few* must themselves raise (for scope reasons), there would follow the impossibility of:[52]

(227)   *Such numerous people bought a car last year that . . .

(228)   *Such many people bought a car last year that . . .

(229)   *Such few people bought a car last year that . . .

8.11. *Many a*

Although *numerous* and *many* (and *few*) act alike in (227)–(229), we have seen, starting at (187), a number of ways in which *numerous* and *many* differ. *Many* (but not *numerous*) is followed by unincorporated NUMBER, a property of *many* that has a crucial role, as mentioned in the discussion of (224). The raising that is operative in (225) should therefore be understood as the raising of *many/few* NUMBER.

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51. The generalization concerning (84) now needs further thought.

52. Recall from note 44 that to some extent DP-initial *numerous* also allows DP-internal or relative-clause-internal scope:

(i)   Anybody would be frightened by such numerous ants.

Since the scope of *numerous* is not sentential, it need not raise in the way it must in (212) or (227).

 The contrast between (i) and:

(ii)   *Anybody would be frightened by such many/few ants.

is related to:

(iii)   . . . by ants that are so numerous/*many/*few.

 Similar to the text examples are:

(iv)   * What numerous/many/few people bought a car last year!

 I leave open the question of scope assignment to *a* (*good*) *number of*.

This ability of *many* to raise within DP along with NUMBER—that is, in a way not open to *numerous*—seems relevant to:

(230)   Many a linguist has published an article in *Linguistic Inquiry*.

Although not colloquial, this contrasts with:

(231)   *Numerous a linguist has published an article in *Linguistic Inquiry*.

In addition to the pre-article position of *many*, (230) is distinguished by the singular noun (as opposed to *many linguists*):

(232)   *Many a linguists . . .

which appears to correlate with the fact that *many a* imposes distributivity:[53]

(233)   That linguistics society is made up of many linguists / *many a linguist.

(234)   We have seen many ants / *many an ant disperse and then reassemble.

The absence, alongside (230), of:

(235)   *Few a linguist . . .

is exactly the opposite of the earlier discussed *a few books* versus **a many books* (see (114) and (118)). To allow for *a* in *a few books* in the presence of plural *books* and adjectival *few*, I proposed that *a* was licensed there by the presence of singular (as opposed to nonsingular/nonplural) NUMBER, which is not normally available with *many*, whence **a many books*.

Given this, plus (230) versus (235), it seems clear that (230) does not contain singular NUMBER. Rather, the presence of *a* is keyed to that of the singular noun. Furthermore, (230) versus (231) suggests that (unincorporated) NUMBER (of the nonsingular/nonplural type) again has a role, probably as:

(236)   many NUMBER a linguist

with the nonplurality of (unincorporated) NUMBER licensing (but not imposing) the singularity of *linguist*.[54] (The impossibility of (235) remains to be understood.) In

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53. In these two respects, *many a* recalls *every*, which might therefore be:

(i)   every A linguist

with A = an unpronounced counterpart of *a*. The plausibility of (i) is enhanced by Kurdish having an indefinite article (suffixed to the noun) with its *every* (see Abdulla and McCarus [1967, 36, 51, 145]). This fits in with Beghelli and Stowell's (1997, 101) taking *every* to be a kind of indefinite.

Whether (i) also contains NUMBER is left an open question.

54. Note that in Turkish *many* takes a singular noun; see Kornfilt (1997, 433).

addition, the presence of NUMBER before *a* will distinguish *many* from ordinary adjectives (that do not occur with NUMBER):[55]

(237)   *Famous a linguist . . .

8.12.   *Quite a few*

In taking *few* to be an adjective modifying NUMBER (and under special conditions *number*), I have adopted a hypothesis that makes *few* look a lot like a restricted variant of the *small* of *small number*. A discrepancy arises, however, in:

(238)   John has quite a few friends.

(239)   John has quite a small number of friends.

Put informally, *quite a few* is readily taken to be more than *a few*, whereas *quite a small number* is not more than *a small number*. The same discrepancy holds to some extent for the mass counterparts of these:

(240)   John has quite a little money saved up.

(241)   John has quite a small amount of money saved up.

John's wealth seems greater in (240) than in (241).
    Although *few* is an adjective that never modifies any noun other than NUMBER and *number*, the *little* of *a little money*, which by parallelism with *a few* must more exactly be:[56]

(242)   a little AMOUNT money

is an adjective that can also modify other nouns than AMOUNT, as in:

(243)   a little dog

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    55. Leading to the question of:
(i)   *Large number a linguist . . .
    56. On AMOUNT, see chapter 7. The apparent complementarity of *number* and *amount*:
 (i)   He has a large amount/*number of money.
 (ii)   He has a large number/*amount of admirers.
has some interesting twists:
(iii)   ?He has a large amount of books in his library.
(iv)   He doesn't have very many/*much books in his library.
In these two, it is as if AMOUNT is less flexible than *amount*. Yet:
 (v)   He doesn't have very much / *a large amount in the way of books in his library.

In addition to increasing the plausibility of taking *few* to be an adjective, *little* provides a window into (238) versus (239), in that one also finds the effect seen in (238) and (240) in:[57]

(244)   John has quite a little bit of money saved up.

(245)   That's quite a little discovery you've made there.

The congratulatory effect felt in (245) disappears in:

(246)   That's quite a small discovery you've made there.

Since *discovery* is clearly a count noun (*three/many discoveries* vs. **a lot of discovery*), the *little* of (245) must be directly modifying *discovery*: that is, there is no AMOUNT there.

Put another way, *little*, whether modifying AMOUNT or not, has some property (absent with *small*) that allows *quite a little* to yield the interpretive effect seen.[58] I conclude that in *quite a few friends*, *few*, rather than being parallel to *small*, is to be grouped with adjectival *little*—that is, *quite a few friends* is to be thought of as comparable to *quite a little* + NUMBER + *friends*.[59] I take this to be true despite the fact that with overt *number*, *quite a little* is marginal:

(247)   ?John has quite a little number of friends.

Although the discussion of this section has been limited to *quite a few* and *quite a little*, the conclusion should almost certainly be generalized. All instances of *few* are closer to *little* than to *small*.

8.13.   Polarity and *few* and *little*

As is well known, *a few* does not license polarity items in the way that *few* does:

(248)   Few people know anything about cosmology.

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57. In:

(i)   John has quite a bit of money.

there is probably an unpronounced GOOD.

58. Curme (1977b/1931, 135) characterizes this effect as "ironic popular American."

59. More exactly, given (123), to:

 (i)   quite a GOOD little NUMBER friends

in which case *quite a few friends* is, strictly speaking:

(ii)   quite a GOOD few NUMBER friends

(249)   *A few people know anything about cosmology.

Similarly for *a little* and *little*:

(250)   Little money is spent on anything worthwhile.

(251)   *A little money is spent on anything worthwhile.

In chapter 7, sec. 1.5, I suggested that this polarity licensing was due to the presence of an unpronounced ONLY. Let me here scale that back to the postulation of an unpronounced NOT with bare *few* and bare *little*:[60]

(252)   NOT few people

(253)   NOT little money

This is to be kept distinct from the possible claim that *few* is itself the spellout of NOT + MANY, which would create difficulties for (249) (and by extension (251)), as well as for *quite a few* (and similarly for *quite a little*). The idea is rather that bare *few* and *little* are parallel to:

(254)   Not many people know anything about cosmology.

(255)   Not much money is spent on anything worthwhile.

although in (248) and (250) *not* is unpronounced.[61]
    Recalling the proposal in (137) to the effect that *a few books* is really:

(256)   a GOOD few NUMBER(sing.) books

in which case *a little money* is:

(257)   a GOOD little AMOUNT money

60. The two hypotheses are not necessarily full competitors, given analyses of *only* as involving negation.
    61. Whether NOT should be postulated for *fewer*, *fewest*, *as few*, and *too few* is left an open question. It probably should be for *very few* and *incredibly few*.
    Overt *not* does not always license polarity items, even when DP-initial:

(i)   Not a few people know something/*anything about cosmology.

(Jespersen [1970b/1940, 460] had noted *not a few* to be "nearly synonymous" with *many*.) This recalls Klima (1964a, 300, 307) on auxiliary inversion, as if *not* in (i) has only DP-internal scope.

we reach the conclusion that *few* and *little* are sometimes preceded by GOOD and sometimes by NOT,[62] an alternation less exotic than it might appear, to the extent that it recalls the pair *not* and *well* in:

(258)   John may not have made a mistake.

(259)   John may well have made a mistake.

(This 'affirmative' *well* is more widely found in French (*bien*) and Dutch (*wel*).[63])

8.14.   Conclusion

I have tried to spell out an analysis that takes *many* and *few* to be adjectival modifiers of an unpronounced noun NUMBER (or occasionally, in the case of *few*, of overt *number*). (The same holds for *much* and *little* as modifiers of AMOUNT.)[64]

The claim that in *many books* or *few books*, *many* and *few* modify NUMBER rather than directly modifying *books* can be elevated to a claim about UG:

(260)   In all languages, modifiers with the interpretation of *many* or *few* necessarily modify NUMBER (or *number*).

Another way of putting this, thinking also of *a large* or *a small number* (*of*) *books*, is to say:

(261)   UG excludes the possibility that a single adjective could simultaneously express what is expressed by *large* or *small* and what is expressed by *number*.

8.15   Appendix: Principle of Decompositionality

A possible generalization of (261) within UG would be:[65]

(262)   UG imposes a maximum of one interpretable syntactic feature per lexical item.

62. See note 61. This GOOD may play a role in the interpretation of (238) and (240), thinking of the difference between those and:

(i)   ?Quite few people came to the party.

which has an interpretation more like that of (239).

63. On Dutch, see van Riemsdijk (1970). For recent discussion, see Cinque (1999, 126).

64. Partitives of the sort in:

(i)   We've read few/a few of your books.

must also clearly contain NUMBER. Relevant to the question of their broader analysis (outside the scope of this essay) is the fact that in Turkish they look like possessives; see Kornfilt (1997, 236).

65. Depending on the status of "uninterpretable syntactic features" (Sportiche 2002), (262) will be more or less closely related to the prohibition against multiple specifiers of Kayne (1994); see also Rizzi (1997).

This principle, call it PD (Principle of Decompositionality), is not as precise as it might be, since the notion "interpretable syntactic feature" is not completely precise. Yet it is clear what kinds of (decompositional) implications PD is likely to have if it or something like it is true.[66]

In the area of syntax directly relevant to this essay, one can ask whether there are other cases where an adjective that appears to be modifying one noun must, rather, be taken to modify a noun that is unpronounced—that is, an adjective appears to be simplex but, in fact, provides an example of the applicability of PD.

A good candidate is the case of color adjectives. Although *red* in *a red car* appears to be a modifier of *car*, it may well be better analyzed as a modifier of COLOR:

(263)   a red COLOR car

thinking of sentences like:

(264)   That car is red in color.

(arguably parallel to *Those cars are few in number*) and of:

(265)   What color car did you buy this time?

　　　 Similarly for:

(266)   That car is small in size.

(267)   What size car are you renting this week?

suggesting:[67]

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66. Fodor's (1970) and Ruwet's (1972, chap. 4) arguments against causative decomposition depended on the assumption (no longer held, given small clauses) that the complement of a causative verb would have to be a full sentence.

67. Actually, (i) is slightly more natural than (ii):

(i)   That car's small size is a problem.
(ii)   That car's smallness is a problem.

　　　 The impossibility of:

(iii) *You bought too red cars.
(iv)   *You bought so small cars.

implies that COLOR and SIZE cannot be nonsingular in the way that NUMBER can be in (81).

　　　 The possibility of:

(v)   What color/size cars are people buying this year?

will need to be integrated.

Left open, too, is *?narrow in width*, *?short in length*.

(268)   a small SIZE car

A further potential extension would be, thinking of:

(269)   New York is a great city / has 8 million inhabitants.

and:

(270)   New York City/The city of New York . . .

to say that (269) is really:

(271)   New York CITY . . .

and the same for 'California STATE / the state of California', 'the Hudson RIVER / *river*', all the way to:

(272)   Fido DOG . . .

(273)   Mary/John PERSON . . .

By (some version of) PD, a proper name cannot simultaneously express both what distinguishes it from other proper names and at the same time the category to which it is intended to apply. The latter must therefore appear as a separate lexical item (often unpronounced).

9

Antisymmetry and Japanese

9.1.   Antisymmetry

In this chapter I focus on certain aspects of the antisymmetry hypothesis of Kayne (1994) and to a certain extent on their implications for Japanese. I take as a starting point my hypothesis that syntactic structure is universally and without exception of the form S-H-C: the complement of a head invariably follows that head; the associated specifier invariably precedes both head and complement.

This S-H-C hypothesis is taken to hold at all stages of a derivation, both before and after movement. (There is no sense in which it is a hypothesis about "base" structure alone, contrary to the occasional misunderstanding.)

Given this, the relation between S-H-C and the question of OV or VO order cannot be a simple one.[1] If an object can occupy the Spec of its own V—whether as the result of movement or, thinking of Larson (1988) and Barbiers (2000a), because it is generated or merged there—then it will precede that V. If an object can remain in the complement position of its own V, then it will follow that V. If an object of V ends up

1. The terms OV and VO are informal ones that leave hidden all sorts of subdistinctions. On VO, for example, see Pollock (1989) and Pearson (2000).

in the Spec position of a head that is itself higher than V, then that object will precede V. If what we think of as an object of V ends up in the Spec position of a head lower than the position in which V itself ends up, then that object will follow V.

It follows that the OV order of a language like Japanese directly excludes the possibility that the object in Japanese has remained in the complement position of V. Rather, it must be in (or within) a Spec position, perhaps that of V itself, but much more likely that of some head higher than V. I return to this question shortly.

In Kayne (1994) I argued that specifiers are instances of phrasal adjunction. I continue to adopt here the position that syntax does not require a notion of phrasal adjunction distinct from the notion of specifier. Related to this was the claim that there cannot be multiple specifiers for a single head. I will maintain this claim, too. (For corroborating argument, see Rizzi 1997 and Cinque 1999.[2])

The S-H-C hypothesis (combined with the unavailability of adjunction as distinct from specifier and with the ban on lowering operations) leads to the conclusion that there can be no rightward movement operations in any language, as I will continue to hold.

In what follows, I address some specific questions of Japanese syntax (as well as some more general considerations of syntactic theory). Whatever the subarea of Japanese syntax that one might be interested in, the question will arise as to whether or not one's analysis needs to be compatible with antisymmetry. If antisymmetry is not a valid characterization of UG, then the answer is no. If antisymmetry does constitute a valid characterization of UG, then the answer is yes.

Evaluation of the antisymmetry hypothesis must ultimately rest on evidence from as many languages as possible, in as many areas of syntax as possible. One must test to whatever extent possible the antisymmetry predictions concerning language "gaps"— that is, the claim that certain types of languages, though easily imaginable (such as "reverse German"[3]), will never be found. In some cases, one must compare earlier analyses based on rightward movement with alternatives favored or imposed by antisymmetry, often making, in exchange, more extensive use of leftward movements (as discussed in part below). One must ask how antisymmetry (as opposed to a theory of syntax lacking it) interacts with other general properties of UG.[4]

2. See also chapter 8 on the idea that UG imposes a maximum of one interpretable syntactic feature per lexical item. Apart from the question of multiple specifiers and adjunction, the S-H-C hypothesis translates straightforwardly into Chomsky's (1995, 245) terms, where complement corresponds to "first merged" (which must for me follow the head) and specifier to "second merged" (which must precede the head).

3. See Kayne (1994, 50).

4. A further question concerning antisymmetry arises within Chomsky's recent minimalist perspective. More specifically, the question is whether or not antisymmetry (assuming it to be correct) constitutes an imperfection of the language faculty in Chomsky's technical sense. Chomsky (2004) thinks that it would. Although I will not pursue this here, it might alternatively be the case that our initial intuitions about perfection versus imperfection (in this technical sense) are not fully reliable. (For example, syntactic antisymmetry might be inherited from a parallel property of phonology.)

Since this evaluation will be potentially sensitive to evidence from any language, it is clear (but not surprising) that the question whether analyses of Japanese need to respect antisymmetry cannot be answered solely by looking at aspects of Japanese syntax. Evidence bearing on Japanese need not, to put it another way, come only from Japanese.

9.2. Japanese

9.2.1. The position of objects

It is uncontroversial to say that objects in Japanese can be found outside VP, in a higher Spec position, as in sentences whose derivation involves what we informally call "scrambling." The question is whether Japanese objects ever surface within VP, in complement position of V (or in some Spec position lower than V). Antisymmetry says not, given OV order.

We can set aside potential cases of incorporation as not directly relevant, since, by definition, incorporation involves movement out of complement position. The standard view, as in Baker (1988), is that incorporated objects adjoin to V. Since antisymmetry leads to the expectation that such head-to-head adjunction will be left-adjunction,[5] the resulting OV order would be perfectly straightforward.

The plausibility of the claim that objects in Japanese are invariably found in (or within) a position higher than V is enhanced by the observation that in some OV languages objects move higher than V in a very visible way.[6] One such case is Malayalam, in which objects must surface in a position preceding that of VP-external focus (SOFocV), as emphasized by Jayaseelan (2001). Another is that of the continental West Germanic languages (if we abstract away from V-2 contexts). In West Flemish, for example, objects precede one of the negation markers (see Haegeman 2001; 2003). In Dutch and German, that type of (clitic) negation is not present, but the infinitive marker must still intervene between object and verb (O *te/zu* V_{infin}) and so must what are called separable particles, in the order 'O Prt *te/zu* V_{infin}', for example, in German:[7]

5. See Kayne (1994, 38). I agree with Baker that what is called "noun incorporation" involves movement. It is somewhat less clear that adjunction to a head is involved, as opposed to movement to a low Spec position. Noun incorporation as adjunction to a head would not lead one to expect the following conjecture to be correct:

(i)   NV incorporation (with that order) is never found in V-initial languages.

Whether (i) is correct needs to be looked into. Relevant to the whole question is T. Hoekstra (1999).

6. Compare the fact that, in German, when an adjectival complement is preposed it must precede material like 'completely', as noted by van Riemsdijk (1983, 229; 1992, 503); see also Svenonius (1992, 112).

7. In writing *mitzubringen* as one word, the orthography, while perhaps reflecting something important about the phonology, is not being faithful to the syntax; see Myers (1987) and Julien (2002).

(1)   . . . das Buch mitzubringen. ('. . . the book with/along-to-bring' = to bring along the book)

The above point about West Flemish negation is made in a more general way by Whitman (2005). Using earlier typological work by Dahl (1979) and Dryer (1988a; 1992), Whitman notes the importance of the existence of a substantial set of SONegV languages—that is, languages in which the normal position of negation is between object and following verb. As he shows, they strongly suggest obligatory leftward movement of the object past negation.

On the basis of these considerations, the antisymmetry claim that Japanese objects must end up in or within a position asymmetrically c-commanding V is not very radical.[8]

9.2.2.   Relative pronouns

A rather different area of syntax where one sees antisymmetry impinge on Japanese is that of relative pronouns. Of course, Japanese does not have any. But that is precisely the point, insofar as it is possible to find an antisymmetric account of their absence.

In Kayne (1994, 95) I proposed that the general absence of relative pronouns in prenominal relatives can be understood in terms of the fact that prenominal relatives necessarily involve movement of the relative clause from an earlier postnominal position.[9] (Japanese is a particular instance of this generalization.) I won't repeat the details here, but will note the following.

Kornfilt (2000) has recently studied the apparently curious phenomenon whereby certain Central Asian Turkic languages have an Agr morpheme associated with their (prenominal) relative clauses that agrees with the subject of the relative. The curious thing is that this Agr follows the "head" of the prenominal relative clause. (Thus one has Rel N Agr—more exactly $[S_iOV]$ N Agr_i—where Rel is the relative clause, N is the head of the relative, and Agr is what matches features with the subject contained within the relative.) Kornfilt's proposal is that this apparently nonlocal agreement reflects the stranding of an Agr clitic (that originally occupied a high position within the originally postnominal relative) under leftward movement of the relative clause past the head. (That is, $[S_iOV]$ N Agr_i derives from N $[Agr_i [S_iOV]]$.)[10]

8. Whitman (2005) argues that the object is actually carried along by remnant VP-movement, in which case 'within' would be appropriate. The question whether the object in OV sentences moves out of complement position by itself or is carried along as part of a larger phrase arises in all the cases discussed; see especially Haegeman (2000; 2001).

9. For a partially different view on Japanese, see Murasugi (2000).

10. I have simplified a bit by omitting consideration of D and of the fact that the relative IP moves to Spec,D. I have also abstracted away from the fact that the "head" N itself is moved leftward from within the relative; see Kayne (1994, 87).

The genitive Case that appears on these subjects in some Turkic languages should be compared to the Hungarian possessive dative discussed by Szabolcsi (1983; 1994).

The high Agr within the (originally postnominal) relative recalls the complementizer agreement (i.e., the presence of an Agr immediately following the complementizer and matching features with the following subject) found in some Germanic languages.

Kornfilt's proposal, which supports the idea that prenominal relatives originate postnominally,[11] makes sense of what at first looks like "misplaced" agreement. A natural antisymmetric conjecture at this point (assuming restrictions on phrasal movement of Agr that I won't try to spell out here) would be:

(2)   There is no mirror image of Central Asian Turkic: that is, no language has a
      prenominal Agr that agrees with the subject contained within a postnominal relative.

A prenominal Agr (contrary to the postnominal Agr discussed by Kornfilt) could not have been stranded by relative IP movement, since that movement would have had to be rightward, which is impossible.[12]

Arguably similar to the Turkic phenomenon Kornfilt discusses is the fact that the Finnish possessive suffix (see Branch [1987, 606]) follows the oblique Case marker (XP-K-Poss), where Poss seems to "belong to" XP.[13] In the spirit of Kornfilt's proposal, this may originate as K-[Poss-XP] with XP moving across Poss and K (whether in one or two steps).

9.2.3.   Head finality

It has often been noted that prenominal relative clauses of the Japanese sort are generally absent from VO languages (although for this to be strongly true, even apart from Chinese, one needs to set aside reduced subject-based relatives of the type found even in English *a recently arrived letter*).[14] And it is sometimes thought that this supports a notion of "head finality" that languages like Japanese would display in a particularly consistent fashion.

In fact, I think that prenominal relatives pose a problem for any notion of consistent head finality, since the supposed generalization rests on a double use of the term "head." If by "head of a relative clause," we mean the material outside of the relative clause proper (but not counting higher determiner elements), then in *the apples that John bought*, *apples* is the head. The problem is that we also have *the pound of apples that John bought*, *the allusion to his wife that John got upset at*, and so forth,

11. See the strong argument for leftward movement (of the relative itself, in Chinese) given by Simpson and Wu (2002a).

12. If (2) is correct, it raises a question for Chomsky's (2000) proposal to allow downward agreement: Why could an Agr merged above N not agree with the subject DP within the relative? This is somewhat similar to the potential problem he notes (Chomsky 2001a, 46, note 39) relative to Romance past participle agreement. To be sure, movement is not a sufficient condition for such agreement, as shown by Italian interrogatives; see Kayne (1985b; 1989b) and Déprez (1998, 39). Downward agreement is argued against by Koopman (2002); see also note 27, chapter 1 in this volume.

13. Compare the Armenian construction mentioned by Sigler (1997, 85); also the fact that when possessive agreement in Hopi is suffixal (in the third person, much as in Papago/O'odham [Zepeda 1983, 76] third singular), it both precedes and follows the Case ending (Jeanne 1978, 105,107,121,125). In addition, compare Gwari, with '. . . def. + neg' (see Hyman and Magaji 1970, 120)—where 'def' is a post-relative determiner and 'neg' is one marker of relative-internal negation.

14. On the English, see Kayne (1994).

in which it looks like the head of the relative must then be *pound of apples* or *allusion to his wife*. But these are not heads (rather, they are phrases) in the sense in which V is a "final head" in OV languages.

What this suggests, I suspect, is that although the exclusion or near-exclusion of prenominal relatives in VO languages is something we want to find an explanation for, that explanation cannot reside in any notion of "consistent head finality." It seems to me that, in turn, this point is related to a broader weakness in that notion, which had been based to a significant extent on the supposition that languages by and large pattern either as "head-final" or as "head-initial." But that supposition looks highly questionable, as Kroch (2001, 706) has pointed out, observing that most languages are actually inconsistent in head directionality. I think that Kroch is correct, especially as one considers a wider range of heads than was taken into account at earlier stages of the theory. When one broadens one's view away from just the lexical heads N, V, and A (and perhaps P) to encompass complementizers of different sorts, question particles, topic and focus particles, and tense and aspect morphemes of various kinds, the inconsistency that Kroch points to becomes clear.[15]

In fact, it is very plausibly the case that Japanese itself is "inconsistent" in that its particles *wa* and *ga* are actually initial heads. This proposal was made in Kayne (1994, 143) (based on an earlier similar proposal for Hungarian made by Brody 1990[16]) and has since been expanded on by Whitman (2001). The idea is that *wa* and *ga* are high functional heads in the sentential skeleton. *Wa*, for example, may be a Top^0 in Rizzi's (1997) sense, much as that discussed for Gungbe by Aboh (2004).

From an antisymmetric perspective, there is a natural reinterpretation of the notion "final head," which would be a head the entirety of whose complement has moved past it to a higher position or positions. A head that is not a final head in this sense would be an initial head. But there is no reason to think that final versus initial head is a primitive of syntactic theory, and no reason to think that languages must be consistent in having only one type. (In Kayne [1994, xv] I argued that no language could be uniformly head-final at all.)

9.3.   Additional cross-linguistic "gaps"

9.3.1.   Serial verbs

Carstens (2002) has argued that serial verb constructions provide strong evidence for antisymmetry by showing cross-linguistic constancy of a surprising sort. Although

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15. Travis (1989) was perhaps the first to call attention to the importance of 'inconsistent' languages.

To mention just one little cited example, Western Shoshoni (Crum and Dayley 1993) is an OV language with postpositions that has an initial *if* (p. 186), as well as various second-position elements (which almost certainly reflect the presence of an initial head) and postnominal relatives (that are nonfinite).

See also Julien (2002; 2003).

16. See also Lecarme's (1991; 1999) proposal that the focus marker in Somali is I-like or C-like, despite looking like a postposition.

the arguments of the verbs in question can occupy different positions relative to those verbs (p. 19), depending on the language, the relative order of the verbs themselves seems not to vary at all cross-linguistically. Moreover, the order found is what we would expect if syntax is uniformly (S-)H-C. Put another way, serial verb constructions appear to provide us with a window into UG in which we see universal H-C order unobscured by movements of verbs or verb phrases.

9.3.2. Aux V versus V Aux

In contrast, in non-serial-verb constructions, the relative order of verbs can vary substantially. For example, many languages have their auxiliaries preceding the main verb, and many have the opposite order. Some (perhaps many), like Dutch, show either order, depending on various factors. Yet the two orders are clearly not symmetric to one another,[17] as becomes rapidly apparent when one looks at their interaction with adverbs. Aux-V often allows intervening adverbs, as in English *John has recently seen Mary*, whereas V-Aux generally does not.[18]

Somewhat similarly, Dryer (1996, 1059) has noted that there are OV languages in which a subordinate V can follow a matrix verb like 'want' (i.e., languages in which the counterpart of *John wants to Paris (to) go is grammatical), but that there are no VO languages allowing a subordinate V to precede 'want' (i.e., no languages in which the counterpart of *John (to) go to Paris wants is grammatical). Put another way, although both '. . . want . . . go . . .' and '. . . go . . . want . . .' are commonly found, the two verbs can be separated by an argument of 'go' only in the former case. I will not pursue these questions here, other than to note that the discussion in Koopman and Szabolcsi (2000) is very pertinent.

9.3.3. Adverbs and ("heavy") objects

Another cross-linguistic gap (that would be unexpected under a symmetric view of syntax) is found in the positional interaction of adverbs and definite objects. As is well known, there are VO languages (such as English) in which V and O cannot be separated by adverbs. (In English, when there is only one nonprepositional object, V and O can be separated by a particle; even that is not possible in Danish, however (also VO).) What seems to be unattested is an OV language that systematically forbids its adverbs from intervening between O and V (at least when O is definite).[19]

This point can be (informally) reformulated in terms of scrambling: an OV language will always allow (some) scrambling, at least with definites. That is not true

17. Although it is not closely related to the present discussion, the term "symmetric" has been used to characterize the behavior of direct and indirect object in certain Bantu languages. Ngonyani (1996) has shown, though, that that symmetry breaks down with reflexives, at least in some of these apparently symmetric languages.

18. Adverbs must be kept apart from emphatics and morphemes corresponding to words like *even*.

19. This statement is not intended to extend to OVX languages like Bambara (Koopman 1992) that will be discussed below.

of all VO languages.[20] (To judge by Slavic, however, some VO languages do allow some scrambling.[21])

Part of this almost follows immediately. Since in an OV language the object must, from the present perspective, have moved to some Spec position higher than V,[22] it is natural to think that it can therefore also reach a Spec position higher than at least some adverbs (yielding O-Adv-V). Although a more precise account will have to be more specific about the character of the relevant landing sites, it is clear that in the absence of any possibility for rightward object movement (and right-adjoined positions for adverbs) there is no expectation that V-Adv-O can be derived in parallel fashion. (For ways in which V-Adv-O can be derived via leftward movement(s), see Pollock 1989 and Nilsen 2003.)

Rightward movement of an object was a standard tool of syntactic theory, in the guise of "Heavy-NP Shift" (in languages like English), until Larson (1988; 1990) showed that it could be dispensed with. In his analysis, the "heavy" NP remained in situ—that is, his base structures plus leftward movement of a verbal projection accounted for the observed order. Subsequently, den Dikken (1995) proposed that the heavy NP should itself be taken to move, too, though leftward. Adopting den Dikken's proposal, we can now think of Heavy-NP Shift as a subvariety of scrambling, the only kind that English has (if topicalization is distinct from scrambling).

From the conclusion that English has a limited variety of scrambling with heavy arguments, it does not follow that all VO languages do. Put another way, VO languages do not automatically have Heavy-NP Shift. Examples of languages that do not are Haitian, Bambara, and Chinese, according to Dejean (1993), Koopman (1992, 581), and Tang (1998, 132). Thus these languages admit leftward scrambling of objects even less than English does. (What the underlying parametric difference(s) is/are remains to be investigated.[23])

In analyzing Heavy-NP Shift as leftward movement of the object, den Dikken was led to propose, for English and languages like it, that such sentences also in-

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20. For relevant discussion, see Ogawa (2001).

21. Slavic was not taken into account in Saito and Fukui (1998).

22. There may well be no in situ (definite) objects; see Sportiche (2002).

23. The lack of Heavy-NP Shift, at least in Haitian, may ultimately follow from the lack of relative clause "extraposition" in Haitian, perhaps related in turn to the postrelative D.

On relative clause extraposition, see Kayne (1998b). Chomsky's (2004) suggestion in terms of qualification or afterthought is hard to reconcile with the permeability of extraposed relative clauses to extraction seen in Norwegian (Taraldsen 1981) and to some extent even in English (Chung and McCloskey 1983).

Another instance of English scrambling is indirectly reflected in:

(i)   ?Each other's friends have insulted John and Bill once again.
(ii)   *Each other have/has insulted John and Bill once again.

which strongly recalls the Japanese contrast discussed by Miyagawa (1997, 4–5). (In (i) *each other's friends have insulted* must have moved leftward past the previously preposed *John and Bill*.)

volve leftward VP-movement—that is, to a position higher than the landing site of the object.[24] Consider now English sentences like:[25]

(3)   All of a sudden, there hit the building a shell *?(fired by our own troops).

The fact that this kind of sentence is much more acceptable if the subject argument contains a relative or reduced relative, plus the post-object position of that subject argument, suggests a close link with Heavy-NP Shift sentences. At the same time, as Chomsky (1995, 343) has noted, such sentences appear to be close English counterparts of the well-known Icelandic transitive expletive construction. Jonas and Bobaljik (1993, 75n), in fact, take (3) to be an instance of that construction, combined with Heavy-NP Shift.

Put another way, (3) should be thought of as having a derivation involving a prior stage of the form '(there) a shell fired by our own troops hit the building'. Subsequently, the VP 'hit the building' moves leftward past the subject (but to a position lower than the final position of expletive *there*).

The fact that, in order to produce a grammatical output here, English, but not Icelandic, must have VP-movement apply can now be related to another difference between English and Icelandic concerning negation:

(4)   John has seen no one.

(5)   *John has no one seen.

In Icelandic the judgments are reversed, despite the fact that Icelandic is VO. My proposal in Kayne (1998a) was that the negative *no one* moved leftward past the verb in both languages. Only in English is that negative phrase movement followed by VP-movement, arguably the same, or nearly the same, leftward VP-movement, as in (3). Leftward VP-movement thus allows us to tie together (3) and (4) in English versus Icelandic in a natural way.[26]

The shifted (leftward-moved) subject in (3) is indefinite, suggesting that scrambling of indefinites is available. This conclusion is quite likely to be supported by properties of Eastern Armenian, as set forth by Tamrazian (1994), my interpretation of which is that, in Eastern Armenian, focalized phrases, Wh-phrases, some adverbs, and also indefinites obligatorily move to the specifier position of the auxiliary. (If a given sentence contains an overt auxiliary but no focus, Wh, adv, or indefinite, then it is the VP that moves to Spec,aux.)

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24. A wide range of phenomena are analyzed in similar fashion in Kayne (1998a). See also Simpson and Wu (2002b).
25. See Kayne (1979).
26. In contrast, Icelandic does seem to allow word-for-word counterparts of:

(i)   I will read only this book.

which suggests, if Kayne (1998a) is right about *only*, that Icelandic has VP-preposing here.

A separate question is whether indefinites (and definites) ever remain in situ. Diesing's (1992) discussion of German does take indefinites to remain in situ. Eastern Armenian makes one wonder if that is correct—it might be possible to maintain her primary intuition by saying that indefinites must end up in a position lower than the position in which definites end up.[27]

9.3.4.   OVX languages

There are OVX languages (where X corresponds to other constituents within VP) like Bambara and Kpelle, as discussed by Koopman (1992, 557) and Travis (1989, 269). And as is often the case, a general characteristic of one language may be found to hold for "part" of another. Thus Irish infinitivals (McCloskey and Sells 1988, 148) look a bit like OVX, as does Gwari (Hyman and Magaji 1970, 92), in at least some sentences with auxiliaries.

But (see Dryer 1991) there seem to be no XVO languages such that O is a single object and X is everything else within VP.[28] From the present perspective, OVX would appear to reflect leftward preposing of the object alone to a particular Spec. A rightward counterpart that would allow XVO is excluded in principle. (The theory must also prohibit languages that would allow movement of XV across a single O while disallowing it across more than just O.)

Creissels (2000, 252) says that OVX always has AuxV. In particular, there are AuxOVX languages. (The question of possible OAuxVX languages, or subparts of languages, needs to be looked into.) If Creissels is right, there are no OVAuxX or OVXAux. The exclusion of the latter type is very likely to fall under the discussion of section 9.3.2 above.

The absence of OVAuxX appears to contrast with the existence of some VAuxOA languages (with A = adverbial/adjunct) in the Bantoid, Cross River, Central Nigerian, and West Benue-Congo families, according to Williamson and Blench (2000, 31.).[29] (Perhaps OVX reflects some relation between the privileged object and a higher Aux.)

9.3.5.   Subordinating conjunctions

According to Appleyard (1995, 183–199), Amharic necessarily has, for *if John likes linguistics*, the equivalent of 'John linguistics if likes', with 'if' immediately preverbal

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27. Nilsen (2003) takes indefinites (in Norwegian) to move to a focus position. His discussion, which is important for the general question of objects in VO languages, contains interesting proposals about what triggers movements.

The discussion in section 9.2.1 above shows that German objects cannot be taken to be in situ in a complement position to the left of V, but they could perhaps in some cases be in situ within a remnant-moved VP; see Haegeman (2000; 2001).

28. Chinese allows more than just one object to follow V; see Huang (1994) for a Larsonian V-raising approach. Huang also argues (p. 27) for the preposing in Chinese of a gerundial VP whose V has been previously raised—that is, for (remnant) movement of VP.

29. I've used Aux where they use M (for Modal).

and in turn preceded by all the other components of the clause.[30] In chapter 2, I suggest an analysis whereby Amharic, "starting from" a structure that resembles the actually occurring English one, preposes all the (non-clitic) arguments leftward past *if* (and similarly with other conjunctions).

But there seem to be no mirror-image languages to Amharic in this respect: no language seems to have the equivalent of 'likes if linguistics John' (or 'likes if John linguistics'), with 'if' immediately postverbal and everything else following. Again, the leftward movement(s) used by Amharic have no rightward counterpart.

The apparent absence of "reverse" Amharic with respect to subordinating conjunctions needs to be contrasted with the behavior of the Wh-word corresponding to 'where' in Siswati, a SVO Bantu language (Taljaard et al. 1991, 121) in which 'where' looks like a postverbal clitic, recalling the nonpostverbal clitic status of 'where' in some North Italian dialects studied by Poletto (2000, 74). It may be that Siswati has remnant movement past 'where' (Buell 2002), with that remnant movement perhaps to be understood as a case of pied-piping of the verb by the subject. It may further be the case that remnant movement carrying a verb past a subordinating conjunction is possible only if interpretable as pied-piping by a DP, in which case reverse Amharic would (correctly) not be accessible.

9.3.6.   Negation and auxiliaries

Basque is a VAux language that allows Aux . . . V if Aux is accompanied by negation.[31] A conjecture worth testing would be:

(6)   No AuxV language has V . . . Aux licensed by negation.

9.3.7.   DP

Cinque (1996, sec. 4) has shown that Greenberg's (1966, 87) Universal 20 can be explained from the perspective of antisymmetry. The fact seems to be that Dem Num Adj order is cross-linguistically found both prenominally and postnominally, whereas Adj Num Dem order is found only postnominally. In effect, as with Carstens's point about serial verbs from section 9.3.1 above, the stability of Dem-Num-Adj order relative to the position of the noun gives us a window into UG that allows us to see that that order can be achieved independently of N/NP movement, whereas the order Adj-Num-Dem cannot be. (A symmetric view of syntax would lead to the incorrect expectation that the two orders should be equally available.)[32]

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30. Basque has something similar, with '. . . if Aux'; for relevant discussion, see Haddican (2001). There may also be a link to the syntax of the Amharic relative marker discussed in Gragg (1972).

31. See Laka (1990), Cinque (1999, 189), and Haddican (2002).

32. Nilsen (2003) observes that this point of Cinque's generalizes to adverb-VP ordering, to PP-VP ordering (see Cinque 2002b) and to verb cluster formation (see Koopman and Szabolcsi 2000).

9.4.   Some modifications

9.4.1.   Word order in adjuncts and in complements

Vilkuna (1998, 216) says that Estonian and Finnish have verb-final order more consistently in nonfinite adjuncts than in nonfinite complements. Why should the adjunct versus complement distinction, which is an external property of these nonfinite clauses, at all correlate with their internal word order?

I think that this kind of correlation between internal and external properties is much more widespread than usually recognized and that it suggests important modifications in our picture of syntax.

In this particular case, what comes to mind is the possibility that non-verb-final order in nonfinite clauses in Estonian and Finnish is determined as follows: The arguments that end up following the nonfinite verb must be (long-distance) scrambled out of the nonfinite clause entirely, to a position high up in the matrix. Subsequent to this, remnant movement of the matrix VP (which will include the nonfinite clause) takes the matrix VP to a still higher position.[33] The reason that non-verb-final order in nonfinite clauses is less readily available in adjuncts now reduces to the fact that extraction out of adjuncts is less readily available than is extraction out of complements.

A partially similar point may be valid for at least some Italian. Antonino Gulli (pers. comm.) has told me that he makes the following distinction:

(7)   Gianni non sa, quel libro, se leggerlo. ('G neg. knows, that book, if to-read-it')

(8)   *Gianni non sa, quel libro, se deve leggerlo. ('G neg. knows, that book, if he-must to-read-it')

Example (7) is a type of sentence discussed by Rizzi (1997). The phrase *quel libro* is left-dislocated out of the infinitive clause past the complementizer *se* (Cinque's 1990 clitic left dislocation (CLLD)). But the corresponding finite case in (8) is not good, even though the complementizer is the same. A possible approach would be to have (7) derived by first preposing the 'if'-clause, then CLLDing *quel libro* out of the 'if'-clause into the matrix, then remnant-moving the matrix IP (not containing the 'if'-clause) past *quel libro*. The idea is that CLLD out of a preposed 'if'-clause into the matrix would be less accessible if the 'if'-clause is finite than if it is nonfinite (as is often the case for long-distance extraction, though much more will need to be said to reconcile this with the fact that Italian is often rather free in its extractions).

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33. Compare the derivations given in Kayne (1998a) for the matrix scope negation in English sentences like:

(i)   John will force his daughter to marry no one.

See also Bayer (1993).

9.4.2.   Adpositions and complementizers

The proposal of the preceding section has the property that it solves the problems ad-dressed by denying that what looks like a constituent is one. For example, in (7) *quel libro* is actually in the matrix and therefore does not form a constituent with *se leggerlo*, contrary to appearances, as indicated in the following (simplified) derivation:

(9)   Gianni non sa [se leggerlo quel libro] → preposing of 'if'-clause
      [se leggerlo quel libro]$_i$ Gianni non sa t$_i$ → CLLD of *quel libro* into matrix
      quel libro$_j$ [[se leggerlo t$_j$]$_i$ Gianni non sa t$_i$] → remnant movement of IP
      [Gianni non sa t$_i$]$_k$ [quel libro$_j$ [[se leggerlo t$_j$]$_i$ t$_k$]]

In the last line of (9), 'quel libro se leggerlo (t$_j$)' is not a constituent.

   This is similar to a proposal I have made concerning prepositions and comple-mentizers. Consider the following Greenbergian universal, which is exceptionless, according to Hawkins (1990, 225) and Dryer (1992, 102):

(10)   If a language is complementizer-final, then the language is OV.

One might try to understand this in terms of some notion of "uniformity of headed-ness," but as I argued in section 9.2.3 above, I don't think that that would be at all promising. Instead, I take (10) to be akin to the phenomena of section 9.4.1. The internal order of CP (whether C precedes or follows IP) appears to correlate with an external property of CP (whether or not it can follow the matrix verb).

   In effect, (10) says that if C follows IP, then the normal order of the language must have IP-C preceding V and never *V-IP-C.[34] Why, however, should the internal order within CP be in any way universally keyed to the order between that CP and the matrix V (an "external" property of CP)? As in the discussion of (9), I think the answer lies in the realization that we have to give up the idea that CP is a constituent of the familiar type.[35] The same holds for PP, I think, once we distinguish the "functional" adpositions from the "lexical" (or nominal) ones. As a first approximation, I take the functional adpositions to correspond to English *to*, *at*, *from*, *by*, *with*, *for*, and *of*. Now Dryer (1992, 83) notes that the following is largely (though not completely) true:

(11)   If a language is postpositional, then it is OV.

Let me strengthen this to:

(12)   If the functional adpositions of a language are postpositions, then that language is OV.

which I conjecture to be exceptionless.

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   34. Specifying "normal order" is necessary since, as Bayer (2001, 32) points out, postverbal C-final clauses are possible in Marathi, Telugu, and Malayalam.
   35. See Kayne (1998b; 1999) for the details.

A strong interpretation of (12) has it that there can be no language whose normal word order is:

(13)   *V DP P

where DP is what we call the "object of P" and P is a functional adposition.

As in the case of complementizers, what we have here is a correlation between what looks like an internal property of PP (whether or not P follows DP) and an external property of PP (whether it precedes or follows the matrix V). Again, I think that we can achieve a satisfactory account of this correlation only if we give up the idea that PP is a constituent of the familiar type.

The proposal is, first, that functional P is not merged directly with its object but is rather merged outside VP; second, that P is typically paired with a head K (for Kase) that is visible in some languages and is also merged outside VP (but below P).[36] A simplified derivation for *John was looking at us* would be as in:

(14)   looking us → merger of K
        K looking us → movement of DP to Spec,K[37]
        us$_i$ K looking t$_i$ → merger of P
        at [us$_i$ K looking t$_i$] → movement of VP to Spec,P
        [looking t$_i$]$_j$ at [us$_i$ K t$_j$]

This derivation produces the correct word order for an English-like language, without having 'at us' be a constituent.

9.4.3.   (Remnant) VP-movement

The derivation in (14) involves remnant VP-movement in the last step. Although the particular use I am putting it to here is perhaps unfamiliar, VP-movement per se is a long-standing part of our understanding of syntax. In English, we have sentences like:

(15)   . . . and do it he will.

These are well known. Less well known about English is that it allows remnant movement in this construction.[38] As background, note:

(16)   I predicted that John would marry Susan, and marry Susan/her/*Ann he will.

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36. For details, see chapter 7. Left open is the question how to get Case morphology on more than one element of DP in languages like Russian; for relevant discussion, see chapter 7.

37. See McCloskey (1984).

38. Less robustly than in Dutch or German (see den Besten and Webelhuth's 1990 important paper) and less robustly than in mainland Scandinavian, for reasons likely having to do with the absence of V-2 in English.

The argument(s) in the preposed VP must not be "new information." With this in mind, I find the following acceptable (with a "coreferential" interpretation):

(17)   I predicted that John would marry Susan, and marry he will the woman he loves.

Stranding a non-heavy object is not possible:

(18)   *. . . and marry he will Susan/her.

Thus, (17) is an instance of remnant VP-movement. The "heavy" NP/DP (*the woman he loves*) has been moved out of the VP prior to the VP being fronted. (Recall from section 9.3.3 that Heavy-NP Shift is itself a fronting (leftward movement) operation.) The derivation of (17) (simplified) will look like:

(19)   marry the woman he loves → Heavy-NP Shift
        the woman he loves$_i$ [marry t$_i$] → merger(s)
        he will the woman he loves$_i$ [marry t$_i$] → VP-preposing
        [marry t$_i$]$_j$ he will the woman he loves$_i$ t$_j$

        That Heavy-NP Shift is involved in the derivation of (17) is supported by the fact that (17) is subject to two well-known restrictions holding of Heavy-NP Shift in general:

(20)   *?I predicted that John would look at Susan, and look at he will the woman he loves.

(21)   *I predicted that John would send Susan some flowers, and send some (flowers) he will the woman he loves.

In addition to the preposition-stranding restriction seen in (20), we see in (21) that a prepositionless indirect object is not subject to Heavy-NP Shift.

        The problem with (21) is not that the preposed VP contains a visible argument, since we do have:[39]

        39. When what is stranded by VP-preposing is a PP, heaviness is much less necessary:
  (i)   ? . . . and speak French he will to her.
On PP being able to be moved leftward out of VP more readily than DP, see Kayne (1994, 75).
        These cases where the preposed VP contains more than just V pose a problem for Chomsky's (2001a) approach to (Scandinavian) object shift, as do Scandinavian examples of the same sort.
        Other examples from English:
  (ii)   . . . and put on the table he did the book he had written.
 (iii)   . . . and show me he did the book he had written.
versus
  (iv)   . . . and give it I did *(to) the colleague I had mentioned.
        In Norwegian, this is possible even with direct object pronouns, as Taraldsen (pers. comm.) has noted:
  (v)   Lagt på bordet har jeg dem ikke. ('put on table-the have I them not')
As expected, if this is really object shift (of the mainland Scandinavian sort), Taraldsen gets a sharp contrast with lexical DPs:
 (vi)   *Lagt på bordet har jeg bokene ikke.

(22)   I predicted that John would send Susan those flowers, and send her he will the flowers he loves.

(23)   I predicted that John would speak French to Susan, and speak French he will to the woman he loves.

In my English, the preposition restriction in (20) is somewhat weak, but gets much stronger in the presence of a direct object:

(24)   *I predicted that John would introduce you to Susan, and introduce you to he will the woman he loves.

As expected, this distinction matches my judgments on "simple" Heavy-NP Shift sentences:

(25)   *?John will look at tomorrow the article you just sent him.

(26)   *John will introduce you to tomorrow the woman he loves.

Remnant VP-movement is thus found in all of (14), (17), (22), and (23), though the landing sites for the moved VP are not uniform.

9.4.4.   Postpositions

In Kayne (1994, 49) I took the difference between postpositional and prepositional phrases to be that postpositional phrases involved movement of the complement of P to the Spec of P, and I assumed absence of movement with prepositions. The derivation in (14), however, attributes movement to the object of a preposition, though the movement is to Spec,K, not to Spec,P. (This movement to Spec,K in the case of prepositional objects is intended to be strongly similar to the more familiar movements to nominative- and accusative-licensing positions.[40]) What does move to Spec,P in the case of prepositions is VP.

The question is now how to best analyze postpositions of the sort found in Japanese. Let me suggest the following unification:

(27)   Spec,P is never filled by DP.

At first glance, this may seem surprising, but we need to take into account languages (e.g., Turkish, Hindi, and Hungarian) that have overt Case morphology in addition to postpositions; when Case morphology and postpositions cooccur, we typically, if not always, find the order DP-K-P rather than DP-P-K. Let us further assume, in the spirit of Vergnaud's original ideas about Case, that all languages with postpositions

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40. See chapter 5.

have a K and that the order is DP-K-P. In this case, DP will obviously not be the sole occupant of Spec,P and (27) holds.

A further unifying hypothesis would be:

(28)   Functional P and associated K are always merged outside VP.

Putting (28) together with the need to produce DP-K-P sequences leads to the following proposal for postpositions (adapting ideas of Pearson 1997).[41] We start out as in the derivation given in (14) for prepositions:

(29)   looking us → merger of K
         K looking us → movement of DP to Spec,K
         us$_i$ K looking t$_i$

But instead of introducing P immediately, we introduce an unpronounced double of P (which I will call P') to whose Spec VP moves (just as VP moves to Spec,P in (14), with prepositions):

(30)   us$_i$ K looking t$_i$ → merger of P'
         P' us$_i$ K looking t$_i$ → movement of VP to Spec,P'
         [looking t$_i$]$_j$ P' us$_i$ K t$_j$

At this point, P is merged, and KP moves to its Spec:

(31)   [looking t$_i$]$_j$ P' us$_i$ K t$_j$ → merger of P
         at [looking t$_i$]$_j$ P' us$_i$ K t$_j$ → movement of KP to Spec,P
         [us$_i$ K t$_j$]$_k$ at [looking t$_i$]$_j$ P' t$_k$

This yields the correct word order for preverbal postpositions of the Japanese sort. The DP (*us*) and P (*at*) do not form a constituent, just as they did not in the derivation of postverbal prepositions in (14).

We now have (the outline of) an account of (12) and (13). Given (27), (13) is ruled out immediately. To express the full content of (12), however, we also need to rule out:

(32)   *V DP K P

where DP is the object of functional P.

Assume that we have reached the last line of (29), yielding (apart from traces) DP K V and that we then introduce P, with the result P DP K V. Since DP K is not a constituent there, it cannot be moved to Spec,P. We could move DP K by moving KP (containing V), which would yield DP K V P, but, arguably, this is never attested because of a general prohibition against moving the complement of X to the Spec of

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41. I am setting aside the question of sentences with multiple Ps.

X, and which in any case is not heading toward (32). Alternatively, having reached P DP K V, we could move VP to Spec,P, yielding V P DP K (as in (14)). But that still does not provide a way of reaching (32), unless we subsequently allowed KP to move and "tuck in" to a second Spec of P (à la Richards 1997), which I have taken not to be an available option.[42] I conclude that (32) is not reachable via a derivation using P and K as heads external to VP.

We also need to make sure that the unpronounced P' of (30) and (31) does not make the equivalent of (32) accessible. Let us return to DP K V and let us introduce P', keeping P in abeyance. This yields P' DP K V. Again, DP K is not a constituent and cannot move alone. Let us move VP to Spec,P', as in (30), yielding V P' DP K. Introducing P leads to P V P' DP K and moving KP to Spec,P yields DP K P V P', as in the last line of (31). Since there are no multiple Specs, further movement is impossible unless we introduce another head X—X DP K P V P'—to which we can move P'P, yielding V P' X DP K P. If this X is silent, we get what looks like (32). Therefore, either there is no such silent X available at all in UG or else any such silent X (coming in directly above P) will have specific content that will make V P' X DP K P a marked construction (e.g., focus or topic).

From the perspective of feature-driven movement, P' in (30) and prepositional P in (14) could be thought of as having a V-feature that attracts VP, and postpositional P of the Japanese sort in (31) can be seen as having a K-feature that attracts KP.[43]

9.4.5.   Prepositional complementizers

In Kayne (1998b; 1999), I suggested an approach to initial complementizers parallel to that discussed above for prepositions. This parallelism is particularly natural in the case of prepositional complementizers like French *de*, Italian *di*, and English *to*. (I take English *to* to be a subtype of complementizer. Differences between it and *de/di* and between it and English *that* can be attributed to independent factors.)

That English infinitival *to* is prepositional is consistent with, if not actually supported by, the fact that it (sometimes) allows stranding under movement, as English prepositions often do:

(33)   They predicted that John would have to resign, and resign he'll have to.

If infinitival *to* is strongly parallel to other English prepositions, then it should enter derivations like that of *try to leave* in a way that parallels the derivation of *looking at us*, as given in (14):

(34)   try leave → merger of K
        K try leave → movement of InfinP to Spec,K
        leave$_i$ K try t$_i$ → merger of P/C

42. Remnant movement may provide a new handle on many of the cases for which "tucking in" seemed necessary.

43. Beyond the scope of this essay are postpositions of the Dutch and German sort recently discussed by van Riemsdijk and Huybregts (manuscript in preparation).

to [leave$_i$ K try t$_i$] → movement of VP to Spec,P/C

[try t$_i$]$_j$ to [leave$_i$ K t$_j$]

As before, *to leave* in the last line of (34) is not a constituent (although 'to leave K t$_j$' is).

As in the rest of English (apart from pronouns), K is not pronounced. In German, whose *zu* should almost certainly be treated like English *to*, K might conceivably correspond to the infinitival -(*e*)*n*, but it is more likely that -(*e*)*n* is a distinct functional head and K is not pronounced in German, either (just as the dative Case that normally goes with *zu* is sometimes not pronounced on nouns).

Certainly the stranding seen in (33) with infinitival *to* is not possible with the standard English *for* that is found with some infinitivals. There is a sharp contrast between:

(35) They predicted that he'd want to leave early, and leave early he'll want to.

(36) *They predicted that he'd want for them to leave early, and them to leave early he'll want for.

This *for* is usually thought of as a complementizer. It may, from the present perspective, enter into the following type of derivation:

(37) want them leave → merger of K$_{for}$

K$_{for}$ want them leave → movement of *them* to Spec,K$_{for}$

them$_i$ K$_{for}$ want t$_i$ leave → merger of *for*

for them$_i$ K$_{for}$ want t$_i$ leave → movement of matrix VP to Spec,*for*

[want t$_i$ leave]$_j$ for them$_i$ K$_{for}$ t$_j$ → merger of K$_{to}$

K$_{to}$ [want t$_i$ leave]$_j$ for them$_i$ K$_{for}$ t$_j$ → movement of embedded VP *leave* to Spec,K$_{to}$

leave$_k$ K$_{to}$ [want t$_i$ t$_k$]$_j$ for them$_i$ K$_{for}$ t$_j$ → merger of *to*

to leave$_k$ K$_{to}$ [want t$_i$ t$_k$]$_j$ for them$_i$ K$_{for}$ t$_j$ → movement of *for*P to Spec,*to*

[[want t$_i$ t$_k$]$_j$ for them$_i$ K$_{for}$ t$_j$]$_l$ to leave$_k$ K$_{to}$ t$_l$

In the last line of this derivation, we see that *them to leave* is not a constituent. The ungrammaticality of (36) follows from that.

The movement of *for*P to Spec,*to* in the next-to-last line should almost certainly be thought of as a case of pied-piping, with *for*P being pied-piped by the VP in its Spec. The movement of the embedded VP *leave* to Spec,K$_{to}$ in the sixth line involves movement from within a left branch—it may be that left-branch violations of the familiar sort can be reduced to "complex NP" violations (or Specificity Condition violations[44]), if sentential subjects and topics[45] are generally DPs (which *want leave* in the sixth line is not), as they visibly are in some languages (e.g., Greek).

We need to ask now why English is so unusual (at least relative to other Germanic languages and to Romance languages) in having an infinitival *for . . . to . . .* construction with a lexical (accusative) subject following *for*.[46] In part, this property

44. See Fiengo and Higginbotham (1981).

45. Thinking of Koster (1978).

46. I am leaving aside here the nonstandard *for . . . to* constructions studied by Henry (1995).

of English is likely to be closely correlated with the fact that English has ECM-con-structions of the *believe*-type[47] in that the movement of *them* (to Spec,K_{for}) in the second line of (37) is of the ECM-type (movement of the subject, out of an infiniti-val). No Romance language has *believe*-type ECM to the degree that English does. (For a fine-grained study of the differences, see Pollock 1985.) This is not sufficient to account for the contrast with the rest of Germanic, though, since Icelandic has robust ECM of the *believe*-type, but nothing comparable to *for . . . to*. For Icelandic, one can point to its requiring morphological oblique Case with its prepositions as prob-ably being relevant (though that would not extend to mainland Scandinavian, which seems to have some *believe*-type ECM). The exact parameters at issue remain to be delineated.[48]

The fact that *for* requires an infinitival, as opposed to a finite IP, may follow from the fact that the subject of a finite IP will already have been Case-marked and therefore "frozen" with respect to further movement of the sort related to Case (as is movement to K_{for}):[49]

(38)   *John would like for her leaves.

The fact that *for* is not compatible with gerunds:

(39)   *John would be happy for there being another party.

could be accounted for in the same way, if a lexical subject in a gerund must get Case within the gerund.[50]

9.4.6.   Nonprepositional complementizers

The stranding seen in (33) has no counterpart with nonprepositional complementizers like English *that* or *if*:

(40)   *They predicted that he'd be happy that he could help us, and he can help us he'll be happy that.

(41)   *They predicted that he wouldn't be sure if he could help us, and he can/could help us he won't be sure if.

47. And of course of the *want*-type without *for*, as in:

(i)   John wants them to leave.

These are also cross-linguistically unusual (at least relative to Germanic and Romance), but they may themselves contain an unpronounced *for* (see Kayne 1981d), contrary to the *believe*-type.

48. If recent theoretical developments are on the right track (see Chomsky 1995), then the government-based proposal of Kayne (1981c) concerning ECM would be expected not to be en-tirely correct.

49. Compare Chomsky (2000).

50. For relevant discussion, see Reuland (1983) and Raposo (1987).

These contrast sharply with:

(42)   (?)They predicted that he'd be happy to help us, and help us he'll be happy to.

Although the sharp impossibility of (40) and (41) resembles that of (36), the proposal for (36) made in effect in (37) (based on nonconstituency) probably does not carry over to (40) and (41), given that *for* and *that/if* differ substantially. In particular, unlike *for*, *that* and *if* have counterparts in Romance languages and in the other Germanic languages. A natural way to interpret this fact is to say that neither *that* nor *if* involves an ECM-like extraction of the embedded subject in the way that *for* does in (37). In other words, as suggested by (38), too, the subject of a finite sentence is Case-licensed independently of *that/if*, a conclusion reinforced by consideration of finite relative clauses, which typically allow lexical subjects, despite frequently (depending on the language) not having any (overt) complementizer.

Relative clause complementizers of the English sort, which precede their associated IP, like English *that*, were given in Kayne (1998b) a derivation similar to that given above in (14) for prepositions and in (34) for prepositional complementizers, but without K. *That* is merged outside VP. If we extend this to nonrelative sentential *that*, and maximize uniformity by associating a K with *that*, too, we would have derivations like:

(43)   think they're smart $\rightarrow$ merger of K_{fin}
       K_{fin} think they're smart $\rightarrow$ movement of IP to Spec,K_{fin}
       [they're smart]$_i$ K_{fin} think t$_i$ $\rightarrow$ merger of *that*
       that [they're smart]$_i$ K_{fin} think t$_i$ $\rightarrow$ movement of VP to Spec,*that*
       [think t$_i$]$_j$ that [they're smart]$_i$ K_{fin} t$_j$

The last line of (43) is parallel to the last line of (34).

This leaves open the contrast (with respect to stranding of *to* vs. *that*) between (33), (35), and (42) on the one hand and (40) on the other. The solution, I think, is to go back to Rosenbaum's (1967) idea that *that*-clauses are introduced by *it*, and to say that contrary to the impression given by (43), the finite IP *they're smart* is not, and could not by itself be, an argument of the matrix verb *think*. More generally put:[51]

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51. Compare Kayne (1982). IP here should perhaps be taken to include projections like FocusP and TopicP that are part of Rizzi's (1997) Comp area. Alternatively, Foc^0 and Top^0 might be merged above VP, parallel to complementizers. K_{fin} in (43) might be assimilated to one of these heads or to Rizzi's Fin^0; alternatively, see Fabb (1984).

On complementizers that look medial, like *to* in:

(i)   John doesn't know where to go.

see Kayne (1999) and Buell (2002). Possibly, the analysis of (i) could be extended to cover Barbiers's (2000b) LAS.

The status of quotative complementizers needs to be looked into further; for interesting discussion, see Koopman and Sportiche (1989).

(44)   A finite IP cannot be the argument of a higher predicate.

Let me take this to lead to:

(45)   For an IP to function as the argument of a higher predicate, it must be nominalized.

The idea is that this can happen in one of two ways, broadly speaking—either through nominalizing morphology or through merger with a noun. (These are very likely just two variants of what is essentially one strategy, insofar as nominalizing morphemes are "bound" variants of "free" nouns.)

In English, this nominalizing morphology can be of the derived nominal (-*ion*) type, the gerundial (-*ing*) type, or the (null) infinitival type. It is probably the case, as a first approximation, that the -*ion* type is always further embedded under a D, that the -*ing* type usually is, and that infinitives often are not.

In the absence of nominalizing morphology—when the verb is finite—the IP must be embedded under a nonaffixal noun, which can be *fact*, in which case further embedding under (definite) D is required:

(46)   John mentioned *(the)/*a fact that Mary was away.

This might hold in general, even when the noun that the finite IP is embedded under is not pronounced. In other words, in:

(47)   John thinks that Mary is away.

there might be both an unpronounced N (imposed by (45)) and an unpronounced D. Yet (46) and (47) diverge when it comes to adjectives:

(48)   John is aware *(of) the fact that they're away.

(49)   John is aware (*of) that they're away.

Let me tentatively take this to suggest that an unpronounced N need not be further embedded under D, that it is not in (49),[52] and that the Case requirement that imposes *of* on (48) is keyed to D rather than to N.[53]

The derivation given in (43) needs to be revised to take into account the presence of this N (and in some cases D, which I will set aside here). The new derivation containing unpronounced N will begin:

52. This is so even though the embedding in (49) is factive; for relevant discussion, see Barbiers (2000a).

If the finite IP is an argument of *realization* or *realize* in:

(i)   the realization that he's exhausted

then it, too, must be embedded under N; for relevant discussion, see Stowell (1981) and Pesetsky (1995).

53. Island effects may also be sensitive to whether or not D is present.

(50)   think N they're smart → merger of K_{fin}
　　　K_{fin} think N they're smart

The next step is movement to Spec,K_{fin}. But now a question arises that did not arise earlier (in (43))—namely, whether to move IP or NP. Let us entertain the hypothesis that what moves at this point is NP:

(51) K_{fin} think N they're smart → movement of NP to Spec,K_{fin}
　　　[N they're smart]$_i$ K_{fin} think t$_i$ → merger of *that*
　　　that [N they're smart]$_i$ K_{fin} think t$_i$ → movement of VP to Spec,*that*
　　　[think t$_i$]$_j$ that [N they're smart]$_i$ K_{fin} t$_j$

　　This derivation may help in understanding why complementizer *that* looks like demonstrative *that* (especially if Sportiche 2002 is on the right track), though there is no immediate generalization to the complementizer *that* of English relative clauses. But perhaps there should not be one, given languages like German, which have a sentential complementizer (*dass*) that looks like the demonstrative or definite article (*das*) yet does not occur in relatives in the way that *that* does in English.[54]
　　Consider now the result of replacing *think* in (50) and (51) by a verb-particle combination. The relevant sentence is:

(52)   John pointed out that they're smart.

Assume that the particle *out* is within the matrix VP and that it therefore enters the derivation prior to K_{fin}:

(53)   point [N they're smart] out → merger of K_{fin}
　　　K_{fin} point [N they're smart] out → movement of NP to Spec,K_{fin}
　　　[N they're smart]$_i$ K_{fin} point t$_i$ out → merger of *that*
　　　that [N they're smart]$_i$ K_{fin} point t$_i$ out → movement of VP to Spec,*that*
　　　[point t$_i$ out]$_j$ that [N they're smart]$_i$ K_{fin} t$_j$

In the last step, *out* is carried along by VP-movement, yielding (52). (This is independent of the decision to have NP rather than IP move to Spec,K_{fin}.)
　　Since the movement of VP carries along the particle *out*, there is, in fact, no way, given our general approach plus the assumption that *out* is within VP, to derive:

54. The English *that*-relative does not occur in any Germanic OV language, as far as I know (setting aside adverbials—Smits [1989, 67]). Similarly for the English "zero relative" (as in *the man we saw*). Nor does the English *that*-relative occur in any Scandinavian, that I know of. (Scandinavian relatives are introduced by *som* or *sem*, which is close to English *as*.) Mainland Scandinavian has zero relatives, but Icelandic does not, it seems, perhaps for reasons related to the difference in verb movement in embeddings. All of this requires further work.
　　Thráinsson (1994, 186) says that dropping the sentential complementizer *adh* in Icelandic is possible only if the subject is pronominal. See the judgments on certain cases in English given in Kayne (1994, 156).

(54)   *John pointed that they're smart out.

More precisely put, there is no way to derive (54) without introducing the sort of scrambling operation that Kayne (1998a) argued to be unavailable with English particles.[55] In other words, we have a possible grammatical account of (54), independent of any processing considerations.

That K_{fin}—and, hence, the complementizer *that*—is merged above VP may be relevant to a striking discrepancy that emerges between complementizer *that* and demonstrative *that*, or more exactly between their counterparts in languages with rich Case morphology. In German, Icelandic, and Russian, for example, demonstratives show Case morphology, but complementizers never do. A possible account is that the K heads that correspond to nominative, accusative, dative, and so on are all merged within VP and above demonstratives but therefore below complementizers. Any functional P paired with a VP-internal K would likewise be merged below complementizers, but above demonstratives and determiners. Hence, while P can usually be followed by D, it is rare for P to be immediately followed by C.[56]

Returning now to (40), and by extension (41), we are now in a position to attribute to (40) the presence of an unpronounced nonaffixal N, just as in (49), in which case we can correlate the deviance of (A-bar-type) IP-preposing in (40) with the presence of that N (thinking perhaps of the complex-NP constraint). If, furthermore, we agree that infinitives, by virtue of being an instance of nominalizing morphology, do not systematically require embedding under nonaffixal N, and more specifically that (42) does not contain one, we might then be able to account for the relative well-formedness of (42), since (42) will not run afoul of any complex-NP-like constraint (assuming the nominalizing morphology itself not to act like the nonaffixal N of (40).[57]

55. See den Besten and Webelhuth (1990) on Dutch and German particles, and Kayne (1998b) on the parallel fact with relatives:

  (i)   *John pointed the student who was causing trouble out.

    Leftward scrambling of the sort alluded to in the text is available with *to all his friends* in:

 (ii)   John pointed out that they're smart to all his friends.
(iii)   John pointed out the student who was causing trouble to all his friends.

    Almost certainly related to (i) and (54) is Kornfilt's (1995) observation that the Turkish postverbal C/*ki*-initial 'CP' often used in quotations (but not only) must be clause-final.

    Also like (i) is the fact, brought to my attention by Francisco Ordóñez (pers. comm.), that Spanish VSO sentences can have a relative clause within the subject if the object is definite, but not if the object is indefinite with no article.

    56. On the (frequent) impossibility of P followed by C, see Kayne (1999).

    57. This kind of account would allow (finite) IP to be a phase; see Legate (2003). The discussion in this paragraph does not address the question why the stranding of *to* seems to have no counterpart in other Germanic languages and in Romance languages, although there may be some link to VP-deletion. Nor does it address the contrast between (40) and well-formed extractions from within finite IP (which might begin prior to merger of K_{fin}):

  (i)   How do you think that he'll answer the question?

9.4.7.   Final complementizers

Although a number of languages have complementizers that follow the associated IP, Dryer (1996, 1053) seems to indicate that such complementizers are not common—that is, are less common that one might have expected starting from a notion of "uniform head-finality" (see section 9.2.3 above). Doing justice to the complexity and range of questions that arise concerning final complementizers would go beyond the scope of this chapter; let me, however, try to provide a partial analysis.

Consider the case of an IP associated with a final complementizer, where that IP functions as the argument of some higher predicate. Then by (45), that IP must be nominalized—it must occur with nominalizing morphology or be embedded under a free-standing N, in a way that would be similar to English *the fact that he's smart*,[58] abstracting away from word order and from the presence or absence of the determiner.

Now recall from (10) that final complementizers normally go with OV and not with VO. This leads to the following conjecture:

(55)   If an IP is associated with a final C, and if that IP is embedded under N, the order will universally be IP-C-N (and never *N-IP-C).

A parallel conjecture for the partially similar case of relative clauses would be:

(56)   A relative clause with a final C must precede its "head" N or NP.

(Both of these conjectures might need to be relativized to "normal order (for the language in question)," abstracting away from special movement effects.)

The two related conjectures that follow also seem plausible:

(57)   If an IP is associated with an initial C, and if that IP is embedded under N, the order will universally be N-C-IP (and never *C-IP-N).

(58)   A relative clause with an initial C must follow its "head" N or NP.[59]

To the extent that this set of conjectures is largely correct, it emphasizes the partial similarity between structures like *the fact that* . . . and relative clause structures. If that similarity is significant, then an observation by Keenan (1985, 160) concerning

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58. It may be that (44) and (45) should be generalized to cover relative clauses. Finite relatives would then meet the nominalization requirement by virtue of N or NP raising. This would imply an unpronounced head N in finite free relatives and might account for the fact that certain free relatives such as French:

(i)   Vous avez de quoi manger. ('you have (of) what to-eat')

have no finite counterparts.

Finite embedded interrogatives will also need an N.

59. See Hawkins (1990, 242).

relative clauses becomes relevant to *the fact that* . . . and to IP arguments more generally. Keenan noted that cross-linguistically the verbs of prenominal relatives are with few exceptions nonfinite/participial. Similarity with *the fact that* . . . would then lead us to expect:

(59)   When the embedded IP precedes *fact* or its equivalent, that IP will with few
       exceptions be nonfinite or participial.

Consider now the case of a finite IP serving as the argument of a verb or adjective in a language that has only final complementizers. By (45), that finite IP must be embedded under N. By (55), the order must be IP-C-N. By (59), the IP must therefore with few exceptions be nonfinite or participial. This is a contradiction, in most cases. We therefore conclude that an IP accompanied by a final complementizer will usually be nonfinite or participial.[60]

The English complementizer *that* has the property that it occurs only with finite IP. We therefore conclude further that, with few exceptions, there can be no "final" counterpart of *that*, and that in languages with only final complementizers, there is likely to be no counterpart of English *that* at all—which is what Fukui (1986) claimed to be true for Japanese.[61]

9.5.   Conclusion

Antisymmetry impinges on the analysis of Japanese in many ways, some of which I have touched on here. In addition, I have argued that the solidity of the antisymmetry hypothesis is enhanced by a wide range of cross-linguistic gaps; imaginable language types that appear never to occur. I have argued further that adpositions are paired with a K-head and that DP-movement to Spec,K and VP-movement to Spec,P or P' cut across prepositional and postpositional languages, in a way quite different from Kayne (1994). Complementizers are interestingly similar to adpositions (and deserve more space than I have given them here.)[62]

60. If quotative complementizers are verbs, they do not fall under this discussion.

61. That Japanese embedded verbs are nonfinite or participial is not obvious, but neither is it obvious that they are finite, I think.

Note in particular that Japanese polite *-mas-* is by and large limited to nonembedded contexts, as pointed out by Harada (1976, 503, 544) and confirmed to me in discussion with Keiko Muromatsu. Thus *-mas-* is plausibly like English modals in being an auxiliary restricted to finite contexts. The even more restricted distribution of *-mas-* (compared with English modals) may then be due to the fact that embeddings in Japanese are by and large nonfinite.

The similar distribution of polite *-des-* may suggest that both *-mas-* and *-des-* are bimorphemic, with the second morpheme being *-s-*. The restriction to finite contexts may then be a property of this *-s-*, recalling the (usually) polite *do* of *Do sit down*.

62. See Emonds (1985).

10

Silent Years, Silent Hours

10.1.   NUMBER and COLOR

Jespersen (1970a/1914, 106) noted that it is natural to take English *few* to be an adjective, given that it has comparative and superlative forms:

(1)   John has fewer books than Bill.

(2)   John has the fewest books of anybody I know.

Yet if *few* is an adjective, why it is compatible with *a* and with *every*, as in:

(3)   a few books

(4)   every few days

given that *a* and *every* otherwise require a singular noun:

(5)   *a books

(6)   *every days

In recent work,[1] I suggested that the adjectival character of *few* can be reconciled with its occurrence with *a* and *every* if we take *few* to directly modify a noun distinct from the visible plural *books* or *days*:

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1. See chapter 8.

(7)   fewer/fewest NUMBER books

(8)   a few NUMBER books

(9)   every NUMBER days

The noun in question is a silent counterpart of the overt *number* seen in:

(10)   a small number of books

The proposal that *few* always modifies NUMBER is supported by the fact that in some cases (characterized by *few* being separated from *number*) *few* can to some degree of acceptability modify overt *number*:

(11)   ?(?)John has too few a number of books to qualify for a larger apartment.

(12)   (?)John has the fewest number of books of anybody I know.

This hypothesis concerning *few*, which carries over in an obvious way (though with some interesting twists) to *many* and also to *little* and *much* (with the last two taken to modify AMOUNT), extends naturally to color adjectives (and certain others), which should be taken to invariably modify either the overt noun *color* or its silent counterpart COLOR, the latter as in:

(13)   John bought a green COLOR car yesterday.

This is supported by sentences like:

(14)   John's car is a bright green.

where the presence of *a* is plausibly licensed by silent COLOR.[2]

Although *few* is, from this perspective, akin to *small*, *small* does not allow silent NUMBER:

(15)   John has a few/*small books.

Put another way, NUMBER requires the presence of a specialized adjective like *few* or *many*, and similarly for COLOR, as seen in:

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2. In the context of a plural noun, COLOR does not license *a*:

(i)   *John has a green cars.

Nor does overt *color* in:

(ii)   They bought (*a) different color cars.

(16)   John's suit is of a bright green color / a widely discussed color.

(17)   John is wearing a bright green suit.

(18)   John is wearing a widely discussed suit.

COLOR, modified by *bright green*, is present in (17), but COLOR is not present or licensed in (18), which does not seem possible with the interpretation of:

(19)   John is wearing a suit of a widely discussed color.

That is, COLOR requires the presence of a specialized adjective, too.

Silent NUMBER and COLOR, in, for example, (15) and (17), have no antecedent, at least not in the strong sense of requiring an overt instance of *number* or *color* elsewhere in the sentence or previous discourse. However, there is a weaker sense in which NUMBER and COLOR do have an antecedent—namely, one residing in the feature [+number] or [+color], which arguably characterizes the number adjectives *few* and *many* and the color adjectives like *green* and *red*.

In this chapter, I look at some further instances of silent nouns that are not licensed by an antecedent in the strong sense of the term.

10.2.   Age

There is a slight contrast for me between the following:

(20)   At the age of seven months, John . . .

(21)   (?)At the age of seven years, John . . .

More natural than (21) is:

(22)   At the age of seven, John . . .

Conversely, to my ear, (22) cannot be interpreted in the same way as (20). That is, (22) should plausibly be taken to contain the silent noun YEARS[3] and cannot contain MONTHS. Similarly, I find:

(23)   *At the age of three, their newborn daughter already weighed 12 pounds.

The word *newborn* in (23) is incompatible with 'three YEARS'. The fact that this example is unacceptable indicates further that a silent WEEKS or DAYS is not available.

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3. I will use capital letters to indicate lack of phonetic realization.

In other words, in the age context illustrated in (20)–(23), the numeral can be followed by silent YEARS, but not by silent MONTHS, WEEKS, or DAYS. (For me, YEARS in (22) is preferred to *years* in (21).) This asymmetry between YEARS and the others, which might be thought of in terms of markedness, is not limited to contexts in which the overt noun *age* is present, given:

(24)   John is three.

This example is naturally interpreted in the same way as the equally acceptable:

(25) John is three years old.

Much less readily available is an interpretation of (24) that would correspond to:

(26)   John is three months/weeks/days old.

except perhaps in the context of a day care center for babies or a maternity ward.
　　Just as (22) should plausibly be analyzed as containing:

(27)   at the age of seven YEARS

with silent YEARS, so then should (24) be analyzed as containing:[4]

(28)   is three YEARS

　　Of course, thinking of (25), it might be that (24) also contains a silent counterpart of *old*. Alternatively, (24) might be closer to (the less colloquial):

(29)   John is three years of age.

in which case (24) would contain a silent counterpart of *age*. Compared to postulating the presence of a silent adjective OLD, the proposal that (24) contains a silent AGE has the advantage of relating (24) more closely to (22) and (27). A second advantage can be seen by considering certain discrepancies between *old* and *of age*.
　　I find that *old* has a broader range than *of age*, which for me is fully natural only with human beings and some animals:

(30)   a. That child is ten years old.
　　　　b. This dog is fifteen years old.
　　　　c. That tree is two hundred years old.
　　　　d. The Earth is five billion years old.
　　　　e. The idea that gravity has a geometric interpretation is ninety years old.

4. It will turn out that what is silent is YEAR rather than YEARS.

(31) a. That child is ten years of age.
     b. (?)This dog is fifteen years of age.
     c. ??That tree is two hundred years of age.
     d. *?The Earth is five billion years of age.
     e. *The idea that gravity has a geometric interpretation is ninety years of age.

Moreover, I find that (24) displays a broadly similar sensitivity to the type of subject—that (32) is considerably closer in this respect to (31) than to (30):

(32) a. That child is ten.
     b. (?)This dog is fifteen.
     c. ??That tree is two hundred.
     d. *?The Earth is five billion.
     e. *The idea that gravity has a geometric interpretation is ninety.

Let us adopt, then, the proposal that (32) and (24) contain AGE, in addition to YEARS. If we now compare (32) and (24) to (27), the proposal that comes to mind is that YEARS is licensed in these examples at least in part by the presence of AGE or *age*, in a way that I will come back to. (Silent AGE itself appears to have no licenser, unless one takes nouns for human beings and some animals to bear a feature [+age].)

Nevertheless, there must be at least one more licensing factor—namely, the numeral itself, given the following. Example (32a) is possible with numerals, including fractional ones:[5]

(33) Their daughter is three and a half now.

but not with less exact expressions of quantity:

(34) **She's several/quite a few/not very many now.

This effect is very strong with YEARS, as in (34), but is less strong, to varying degrees, with overt *years*:

(35) ?She's several years old now.

(36) ?She's several years of age now.

It reappears in a very strong form in the other case we have seen involving YEARS:

5. Although for me a pure fraction does not work:
 (i) *Their daughter is a/one half now.
suggesting that in (33) the licenser is *three* and that YEAR(S) follows *three* immediately, recalling the order in French:
(ii) Marie a trois ans et demi. ('M has 3 years and half')

(37)   Even at the age of three and a half, John . . .

(38)   **Even at the age of several/quite a few/not very many, John . . .

Like (37) is the corresponding sentence with silent AGE (and YEARS):

(39)   Even at three and a half, John . . .

Again, an inexact expression of quantity is strongly prohibited:

(40)   **Even at several/quite a few/not very many, John . . .

   For me, this effect is, as in (36), weaker with *years of age*:

(41)   ??Even at several years of age, John was incapable of remaining silent.

Whereas with *at the age of . . . years*, I find it stronger again:

(42)   *Even at the age of several years, John was incapable of remaining silent.

   The fact that (40) is closer in acceptability status to (42) than to (41) suggests that the structure of (39) and (40) is close to that of (42):

(43)   at THE AGE OF three YEARS (first approximation, see (82))

   In the case of (32a) and (33), the same conclusion seems unavoidable—in part by extension from (43), in part from consideration of pairs like:

(44)   It's almost as if he's been thirty years of age forever.

(45)   (?)It's almost as if he's been at the age of thirty years forever.[6]

I think that substituting *several* for *thirty* yields a bigger drop in acceptability in the second of these than in the first:

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   6. Also possible, with YEARS, is:
 (i)   (?)It's almost as if he's been at the age of thirty forever.
Harder for some reason is:
 (ii)   ??It's almost as if he's been at thirty forever.
Better again is:
 (iii)   He acts like he's stuck at thirty.
Also:
 (iv)   She was promoted to full professor at thirty-three.

(46)   ?It's almost as if he's been several years of age forever.

(47)   *It's almost as if he's been at the age of several years forever.

As expected by now, still worse is:

(48)   **It's almost as if he's been at the age of several forever.

The very strong unacceptability of (48) reflects the incompatibility of YEARS with *several*.[7] This is also seen in (34). The fact that the unacceptability of (34) is closer in degree to that of (47) than it is to that of (46) suggests again that (33) (and similarly for (34) and (32)) has the structure:

(49)   is AT THE AGE OF three YEARS (first approximation, see (82))

Representation (49) matches (43) except for the difference between AT and *at*. That there must be a silent AT in (49) and (33) is reinforced by the contrast between (45) and:

(50)   *It's almost as if he's been the age of thirty (years) forever.

A related preposition appears in:

(51)   Nobody can make it to a hundred without medical help.

which is to be represented as:

(52)   to THE AGE OF a hundred YEARS (first approximation, see (82))

That (51) is intimately related to the earlier discussion is supported by its sensitivity to the notion of exact numeral:[8]

7. The examples under consideration clearly differ in status from:

(i)   Of the twenty years they spent in Asia, several were spent in Thailand.

which have nothing to do with age. In (i), *years* is itself the antecedent of an unpronounced category following *several*, probably a pronominal one doubled by *years;* see Pollock (1998) and chapter 6.

8. An exact numeral is sufficient to license YEARS (in the context of AGE and *age*), even if modified in such a way as to yield a globally "inexact" interpretation:

(i)   John is about forty.
(ii)   At somewhere around the age of fifty, . . .
(iii)   I hear he made it to about a hundred.

Somewhat less good is:

(iv)   (?)At the age of about/somewhere around fifty, . . .

(53)   *Nobody can make it to hundreds even with medical help.

The presence of a silent preposition in (49) is related to proposals in other con-
texts made by Katz and Postal (1964) and many others since.[9] In some cases, the
availability of silent TO appears to be sensitive to the choice of verb:

(54)   At that rate, he won't reach a hundred / the age of a hundred.

(55)   At that rate, he won't get *(to) a hundred / the age of a hundred.

This is not specific to contexts involving age:

(56)   We won't reach Paris until tomorrow.

(57)   We won't get *(to) Paris until tomorrow.

The presence in (43), (49), and (52) of THE and OF in addition to AGE calls for
further discussion. In particular, my English allows two options in:

(58)   At age eleven / the age of eleven, he was not yet in high school.

Determinerless *age* here is incompatible with *of*:

(59)   *At age of eleven, he was not yet in high school.

Of the two possibilities illustrated in (58), *the age of eleven* is the more usual, *age
eleven* the more special. With silent AT, *age* followed by a numeral is a bit less natu-
ral, but still acceptable, I find:

(60)   (?)When somebody is age (*of) eleven, they're not usually in high school.

(Example (60) shows the same sharp incompatibility with *of* as does (59).)
The availability of *age eleven* (and similarly for *age three months*, etc.) in (58)
and (60) distinguishes *the age of eleven / three months* from the arguably parallel *the
city of Boston*. That they are to some extent parallel is suggested by a common re-
striction. Consider first:

(61)   *At the age of the (whole) number that lies between ten and twelve, he was not yet
        in high school.

The impossibility of (61) might be attributed to the fact that (58) must contain YEARS,
combined with the fact that alongside *eleven years* there is no:

9. For a different view, see Larson (1985).

(62)   *the (whole) number that lies between ten and twelve years

(Alternatively, or in addition, (61) is to be excluded parallel to (48).) Somewhat similarly:

(63)   *At the age of the eleven that I produced by dividing twenty-two by two, he was not yet in high school.

This recalls:

(64)   *He lives in the city of the Boston that he used to love.

Neither *the age of eleven* nor *the city of Boston* allows *of* to be followed by a DP beginning with *the* and containing a relative.[10] Nor does either allow an initial indefinite article:

(65)   *At an age of eleven, he was not yet in high school.

(66)   *He lives in a city of Boston.

Furthermore, the nonpronunciation of AGE indicated in (43), (49), and (52) looks very much like the fact that *the city of Boston* can in general be replaced by just *Boston*.
    Despite these parallels, there is, alongside (58) and (60), no:

(67)   *He lives in city Boston.

From this perspective, however, *age eleven / age three months* does have a close counterpart in *Lake Ontario*, with (59) and (60) then like:[11]

(68)   *He lives near Lake of Ontario.

    In the spirit of Kayne (1994, 106) (and a suggestion of Juan Uriagereka's) and Bennis et al. (1998), *the age of eleven*, *age three months*, *the city of Boston*, and *Lake Ontario* may involve movement of *age*, *city*, and *lake* from a predicate position below *eleven*, *three months*, *Boston*, and *Ontario* into the Spec of *of*—or some comparable position in the absence of overt *of* (*the age of eleven* will, in addition, involve the presence of YEARS):

(69)   the [age_i of [eleven YEARS] t_i]

    10. Note the contrast between (64) and:

(i)   He lives in the city of the Hague / in the borough of the Bronx.

where *the* is in some sense expletive.
    11. Why *of* is impossible here remains to be elucidated.

(70)   age$_i$ F^0 [three months] t$_i$

(71)   the [city$_i$ of Boston t$_i$]

(72)   Lake$_i$ F^0 Ontario t$_i$

Let us return now to those cases in which English allows YEARS and AGE at the same time:

(73)   Even at three, John . . .

(74)   Their daughter is three now.

(75)   Nobody can make it to a hundred without medical help.

Thinking of (70) and the corresponding structure for *age eleven*:

(76)   age$_i$ F^0 [eleven YEARS] t$_i$

it is natural to propose that (73)–(75) are more closely related to *age eleven* (and to (70) and (76)) than to *the age of eleven*. In other words, we should attribute to (73)–(75) the structure:[12]

(77)   at/AT/to D^0 AGE$_i$ F^0 [numeral YEARS] t$_i$

I have completed (77) with a D^0, thinking of Longobardi (1994) on proper names and with the idea in mind that *age eleven* is akin to a proper name, as is *eleven* itself when it has the structure D^0-AGE$_I$-F^0 [eleven YEARS] t$_i$ (and the same for (73)–(75)). Continuing in the same vein, (72) should be filled out as in:

(78)   D^0 Lake$_i$ F^0 Ontario t$_i$

with a natural extension to *the Hudson River*.[13]

10.3.   French and Italian

The hypothesis expressed in (77) has the advantage (compared with its predecessor in (43), (49), and (52)) of reducing the absence of overt *the* and *of* in (73)–(75) to the absence of overt *the* and *of* in *age eleven*. Not yet considered, however, is the ques-

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12. Note that 'numeral' in (77) is to be understood as phrasal (given *three and a half*, *a hundred*, etc.).

13. See Longobardi (1994, 632; 1996).

tion whether or not English itself is representative, and if it is not, what the parameters might be that underlie the differences found across languages. Taken broadly, this question goes far beyond the scope of this essay. I limit myself to some parametric remarks revolving around French and Italian.

The possibility of having YEARS licensed by a numeral in the context of *age* and AGE (as in (77)) is not made automatically available by UG, as shown by the fact that French and Italian disallow counterparts of (27), (39), (51), and (58), for example:

(79)   A l'âge de sept *(ans), Jean . . . (French: 'at the-age of seven (years), John . . .')

(80)   All'età di sette *(anni), Gianni . . . (Italian: *same*)

In both French and Italian, the word for *years* must be pronounced here: YEARS is not possible, contrary to English.[14]

It may be possible to achieve an understanding of this contrast between English and French and Italian by returning to (77), in particular to the lower part, which I repeat here:

(81) AGE_i F^0 [numeral YEARS] t_i

Thinking of Simpson's (2005) observation that the Thai counterpart of *year* can occupy the position of a classifier,[15] let me suggest, first, that YEAR(S) in (81) is a classifier mediating the relation between the numeral and the noun AGE, that the

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14. Similarly for the contrast between (32a) and:

 (i)   Jean a trois *(ans). (French: 'J has three years')

 (ii)   Gianni ha tre *(anni). (Italian: *same*)

though the discussion would have to take into account the use of *have* in French and Italian versus *be* in English.

The *have/be* difference extends to:

(iii)   John is my age.

which in French and Italian would have *have* rather than *be*. This English use of *be* (with no following preposition), in turn, correlates with the possible absence of *of* in (see Payne and Huddleston [2002, 446]):

(iv)   Mary is hoping to meet a man her age.

and the importantly similar:

 (v)   Mary is hoping to meet a man the same age as her.

15. Simpson (2005) proposes that Thai *year* is moved to the classifier position from a lower noun position. I leave open the question how exactly his proposal should be extended to English.

The fact that in Cantonese (Matthews and Yip 1994, 94) (the equivalent of) *each month* but not *each year*, requires a classifier recalls the discussion of (20)–(26), in particular, given Simpson's idea that N-to-CL raising is what accounts for certain nouns not taking a (separate) classifier.

nonpronunciation of YEAR(S) is licensed by AGE in this structure, and that this licensing is available precisely because YEAR(S) is a classifier relative to AGE.[16]

Second, consider the fact that classifiers typically are not pluralizable,[17] which leads naturally to the proposal that YEARS in (81) should be replaced by singular YEAR:

(82) AGE_i F^0 [numeral YEAR] t_i

This has some plausibility even relative to English itself, given that English numerals are followed by a singular noun in cases like:

(83)   a five-drawer(*s) file cabinet

(84)   Mary has a six-year(*s)-old brother.

(85)   Mary has three thousand(*s) books in her library.

(More systematic than English in this regard is Hungarian, which has a plural suffix for nouns, but does not use it with numerals.) Of course, in other cases, English numerals must be followed by a plural:

(86)   This file cabinet has five drawer*(s).

(87)   Mary's brother is six year*(s) old.

But whatever the exact reason for the obligatory plural in (86) and (87), the existence of (83)–(85), combined with general considerations concerning the absence of plural morphology with classifiers and the existence of languages like Hungarian, shows that (82) is a perfectly reasonable structure.

Third, thinking of the fact that classifiers are typically not modifiable,[18] we can note the following. When plural (i.e., when not necessarily a classifier in the strong sense of the term), *years* can in the context of age be modified to varying degrees of marginality:

(88)   ??J is seventy wisely lived years of age.

(89)   ??At the ripe old age of seventy wisely lived years, John . . .

(90)   ??John is seventy wisely lived years old.

16. A separate question (which I will not pursue here) is whether the constituent structure indicated in (81) is exactly right, as opposed, for example, to having AGE and YEAR(S) form a constituent. For relevant discussion, see Cheng and Sybesma (1999; 2005).

17. This is so with some apparent exceptions; see Aikhenvald (2000, 249n). A separate question is whether the lexical noun being "classified" can be plural; see Aikhenvald (2000, 100, 249). I am here taking *pound* in *three pounds of sugar* not to be a classifier—see note 20.

18. For reasons that need to be made precise.

When singular, on the other hand, *year* cannot be modified in this fashion at all:

(91)   John is a seventy-(**wisely lived)-year-old man.

The substantial extra deviance of (91) lends credence to the idea that singular *year* in such examples is strongly classifier-like. We now expect, given the singularity of YEAR in (82), that sentences based on (82) will not allow modification of this sort at all.[19] This expectation is correct, to judge by the fact that the following are, when containing modification, as deviant as (91) is:

(92)   At the age of seventy (**wisely lived), John . . .

(93)   At age seventy (**wisely lived), John . . .

(94)   John is seventy (**wisely lived) today.

    Let me now reinforce the proposal that (82) contains singular YEAR by adding this:

(95)   YEAR can be silent in (82) only if it is not accompanied by a plural element.

This is to be interpreted as a claim about UG. The counterpart of the lexical item YEAR can be silent in some language in the configuration shown in (82) only if it is unaccompanied by plurality.
    Let me further add:

(96)   The availability of (82) in a given language depends on the syntax of plurality in
        that language.

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    19. Perhaps related to this restriction against modification are the following facts:
  (i)   At the age of two *(years), five months, John was already bilingual.
 (ii)   He'll be two *(years), five months next week.
It may be that *five months* counts as a modifier and is therefore incompatible with classifier YEAR.
    When there is *and*, the structure is presumably not the same, given the improvement seen in:
(iii)   At the age of two ?(years) and five months, John was already bilingual.
(iv)   He'll be two ?(years) and five months next week.
    Like (i) and (ii) is:
  (v)   John is six *(feet), three inches.
despite:
 (vi)   John is six three.
which is presumably:
(vii)   John is six FOOT three INCH

The idea is that English allows (82) or (undoing the movement of AGE):

(97) F^0 [numeral YEAR] AGE

(with singular YEAR) as a consequence of independent properties of English plurality. Abstracting away from F^0 and from questions of internal constituent structure, and replacing YEAR and AGE by more general (silent) terms, we have:

(98)   numeral CLASSIFIER NOUN

Assume now that (98) is significantly parallel to both of:

(99)   numeral adjective noun

(100)   numeral classifier noun

where all the elements indicated are overt.

Of importance at this point is the fact that English prenominal adjectives show no number morphology (whether preceded by a numeral or by some other kind of determiner):

(101)   John has three little(*s) brothers.

Thus we have:

(102)   English prenominal adjectives and English prenominal classifiers without *of* are not accompanied by plural morphology (i.e., are not followed by any plural morpheme).

An example of an overt classifer without *of* in English might be *thousand* in (85). A covert one, if I am right, is definitely YEAR in (82) and (97).[20]

The claim that emerges from the preceding discussion, then, is that the lack of a plural morpheme following YEAR in English in (82) and (97) is closely connected to the lack of plural morpheme following English prenominal adjectives or English prenominal overt classifiers (without *of*). This suggests revising (95) to:[21]

(103)   Silent YEAR is possible in (82) and (90) in a given language only if in that language either prenominal adjectives or overt prenominal classifiers without (the

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20. How relevant are examples with *of* is not entirely clear. A true classifier with *of* might perhaps be:

(i)   John owns eighty head(*s) of cattle.

On *three liters of wine*, see Cheng and Sybesma (1999, 515) on what they call "massifiers."

21. For languages with postnominal classifiers and adjectives, (103) will need to be generalized somewhat.

equivalent of) *of* (or both) can (productively) be unaccompanied by a plural morpheme.

The absence of a plural suffix on the adjective in English (101) distinguishes English from Italian, whose adjectives quite generally agree with the noun in number. Furthermore, Italian arguably has no prenominal classifiers not followed by a preposition.[22] By (103), then, Italian cannot allow silent YEAR in (82) and (97). We thus have an account of (80), as desired, and in effect support for the postulation of (82) and (97).

Like Italian, French clearly has (with numerals) no productive use of nonplural nonprepositional prenominal classifiers.[23] Moreover, French has number agreement with prenominal adjectives.[24] Therefore, by (103), French should not allow (82) and (97) with silent YEAR, so we have an account of (79), too.[25]

10.4.   Some further remarks on silent nouns and time

In the area of age, we can note that overt singular *year* does not necessarily have a silent counterpart:

22. There may be one nonproductive case:

(i)   tre cento libri ('three hundred books')

Alternatively, *cento* in (i) may be like nonagreeing *meno* ('less') or *abbastanza* ('enough'). In any event, Italian shows no contrast like that between (85) and *thousands of books*.

23. A nonproductive candidate would be:

(i)   trois mille hommes ('three thousand men')

24. It is a fact of French phonology that this number agreement is not audible if the following noun begins with a consonant. Colloquial French needs to be thought about further, in particular, in light of Bernstein (1991) on Walloon, since one sometimes hears examples like (i) without the *-s* on *autres* being pronounced:

(i)   les autres amis ('the other friends')

On the other hand, it may be that (103) should be revised to include article agreement (the *-s* of the *les* in (i) must be pronounced).

25. Francisco Ordóñez tells me in (his) Spanish there is a clear contrast between:

 (i)   *Yo tengo cinco. ('I have five')

as an out-of-the-blue expression of age corresponding to the well-formed *I'm five* in English and:

 (ii)   Yo tengo tres años, pero Juan solo tiene cinco. ('I have three years, but J only has five')

My interpretation is that (i) is excluded parallel to its Italian or French counterparts (Spanish has number agreement with prenominal adjectives and in addition lacks the relevant classifier construction), whereas (ii) falls under the discussion of note 7 (it contains a silent pronoun).

Butt and Benjamin (1988, 101) give, for temperature:

(iii)   Debe haber cinco bajo cero. ('must be/have five below zero')

which makes it look like Spanish allows DEGREE, in a way that needs to be looked into.

(104)   They have a seven-*(year)-old son.

It may be that this effect is due to the absence of the licensing noun *age* or AGE (assuming silent AGE to be incompatible with *old*). Similarly for:

(105)   They have a seven-*(year)-old.

This example is of interest in another way, in that it almost certainly contains a silent (singular) noun, plausibly a counterpart of *child. S*ome noun surely must be present to account for the appearance of the indefinite article (hardly likely to be licensed here by *year*), much as in the earlier discussion of (3) and (8).
     Seemingly different from the above is:

(106)   John is seventeen *(years) of age.

(107)   At seventeen *(years) of age, John is still a child.

since the potential licenser *age* is present. Therefore it looks as if (106) and (107) should be possible without overt *years*, with the structure '. . . seventeen YEAR of age'. But it may be that YEAR is excluded here as the result of the presence of *of*, which may interfere with the needed local relation between *age*/AGE and YEAR.
     Returning to (105), note the possibility of:

(108)   They have two seven-year-olds.

with plural -*s* following the adjective, and contrasting with:

(109)   *They have two seven-year-olds son(s).

Bauer and Huddleston (2002, 1660) call (108) an instance of "conversion to noun." Alternatively, the way to think of it is rather as an instance of a silent (nonclassifier) plural noun whose -*s* happens to look like it is "on the adjective." That is, (108) is:

(110)   two seven-year-old CHILD s

The fact that plural -*s* is possible here but not with YEAR:

(111)   *At the age of seventeens, John . . .

(112)   *John is seventeens now.

is to be traced back to the fact that YEAR is a classifier relative to *age* and AGE, whereas CHILD is not a classifier at all.
     Different from (108 is:

(113)   The very wealthy/*wealthies are favored by those proposals.

(114)   *Two very wealthy are . . .

The absence of plural *-s* after the adjective in *the very wealthy* may reduce to:

(115)   Those who are very wealthy/*weathies are . . .

in particular if (113) is to be analyzed, thinking of Koopman (2002), as containing a reduced relative. (The absence of *-s* following *the* is a general property of English that needs to be accounted for.)

The fact that the irregular plural morphology of *children* does not carry over:

(116)   *They have two seven-year-old-ren.

recalls a fact pointed out by Jeanne (1978, 347)—namely, that Hopi VP-deletion leaves behind regular inflectional morphology even when the verb in question would have had a suppletive form, and suggests that irregular morphology is associated only with the phonological features of a lexical item.

There is a sharp contrast between:

(117)   big cars; big ones; *bigs

(118)   other cars; other ones; others

and similarly with **the bigs* versus *the others*, and so on. There is evidently an independent factor that in the absence of a lexical noun forces the presence of *one* with adjectives like *big* (see Kester 1996), but not with *other*. It may be that the *-s* in *others* is simply the *-s* of *other ones*, which looks like it forms a word with *other* as a side effect of the absence of *one* (see Julien 2002), much as in (108.[26]

Somewhat similar to (108) and *others* is:[27]

(119)   in the (nineteen-)eighties

which can be plausibly analyzed as:

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26. Numerals in American English don't take *ones*, yet don't allow *-s*, either, for unclear reasons:

  (i)   John owns three houses and Mary owns four *ones/*s.

In British English, in contrast, Trudgill and Hannah (1994, 74) give *three millions* as possible.

Another interesting candidate for a silent noun followed by plural *-s* is:

  (ii)   John bought three wines.

with the analysis:

(iii)   . . . three wine-KIND-s

27. I won't address the (interesting) question of the possible nonpronunciation of *nineteen* here.

(120)   eighty YEAR s

where YEAR here is a nonclassifier noun and *eighty* a modifier of it (compare *in the years named* or *numbered eighty-something*).

Of interest is the fact that silent YEAR(S) is not possible in the French counterpart of (119):[28]

(121)   dans les *(années) quatre-vingt ('in the years four-twenty')

It is conceivable that this is related to French's disallowing *at the age of eighty*, as in (79), even though *année* in (121) is not a classifier. (The proposal for (79) was that the syntax of plurality in French made classifier YEAR unavailable.) Still, (79) and (121) differ in that (121) contains a plural definite article *les* that has no counterpart in (79), and there is some evidence that the licensing of silent nouns proceeds differently in French (and Italian) in the presence of a definite article.

For example, French itself differs from Italian with respect to time:

(122)   Il est six heures. (French: 'it is six hours' = six o'clock)

(123)   Sono le sei. (Italian: 'are the six' = *same*)

The noun *heures* must be present in French:

(124)   *Il est six.

In Italian, the corresponding noun can be present, although that is less usual:

(125)   Sono le ore sei. ('are the hours six')

That it must be present in French, but need not be in Italian, is arguably related to the presence of the definite article *le* in Italian (123) versus its absence in French (122). English contrasts minimally with French in allowing, with a time interpretation:

(126)   It's six.

and (126) versus (124) is plausibly exactly like English versus French with respect to *at the age of eighty*, with English allowing (with HOUR a classifier):

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28. French has no close counterpart at all to:

 (i)   John is in his eighties.

(although *cinquantaine*, etc. is relevant) and similarly for:

 (ii)   The temperature will be in the eighties tomorrow.

The restriction seen in (iii) remains to be understood:

(iii)   John is in his teens/teenage years/*teenages.

(127)   six HOUR

and French not. With (82) in mind, (126) would more exactly be:

(128)   CLOCK/TIME$_i$ F^0 [six HOUR] t$_i$

with singular classifier HOUR.

In French, (128) is not available, due to the way in which French distributes plurality within DP (see (103)).[29] Italian disallows *at the age of eighty* just like French (see (80)) and for the same reason. Yet Italian allows (123), perhaps as:

(129)   le ORE$_i$ F^0 [sei ORA] t$_i$

with ORE corresponding to CLOCK or TIME and singular ORA to the classifier HOUR. That (129) is on the right track is suggested by the existence of (125) and especially:

(130)   Sono le ore una. ('are the(pl.) hours one')

with plural *ore* followed by singular *una*. Possible, too, with ORE in place of *ore* (akin to AGE in place of *age* in *at eighty*; see (77)), is the striking:

(131)   Sono le una.

with the plural definite article giving the impression of immediately preceding singular *una* (but the structure of (131) is really as in (129), with *una* in place of *sei*). As for why the presence of the definite article in (129) allows classifier ORA to be free of plurality, part of a possible answer might be that the definite article *le* (or just its number and gender component *-e*—note the feminine gender matching that of ORE) is actually a plural morpheme originating between ORA and t$_i$.

The definite article is not possible in French in (122):

(132)   *Il est les six (heures).

which may be a form of definiteness effect, keyed to *il*. But French does allow a definite article, with a licensing effect on a silent noun somewhat as in (129), in other cases. Martinon (1927, 200) notes:

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29. Also:

 (i)   at five (o'clock)
(ii)   à cinq *(heures)

On the other hand, Grevisse (1993, sec. 574) notes that *minute* is elided in *dix heures moins une* ('ten hours less one'); compare English *ten to five*. Conceivably, MINUTE (in my terms) is licensed by *heures* itself.

(133)   vers les une heure ('toward the(pl.) one hour' = around one o'clock)

with a plural definite article followed by a singular, perhaps as in (129).[30]

    That expressions of time and age are significantly similar is reinforced by the fact that (106) and (107) have a counterpart with time:

(134)   They'll be there in two hours / in two hours' time.

(135)   *They'll be there in two('s) time.

(where *in two hours* is plausibly '[in two hours' TIME]'). As in the case of (106) and (107), it may be that (135) is excluded because (unlike in (128)) the possessive structure prevents *time* from licensing silent classifier HOUR.

10.5. Conclusion

The study of expressions of age and time provides evidence in favor of postulating silent counterparts of the nouns *year* and *hour* (and *age* and *time*). Both the study of the conditions under which these silent nouns are licensed and the study of cross-linguistic differences concerning them (which involves at least the syntax of plurality and the syntax of determiners) suggest that this type of silent element may turn out to constitute a more important probe into UG than might have been thought.

    30. Grevisse (1993, sec. 584) gives:

(i)   dans les un mètre 80 ('in the(pl.) one meter 80' = about 1 m 80 (tall))

presumably with a silent plural noun following *les*.

11

Some Remarks on Agreement and on Heavy-NP Shift

11.1. Agreement

In recent work, Chomsky (2000; 2001a) has pursued the idea that movement (at least movement corresponding to classical A-movement) involves an operation Agree that, in turn, involves uninterpretable features of what he calls the "probe." In subject-verb agreement of the familiar sort, the uninterpretable phi features of the probe T(ense) (which plays a key role in movement to subject position) may have phonetic realization.

Phonetic realization of such uninterpretable phi features is not essential, however. For example, in English we see some overt agreement in the present tense but not in the past (except with *be*). It is very plausible that movement to subject position takes place in the same way in English in present tense sentences and in past tense sentences, with the difference in overt agreement attributable to an orthogonal PF property of those phi features that determines whether or not they are spelled out (and if they are, how).

Somewhat different would be a case in which movement to subject position takes place, but in which the verb agrees with a different argument than the subject. There

is a variety of English that appears to meet this description. This variety of English was originally discussed by Kimball and Aissen (1971). In it, one finds relative clauses like:

(1)   ?the people who John think should be invited

where *think* does not agree with *John*. For Kimball and Aissen (and others), these are fully acceptable. For me, they are fairly acceptable (the question mark in (1) indicates my judgment, as will all the subsequent judgments, unless stated otherwise). As they note, even speakers who do not find (1) fully acceptable will often have very clear differential judgments (as I do, in many cases).

That *think* in (1) is agreeing with *who*, as opposed to not agreeing with anything, is clear from the contrast with:

(2)   *the person who John think should be invited

It seems clear, in addition, that *think* in (1) is, more specifically, agreeing with the Wh-phrase *who* (rather than directly with *people*). This is shown by:

(3)   ?the student whose friends John think should be invited

(4)   *the students whose friend John think should be invited

In examples where the Wh-phrase and the head of the relative differ in number, the agreement is between the verb and the Wh-phrase (*whose friends*, in (3)). Agreement between the verb and the head *students* in (4) is unacceptable in the context of a differently numbered Wh-phrase.

A basic fact about the agreement in question is that it depends on Wh-movement: if the relevant phrase is left in situ, the corresponding agreement is impossible:

(5)   *John think those people should be invited.

(6)   *John think your friends should be invited.

Similarly for:

(7)   ?people that John like

(8)   *John like (those) people.

In essence following Kimball and Aissen, I thus take the verb in (1), (3), and (7) to be agreeing with the moved Wh-phrase.

The question I address here is one that arises from the perspective of Chomsky (2000; 2001a)—namely, How is the movement of *John* to subject position in (1), (3), and (7) to be understood, given that it does not appear to be possible to take it to be mediated by subject-verb agreement?

On the other hand, Kimball and Aissen do take the verb in such examples to agree with the subject. Or, rather, they take it to have agreed with the subject, with that agreement subsequently being overridden by agreement with the (subsequently moved) Wh-phrase. Although one might attempt to "stretch" Chomsky's probe-goal theory to allow for agreement to be overridden, such stretching (weakening of the theory) does not in this case seem necessary, as I shall try to show.[1]

Putting this point another way, we can note that the (nonstandard) English agreement pattern seen in (1), (3), and (7) does not appear to be cross-linguistically common. If it is not, then the theory of movement and agreement should not make it too easy to generate. This point can be illustrated using French, which does have a partial counterpart to this pattern, in the sense that its past participles can agree with a Wh-moved object, but not with an in situ object:[2]

(9) la maison que Jean a repeinte ('the house that J has repainted$_{+fem}$')

(10) Jean a repeint/*repeinte la maison.

Yet French has no finite verb agreement comparable to that of nonstandard English:

(11) les maisons que Jean a/*ont repeintes ('the houses that John has/have repainted$_{+f.pl}$')

(12) les gens que Jean hait/*haïssent ('the people that John hates/hate')

Thus we do not want to allow agreement with a (moved) Wh-phrase to occur too readily in place of agreement with the subject.

Another kind of reason for not adopting an analysis based on the overriding of agreement comes from the fact that counterparts to (1) and (3) that contain a finite form of *be* are (for me) appreciably worse:[3]

(13) *the people who John were thinking should be invited

(14) *the student whose friends John are thinking should be invited

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1. Cf. in part Jayaseelan's (to appear, b) alternative to Bošković (1999) and Richards (1999).
2. Cf. Kayne (1985b; 1989b). As Chomsky (2001a, 46, note 39) observes, this is an interesting challenge for Agree. (Downward agreement is argued against by Koopman 2002; see also note 27, chapter 1 in this volume.)
3. See Kayne (1989c, discussion of (42b)). Note that this is not true of:

(i) ?The identity of the participants are to remain a secret.

in which a different kind of nonstandard agreement is not degraded by *are*. On this type, see den Dikken (2001). Example (i) may or may not be close to the nonstandard (ii) mentioned by Kimball and Aissen (1971):

(ii) ?One of the men want to leave.

Again, for me, *are* is just as good:

(iii) ?One of the men are waiting to see you.

Similarly, although an inverted auxiliary can (and for me these are the best cases) show agreement with the Wh-phrase and not with the subject:

(15)   Which people do John think should be invited?

it cannot do so with a form of *be*:

(16)   *Which people were/are John thinking should be invited?

Furthermore, if we take (7), repeated here:

(17)   ?people that John like

there is a contrast with:

(18)   *people that John are fond of

Instead of having agreement able to be overridden,[4] I would like to explore an approach that is based on the presence of an unpronounced auxiliary.[5] From this perspective, (17) would look as follows:

(19)   people that John$_i$ Aux$_i$ like

If this is correct, then such relative clauses and sentences are no longer exceptional with respect to subject-verb agreement. Even though *John* does not agree with *like*, *John* does agree with Aux, which can be taken to be associated with the T(ense) element that acts as probe. The Wh-phrase in (19) (which is itself not pronounced, assuming *that* to be a complementizer) agrees with *like*, but not with Aux.

In suggesting a structure for English in which object[6] agreement with the verb is accompanied by subject agreement with an auxiliary, I am thinking of languages like Papago/'O'odham, in which such a pattern is readily visible, and languages like Hopi, where verbal object agreement (in number, and typically suppletive) is robust and only sometimes accompanied by subject agreement, which must involve an (unpronounced) auxiliary, if I am right. Languages that with transitive verbs show only object agreement (without having ergative Case) can be thought of in parallel fashion: movement of the subject is keyed to an unpronounced auxiliary.[7]

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4. A third reason for not letting prior agreement with a subject be overridden by subsequent agreement with a Wh-phrase is that it wouldn't readily distinguish pronominal from nonpronominal subjects. For most (though not all) speakers I have asked, agreement with the Wh-phrase becomes impossible if the subject is made pronominal. I return to this later.

5. This differs from Kayne (1989c; 1995).

6. I am taking the term broadly here, to include the ECM-like cases such as (15).

7. On Papago/'O'odham, see Zepeda (1983); on Hopi, see Jeanne (1978); see also Frajzyngier (1993) on Mupun.

Returning to (18), its unacceptability will follow if *are* cannot be preceded by another auxiliary:

(20)   *people that John$_i$ Aux$_i$ are fond of

If we express this by stating the following, for English (although not for all languages):

(21)   An auxiliary (in English) must be followed by a nonfinite verb.

we can simultaneously include the fact that (17) has no counterpart in which singular and plural are reversed:

(22)   *somebody that the students likes

As Kimball and Aissen note, the form in *-s* cannot fail to agree with the subject even as the result of agreeing with the Wh-phrase. The reason now is that *likes* is necessarily finite, whereas *like* is not necessarily finite (and, in fact, must not be in (19)). Thus the following is not possible:

(23)   *somebody that the students$_i$ Aux$_i$ likes

because finite *likes* cannot be preceded by an auxiliary.[8]

In some cases, auxiliaries in English can be followed by other auxiliaries if the latter are nonfinite:

(24)   John must be thinking that . . .

(25)   John certainly could have.

This is probably related to the contrast between (18) and:

(26)   ??people that John have liked

Although less acceptable than (17), this example seems better than (18). The reason must be that (26) does not violate (21) (since *have* can be nonfinite, just as *like*), whereas (18) does. (If the unpronounced auxiliary of (19) is more like *do* than like modals, then the lesser acceptability of (26) than of (17) might be related to auxiliary *have* generally not allowing a preceding *do*.)

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8. This does not seem compatible with Solà's (1994) idea that all English verb forms are participial.

If *likes* is composed in the syntax from *like* and an independent *-s*, the text discussion needs to be revised, though by how much is not clear.

Whatever the exact degree of marginality of (26), it is much better than parallel examples with the form *be*:[9]

(27)   *people that John be fond of

This is not expected—in particular, it does not follow from (19). To account for (27), let us consider the possibility that (19) involves "matching" in something like the sense of Groos and van Riemsdijk (1981). More specifically, the idea is that Aux in (19) can have its nonfinite requirement met by *like*, once we abstract away from the plural phi feature of *like*. Such abstraction must depend on the PF-identity of infinitival *like* and +plural (present tense) *like*: in effect, there is in (17) and (19) a single item *like* with a +plural feature that the Aux can ignore in respecting (21).

The only verb in English for which the infinitive and plural forms are not PF-identical is the verb *be*, from which the impossibility of (27) follows, given the preceding, plus the assumption that the unpronounced Aux in question must itself be licensed by Wh-movement-induced (plural) agreement on the verb below it, perhaps in a way recalling the "selection" of *have* or *be*.[10]

Returning to (11) and (12)—to the fact that French does not have finite verb agreement with a Wh-phrase of the sort that (some) English does—we can see that a possible account lies in the combination of (19) and (21). To mimic English, French would have to have plural finite verbs identical in form to infinitives, as English does. But French infinitives are arguably always phonologically distinct from finite forms, in particular because of the infinitival *-r* suffix.[11]

The (nonstandard) agreement between verb and Wh-phrase seen in the variety of English under discussion would not be expected to be triggered by the Wh-phrase in its derived position in the Comp area, if (object) agreement is strongly local in the Spec-head sense of Kayne (1985b; 1989b),[12] and similarly for Chomsky's approach based on Agree. Evidence that there is a local relation at some point in the derivation between verb and Wh-phrase may, thinking of Sportiche (1988), come from the position of the stranded quantifier in:[13]

9. If in AAVE (27) is possible and if its counterpart without Wh-movement is also possible, then AAVE may well not have any counterpart to the text construction. A then-separate question would be whether the AAVE *be* that seems to be the highest auxiliary is or is not preceded by another phonetically unrealized one.

10. See Kayne (1993). Auxiliary selection of the *have/be* sort is never directly sensitive to Wh-movement, as far as I know.

11. I take this to be present in all cases, even though it is not pronounced with first-conjugation verbs, except in the complex future and conditional forms or in noncolloquial liaison.

I leave open questions raised by the literary Italian example (that looks like it has the non-standard English type of Wh-agreement) brought to my attention by Guglielmo Cinque and mentioned in Kayne (1995, note 8).

12. Consideration of Oishi's intriguing symposium discussion of locality and antisymmetry is unfortunately beyond the scope of this short essay.

13. These bear in a complex way on Kitahara's careful symposium discussion of locality and the PIC.

(28)   ?these people, who John all think should be invited

This type of example seems to me to be acceptable to a surprising degree, especially with stress on *all*. The surprise comes in part from the fact that with standard agreement, the corresponding sentence is sharply unacceptable:

(29)   *these people, who John all thinks should be invited

This would appear to suggest that if the Wh-phrase moves up through the VP area of the matrix, then verbal agreement is obligatory in English (and that in standard English the Wh-phrase does not have that option).

   This obligatoriness effect may be related to another effect that holds in my English (and that shows that a simple binary distinction between standard and nonstandard is not entirely adequate). Although, in general, I find the Wh-agreement sentences less than fully acceptable, there is one case (with auxiliary *do*) that differs:[14]

(30)   Which students do John think should be invited to the party?

Not only is this acceptable to me, I find the standard agreement to be less natural:

(31)   (?)Which students does John think should be invited to the party?

   Given our earlier reasoning, (30) must, since *John* does not agree with *do*, contain an unpronounced Aux with which *John* does agree. *Do* in (30) bears a +plural feature (it agrees with *which students*)[15] and is seen as nonfinite by Aux. (In that respect, it has something in common with the nonfinite *do* of British English: *He may do*, *He may have done*.) Example (31) suggests that in some cases agreement is preferred, even in the absence of a quantifier.

   If the preceding is correct, there are two elements, Aux and *do*, between *which students* and *John* in (30). This recalls both Nilsen's (2003) argument that (Scandinavian) V-2 involves phrasal (remnant) movement and Johnson's (1988) discussion of nonstandard *Should have John left?*[16]

   A further point concerning (30) is that its acceptability for me is sensitive to the choice of Wh-phrase:

(32)   What students/?how many students/*?approximately how many students do John
        think should be invited to the party?

---

14. Why *do* here favors Wh-agreement remains to be understood.
    15. Note the sharp impossibility of:

(i)   *Which student do John think should be invited to the party?

with singular *which student*.
    16. In which *have* might turn out to be *of*, if Kayne (1997) is correct.

suggesting that the Wh-phrase whose movement yields verbal agreement must pass through a position associated with specificity.[17]

The standard English that accepts none of the nonstandard sentences under consideration, including even (30), could perhaps differ in never allowing Wh-movement to pass through the relevant intermediate position. Alternatively, the difference might reside in the unpronounced Aux in question, which standard English might not have at all.

I have taken this Aux to agree with the subject in (30) and (28). This does not provide an immediate account (nor does Kimball and Aissen's 1971 "overriding" approach) of the fact that a pronominal subject is impossible, for most speakers:

(33)   *Which students do he think should be invited to the party?

(34)   *these people, who he all think should be invited

(35)   *people that he like

(36)   *the people who he think should be invited

Let me briefly suggest relating this to:

(37)   Here comes John again.

(38)   *Here comes he again.

Although this contrast might be thought of in terms of a low position for *John* compared with a necessarily higher position for *he*,[18] I prefer to pursue the rather opposite tack taken in chapter 1, where in discussing French (relative clause) pairs like:

(39)   le livre que lit Jean ('the book that reads J')

(40)   *le livre que lit il ('. . . he')

we argue that the ill-formedness of the pronoun example is due to the necessary topicalization (raising out of IP) of the subject in this "stylistic" inversion construction, which is unavailable with a weak pronoun.[19]

The proposal, then, is that the counterparts of (33)–(36) with *John* in place of *he*—for example:

17. See Déprez (1998) on the interpretive effects of French past participle agreement.
18. See den Dikken (2001).
19. For me, the examples in (33)–(36) sometimes improve somewhat with a (complex) strong pronoun, for example:

(i)   ??the people who he himself think should be invited

On the French counterpart with a (postverbal) strong subject pronoun, see chapter 1, sec. 1.6.

(41)   ?all the people that John think should be invited

involve topicalization of *John*. Now English topics have the property that they cannot be narrow scope quantifiers:

(42)   Everybody will invite somebody / at least one person.

(43)   Somebody / At least one person everybody will invite.

While (43) is somewhat acceptable with *somebody* or *at least one person* having wide scope, it is clearly impossible with them having narrow scope relative to *everybody*. With this in mind, consider the contrast between (41) and:

(44)   ?all the people that somebody / at least one person think should be invited

It seems to me that while (44) may be marginally acceptable with *somebody* or *at least one person* outside the scope of *all*, (44) is sharply unacceptable if *somebody* or *at least one person* is interpreted as being within the scope of *all*.[20]

    If this is correct, then *John* in (41) must be topicalized, and we have an account for the unacceptability of (33)–(36) with a weak pronoun, in a way compatible with the proposal for an unpronounced Aux (agreeing with *John*) that I have pursued.[21]

11.2.   Heavy-NP Shift

Heaviness plays a role in:

(45)   Would you mind picking that book up?

    20. With standard agreement:

(i)   all the people that somebody / at least one person thinks should be invited

I find the narrow scope reading for *somebody / at least one person* to be appreciably more accessible than in (44).

    21. If the parallel with French is pushed further, we will arrive at the conclusion that the English construction also involves IP-raising past the topic position. A salient difference between English and French would then be that in French the topicalized subject can be followed only by certain components of IP, whereas in English "everything" follows the subject (meaning that everything else must be extracted from IP prior to IP-preposing).

    In this construction English would then be even more similar to certain Bantu languages (that I take to have "stylistic" inversion in relatives, of the French type, but with VSX order) discussed by Demuth and Harford (1999) than to French. Demuth and Harford take there to be head movement to C in those relatives, but I think the kinds of arguments given for certain VSO languages by Lee (2000), Massam (2000), and Rackowski and Travis (2000) in favor of phrasal remnant movement will carry over to Bantu.

    Those few speakers who accept nonstandard agreement with a pronominal subject may have a way of avoiding obligatory stylistic inversion and topicalization entirely—what the parameter(s) is/are remains to be understood.

(46)   *Would you mind picking the book that you just dropped up?

This kind of contrast was noted in the early years of generative syntax.[22] That it might have a syntactic (as opposed to processing) basis was suggested in Kayne (1998b). Independently of whether or not that turns out to be correct, I would like to separate the question of (46) from the question of how exactly to allow for instances of what I will continue to informally call Heavy-NP Shift:

(47)   You should put on the kitchen table the book you just dropped.

Here the direct object is not in its canonical position, a possibility that also seems to be sensitive to some notion of heaviness:

(48)   ??You should put on the kitchen table that book.

Whether or not the notion of heaviness relevant to (48) is closely linked to the effect seen in (46) is another question I will put aside, in favor of the question of how exactly to derive sentences in which a direct object follows material that it does not normally follow.

Until Larson (1988; 1990), the standard assumption was that (47) involved rightward movement of the direct object. Larson argued that that rightward movement could be dispensed with; den Dikken (1995) subsequently argued that the derivation of (47) in fact involves leftward movement of that object (see also chapter 9 in this volume).

I take Larson and den Dikken to be on the right track, but I would like to suggest a modification based in part on the observation that not all VO languages allow Heavy-NP Shift. I suspect that this goes against a widely held belief among syntacticians—namely, that Heavy-NP Shift should be automatically available in a VO language.[23]

However, Haitian and Chinese do not have it, according to Dejean (1993) and Tang (1998, 132), respectively. In addition, Gun(gbe) does not have Heavy-NP Shift, according to Enoch Aboh (pers. comm.).[24]

In a by-now-familiar way, we would like to know if the presence or absence (in a VO language) of Heavy-NP Shift correlates with any other property of that language. A candidate is the relative position of the definite article, in that Haitian and Gun both have DP-final definite articles, quite unlike English. This suggests the following conjecture:

(49)   If a VO language has a DP-final definite article, then it lacks Heavy-NP Shift.

22. For example, Fraser (1976) and Kroch (1979).
23. For example, Saito and Fukui (1998).
24. According to Koopman (1992, 581), Bambara, too, lacks Heavy-NP Shift. How closely Bambara (an SOVX language; see chapter 9) can be fit into the text discussion remains to be seen. (Gun also has some SOVX constructions; see Aboh (2004).

Why might this be true (if it is)? The first thing to note is that it resembles the following Greenbergian universal (cf. Dryer 1992, 102):

(50) If a language is complementizer-final, then the language is OV.

We can think of (50) as excluding:

(51) *V X IP C

and of (49) as excluding:

(52) *V X NP D

where NP is heavy and X in (52) is material that forces NP to be heavy.

In Kayne (1998b), I proposed excluding (51) with recourse to the idea that complementizers are merged outside of VP rather than with the IP that they are associated with. (The C and IP "get together" subsequently as the result of movement of the IP.) If (52) is truly akin to (51), then by parity of reasoning it should be excluded in parallel fashion, with recourse to the idea that definite articles are merged outside VP rather than with the NP they are associated with.

That D is merged external to VP, in fact, has already been proposed, on different grounds, by Dominique Sportiche in a series of talks in recent years. Let me, then, adopt his proposal, with the execution as in chapter 9 for complementizers and prepositions, with a lower element paired with D. Thinking of Sportiche's recent (2002) GLOW paper, let me take that lower element to be Num(ber).

Let's begin with a VP already constituted containing V followed by NP and X (internal constituent structure not relevant). Then Num is merged, followed by movement of NP to Spec,Num:

(53) V NP X $\rightarrow$ merger of Num
       Num V NP X $\rightarrow$ movement of NP
       NP_i Num V t_i X

At this point, D is merged, and VP is then moved to Spec,D:

(54) NP_i Num V t_i X $\rightarrow$ merger of D
       D NP_i Num V t_i X $\rightarrow$ movement of VP
       [V t_i X]$_j$ D NP_i Num t_j

This yields, abstracting away from the traces, V X D NP Num, which is what Heavy-NP Shift corresponds to in a language like English (if we further abstract away from the fact that Num (if it is *-s*) must end up directly following N).

To produce the unwanted (52), we could try moving NP, rather than VP, to the Spec of D. But then, if there are no multiple specifiers (and no other available relevant heads), there is nowhere to move VP to. Thus we might perhaps end up with NP D

Num V X,[25] but not with (52) itself. In other words, there is no straightforward deriva-
tion available for (52) given the above set of premises, which is the result we want.

If we take (53) and (54) to correspond to (47), then we have a case where X
contains P and, furthermore, P has been merged prior to the D associated with the
Heavy NP. Simplifying a bit, consider the derivation of the Heavy-NP Shift example:

(55)   You should send to Mary the articles you've written.

By hypothesis, both *to* and *the* are factored out of the VP. Assume the initial order
has *Mary* before *articles* (this is not central). At the point where the VP has been put
together, we have (internal constituent structure aside):

(56)   send Mary articles you've written

The derivation proceeds as follows (with K(ase) the lower element paired with P):

(57)   send Mary articles you've written → merger of K
        K send Mary articles you've written → movement of *Mary*
        Mary$_i$ K send t$_i$ articles you've written → merger of *to*
        to Mary$_i$ K send t$_i$ articles you've written → movement of VP
        [send t$_i$ articles you've written]$_j$ to Mary$_i$ K t$_j$

At this point, Num is merged, with the derivation continuing on almost exactly
as in (53) and (54):

(58)   Num [send t$_i$ articles you've written]$_j$ to Mary$_i$ K t$_j$ → movement of NP
        [articles you've written]$_k$ Num [send t$_i$ t$_k$]$_j$ to Mary$_i$ K t$_j$ → merger of *the*
        the [articles you've written]$_k$ Num [send t$_i$ t$_k$]$_j$ to Mary$_i$ K t$_j$ → movement of PP
        [[send t$_i$ t$_k$]$_j$ to Mary$_i$ K t$_j$]$_l$ the [articles you've written]$_k$ Num t$_l$

This yields the required word order (apart from Num, as mentioned above). Note
that the movement of NP in (58) is movement from within a left branch[26] and, in
addition, what is moved to Spec,*the* in the last step is the closer constituent PP rather
than the less close constituent VP. Since I am assuming no movement is possible of
the complement of a given head to the Spec of that same head, movement to Spec,*the*
of NumP is not an option. In effect, movement to Spec,*the* in (58) (like movement to
Spec,*to* in (57)) picks out the nearest category capable of being moved, without at-
tending to the category type.[27] This is plausibly a characterization of all movements
to the Spec of P, C, and D.

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25. Whether this sequence corresponds to a legitimate derivation is a complex question. See
chapter 9 on the parallel question for postpositions.

26. For an account of (i) (a typical apparent "left-branch violation") that is compatible with
the text assumption that such movement is allowed, see chapter 7, sec. 7.1.8:

(i)   *Quanti hai letto libri? (Italian: 'how-many have-you read books')

27. See the discussion of "pure EPP" movement in Holmberg (2000).

From this perspective, Heavy-NP Shift is an effect induced by the perhaps unusually high merger of D (as compared with P, in particular). It is for principled reasons not available in a VO language that has its D DP-final.[28]

A difficult question, then, is why Haitian and Gun, which disallow Heavy-NP Shift, allow postverbal objects at all, if D is systematically merged outside VP—in which case, the factors that combine to exclude (52) might be expected to exclude V-NP-D, even in the absence of heaviness?

Before making an attempt at the beginning of an answer, let me note in passing that Haitian and Gun also both disallow right-dislocation, whereas they both allow at least some form of left-dislocation or CLLD.[29] This may suggest that (49) generalizes to right-dislocation, and, more specifically, that the derivation of right-dislocation also depends on a D merged (high) above VP.

Let me further note two ways in which D looks like P and C. First, Papago/'O'odham has a determiner *g* that precedes NP, yet has the property that it cannot be sentence-initial (Zepeda 1983). This recalls in part the fact that the Italian prepositional complementizer *di* is unable to introduce subject infinitives (for a proposal, see Kayne 1999). Second, D is prohibited from appearing in "compounds" in English:

(59)   John loves Brooklyn / the Bronx.

(60)   John is a well-known Brooklyn lover / *the Bronx lover.

in a way that may be at least partially akin to the exclusion of P:[30]

(61)   *John is a well-known about Brooklyn talker.

It may be that compounds of this sort "cut off" somewhere between VP and the point at which D is merged (and similarly for P). Sportiche's D-outside-VP hypothesis thus seems to pair off in a natural way with the hypothesis that P is introduced outside VP (and similarly for C).

Returning to Haitian and Gun, I note that the idea that the position of D relative to NP interacts with VO/OV (in the way I have outlined) is indirectly supported by Dryer's (1989) study of what he calls "plural words" (especially if they correspond largely to D), in that he finds (p. 880) that "All 15 OV languages [in the relevant sample] . . . place the plural word after the noun. But only two out of 29 VO languages do likewise."

As for the question how to derive V NP D order in non-Heavy-NP-Shift contexts in Haitian and Gun, it might be that if D is introduced sufficiently low (perhaps lower than *v*) there is another head available that can be introduced just above it and

28. Although Scandinavian has a D that can be immediately postnominal, that kind of D does not match the text description, since it cannot follow relative clauses.

29. On subtypes of left-dislocation/CLLD, see Cinque (1977; 1990).

30. In addition, there is an intriguing interaction between P and D (to the effect that P sometimes makes D unnecessary, in an especially dramatic way in Romanian) that may fit in here. For recent discussion, see Himmelman (1998).

into whose Spec a constituent containing V can move (whereas when D is introduced high, as in the Heavy-NP-Shift derivation in (54), no such head is available).

If so, this would be akin to what I suggested in Kayne (1998b) might be happening in those languages that appear to be exceptions to the broadly valid generalization (see Dryer 1992, 83) that VO languages have prepositions rather than postpositions (in the exceptional languages V DP P would really be V P DP P with a phonetically unrealized additional preposition).

In turn, this recalls the striking difference concerning adjuncts that holds between Japanese and Dutch and German. The latter two have many adjunct clauses following the verb (in particular, the non-V-2 verb), whereas Japanese has its adjuncts preceding the verb. This difference holds despite the fact that all three languages are strongly OV with respect to nonprepositional objects (again, abstracting away from V-2). The key correlation, I think, is that Dutch and German adjuncts have initial P or initial C (depending on the exact feature composition of what we call subordinating conjunctions; see Emonds 1985), and can therefore enter into derivations of the general form of (57), yielding postverbal adjuncts, just as (57) yields a postverbal PP.[31] Japanese, in contrast, has "final" subordinating conjunctions (that follow the associated IP), so those derivations are not available to Japanese.

Similarly, German and Dutch allow sentential complements to readily appear postverbally in an extraposed position, whereas Japanese does not, and the same holds for extraposed relative clauses. In both cases, we can attribute the difference to the fact that Dutch and German clauses have an initial complementizer that will again allow derivations of approximately the form of (57).[32] Japanese, in contrast, lacks initial complementizers and therefore lacks access to that type of derivation.

Just as Haitian and Gun lack both Heavy-NP Shift and right-dislocation (while allowing left-dislocation), so does Chinese, which does not have a definite article. That makes it look as if (49) does not apply to Chinese. On the other hand, the derivation of the Heavy-NP Shift sentence given in (58) depends more precisely on the presence (in English) of an "initial" *the*. If Chinese lacks any counterpart to initial *the*, then Chinese will (correctly) not have access to that type of derivation.[33]

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31. Left open is the question why German and Dutch have only limited possibilities for postverbal simple PPs; see Hoekstra (1984).

Perhaps there is a link to the fact (so far unexplained from the text perspective) that German and Dutch generally lack postverbal heavy NPs: that is, Why can their D not mimic their complementizers and subordinating conjunctions? (Perhaps relevant is the relation in Dutch and German between definite articles and demonstratives.)

The comparative status of right dislocation in Dutch and German and Japanese needs to be looked into.

32. See chapter 9 for some discrepancies between P and C.

33. If (definite) D is a necessary component of all languages, then Chinese must have an unpronounced D (and presumably Num) that is unable to participate in the kind of derivation given in (58), perhaps because it is "final" (with an interesting learnability question attached) in the sense of Haitian and Gun D. (Thinking of chapter 9 on postpositions, a final D, unlike an initial one, might need to be paired with a D', in addition to Num.)

That type of derivation resembles the ones proposed in Kayne (1998a) for sentences with *only*, with *the* here parallel to *only* there. Jayaseelan (to appear, a) has proposed an improvement, taking *only* to be paired with a lower Focus head,[34] which would then be parallel to the Num paired with D. *Only* is relevant to Takano's careful symposium discussion of the relation between the proper formulation of antisymmetry and sentences like the following (from Branigan 1992):

(62)   John tells jokes with any gusto only occasionally.

The question is how *any* is licensed here, given the antisymmetric prohibition against right-adjunction.

The relevant part of the derivation is (abstracting away from *John* and from the origin of *with*; the relative order within VP of *with any gusto* and *occasionally* is not relevant either):

(63)   ... tells ... occasionally $\rightarrow$ merger of Foc
        ... Foc tells ... occasionally $\rightarrow$ movement of Adv
        ... occasionally$_i$ Foc tells ... t$_i$ $\rightarrow$ merger of *only*
        ... only occasionally$_i$ Foc tells jokes with any gusto t$_i$

By this point, the NPI *any* is licensed, as suggested by the well-formed:

(64)   John only occasionally tells jokes with any gusto.

The derivation continues on:

(65)   ... only occasionally$_i$ Foc tells jokes with any gusto t$_i$ $\rightarrow$ movement of VP to Spec,*only*
        ... [$_{VP}$ tells jokes with any gusto t$_i$]$_j$ only occasionally$_i$ Foc t$_j$

We have derived (62), but *any* is no longer in the c-command domain of any licenser. In a familiar way, we could attribute the well-formedness of (62) to reconstruction, but, as Takano (2003) correctly emphasizes, there are clear cases in which *any* cannot be licensed under reconstruction. To take just one of his examples:

(66)   It is not likely that anyone's parents will come to the party.

(67)   *Anyone's parents are not likely to come to the party.

Since English allows Heavy-NP Shift with indefinites:

(i)   John put on the table a book that he had just bought.

it may be, if Perlmutter (1970) is right in arguing that *a* is a reduced form of numeral *one*, that indefinites always have a silent D (which would be initial, or able to participate in (58), mimicking in that respect an overt *the*).

34. See Simpson and Wu (2002b).

However, the movement operation that removes *any* from the c-command do-main of its licenser in (65) is movement of VP, and for me there are at least some other clear cases of VP-movement that do allow NPI-licensing under reconstruction (whatever the exact mechanism) to at least the same degree of acceptability as in (62) (which I, in fact, find less natural than (64)):

(68)   I didn't think that he would tell jokes with any gusto, and tell jokes with any gusto
      he hasn't/won't.

To the extent that (68) is (at least) as good as (62), there is no reason not to take (62) to have a derivation of the sort illustrated in (63) and (65).[35]

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35. In this case sentences like (62) are compatible with the antisymmetry formulation of Kayne (1994). I also accept fairly well, with stress on *older* and on *never*:

(i)   (?)To any of his older friends, he never shows his work.

as opposed to:

(ii)   *To any of his older friends, he occasionally shows his work.

Similarly:

(iii)   (?)To any of the kids on the block, he didn't say anything about it at all.
(iv)   *To any of the kids on the block, he said a great deal about it.

12

Some Notes
on Comparative Syntax

With Special Reference to English and French

12.1. General considerations

12.1.1. Parameters

Comparative syntax necessarily involves work on more than one language, but it is not simply that. On the one hand, it attempts to characterize and delineate the parameters that ultimately underlie cross-linguistic differences in syntax. On the other hand, it attempts to exploit those differences as a new and often exciting source of evidence bearing on the characterization and delineation of the principles of UG, of the properties that, by virtue of holding of the (syntactic component of the) human language faculty, will be found to hold of every human language.

The term "parameter" has itself been used in more than one way, in turn related to the ways in which the terms "lexical" and "lexicon" are used. In one sense, lexical is opposed to "functional," as when one distinguishes lexical categories like N and V from functional categories like C, D, and Asp. One correspondingly speaks of nouns like *cat* and *table* and verbs like *die* and *break* as lexical morphemes as opposed to the functional morphemes *for*, *the*, and *-ing*. At the same time, it is often said that *for*, *the*, and *-ing* belong to the lexicon of English, where one takes the lexicon to include both lexical and functional elements.

As long as one has these distinctions clearly in mind, I see no objection to this usage of lexical and lexicon, and I will consequently speak of the lexicon (of a given

language) as containing both lexical and functional elements. Now a widespread idea about syntactic parameters is that they are limited to being features or properties of functional elements,[1] as opposed to ever being features of lexical elements. But since functional elements are part of the lexicon, then this limitation means that syntactic parameters are nonetheless necessarily features or properties of elements of the lexicon. This seems like a perfectly reasonable way of speaking, given the above mentioned way of using the word lexicon.

Limiting syntactic parameters to features of functional heads is also intended to exclude the possibility that there could be a syntactic parameter that is a feature of no element of the lexicon at all—for example, there could presumably not be a parameter of the sort 'language L_i has or does not have bottom-to-top derivations'. This is similar to (though more obvious than) Chomsky's (1995, 160) proposal that there cannot be a parameter attributing Case chains to some languages but not to others (as had been suggested by Koopman 1992).[2]

The restriction that parameters are invariably features of functional elements needs to be sharpened, however. One would presumably not want to allow English *the* and Dutch *de* ('the') to differ in that *the* "can be part of a Case chain" while *de* cannot be. A parameter of that sort ("can or cannot be part of a Case chain") could be formulated as a feature of a functional element (instead of being formulated as a property of a language), but clearly that would go strongly against the spirit of Chomsky's proposed restriction.

What this brings out is something that I think has always been implicit in the proposal that parameters are restricted to features of functional elements—namely, that the features in question must be simple and limited in type, in some sense to be made precise. Being (or not being) part of a Case chain would not count as an appropriate feature. Reaching an adequate characterization of what it means to be an appropriate feature in this sense is one of the primary challenges faced by comparative syntax.

What form syntactic parameters take is itself a question that is, I think, quite separate from another that has occasionally led to some confusion in the literature. This other question has to do with the effects of different parameter settings, and, more specifically, with the "size" of those effects. For example, the "pro-drop" parameter, as discussed in the late 1970s and early 1980s, had multiple effects. In addition to differing with respect to the expression or non-expression of unstressed pronominal subjects, non-pro-drop and pro-drop languages also differed with respect to the possibility of having postverbal subjects and in whether or not they allowed 'that'-trace violations. The range of effects traceable back to that one parameter was notable.[3]

It has occasionally been thought that the term "parameter" itself should only be used when there is such a notable or "dramatic" range of effects. I will not, however,

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1. See Chomsky (1995, 6) and references cited there; also Webelhuth (1992).

2. Whether Chomsky's (2001a, 35) proposed parameter for OS would fit into a restrictive theory of parameters is not clear.

3. It may be that pro-drop in the third person is quite different from pro-drop in the first or second person even in Romance; see Poletto (2000) and Kayne (2001a).

pursue that way of thinking here. In part that is because what seems dramatic depends on expectations that may themselves be somewhat arbitrary.[4]

For example, French and English differ in that in restrictive relatives English *who* is possible as a direct object, whereas in French the corresponding word *qui* is not (though it is possible as the object of a preposition). Let us set aside the question of what exactly the parameter is that underlies this French/English difference and ask whether that difference carries over to nonrestrictive relatives. The answer is that it does: restrictives and nonrestrictives act alike in the relevant respect.[5] Assuming the same parametric difference to be at work in restrictives and nonrestrictives, is this, then, an example of a parameter with a notable, dramatic, or impressive range of effects or not? I'm not sure that the answer to this last question is clear (it depends on expectations about—and on one's theory of—how similar the two types of relatives should be); and I'm not sure how important the answer is.

For syntactic theory, and linguistic theory more generally, to merit being thought of as a theoretical field in the most ambitious sense of the term, syntactic theory must provide some results of nontrivial deductive depth (the more the better, of course, all other things being equal). In the subarea of syntax that we call "comparative syntax," these results can in some cases indeed take the form of a single parametric difference having a multiplicity of effects. (A different type of nontrivial result would be a successful restrictive, and deep[6], characterization—in terms of possible parameters—of the range of human languages, in the area of syntax.)

But from that it does not follow that every parameter, understood as a simple feature of some functional element, need have an equally wide range of effects.[7] Take, for example, the well-known French/English difference concerning the position of *assez/enough* relative to an associated adjective. In English, *enough* differs from related words like *too*, *so*, and *how* in following, rather than preceding, the adjective (*rich enough* vs. *too rich*, etc.). In French, *assez* does not differ from the corresponding set of related degree elements—they all precede the adjective (*assez riche*, *trop riche*, etc.). English *enough* plausibly has some feature that induces movement of the adjective to its left; French *assez* plausibly lacks that feature.

This seems like a reasonable enough parameter, which might (or might not) turn out to have other, unexpected effects in other areas of syntax. If it turned out to have no other effects, it would be an example of a relatively less dramatic parameter than, say, the pro-drop parameter, although even then it might still be of substantial interest for the construction of a general theory of parameters.

A partially similar point was made several years ago by Holmberg and Sandström (1996), in their discussion of prenominal and postnominal possessors in northern Swedish dialects. There is significant parametric variation in those dialects, in that area of syntax. Holmberg and Sandström speak of "minor" versus "major" parameters. For

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4. Compare Baker's (1996, 35n) point about the difficulty of deciding how to (numerically) count the effects of a given parameter.

5. This is not true in all respects. For further details, see Kayne (1976) and Cinque (1982).

6. This is in the sense of 'beautiful' or 'inevitable,' as discussed by Weinberg (1992, chap. 6).

7. See Chomsky's (1981, 6) use of 'may' in his "change in a single parameter may have complex effects."

example, a parametric property of the functional element that hosts possessors in its specifier might not have effects that go beyond sentences containing an overt possessor, and in that sense might be minor (compared with a parametric property of the "agreement" morpheme found with finite verbs, which is likely to have a much more pervasive set of visible effects). Again, minor in this sense is perfectly compatible with "theoretically important," if, for example, the parameter(s) in question should turn out to tell us something important about the general status of parameters in UG or (as in the case of *enough*) about the general question of how exactly movement is triggered.

I will consequently freely use the term "parameter" to characterize all crosslinguistic syntactic differences, independently of the degree of drama or range of effects associated with any particular parameter.

12.1.2.   Microcomparative syntax and microparameters

Another dimension of interest in the universe of parameters has to do with a potential distinction between microparameters and macroparameters. Let me approach this via the partially related distinction between microcomparative syntax[8] and macrocomparative syntax. Microcomparative syntax can be thought of as comparative syntax work done on a set of very closely related languages or dialects. However, since "very closely related" is an informal characterization, let me recast this in more relative terms: some comparative syntax work is more microcomparative (less macrocomparative) than other comparative syntax work. Work on a more closely related set of languages or dialects is more microcomparative than work on a less closely related set. In some cases, the distinction is quite clear; in others, two sets of languages or dialects might not be readily comparable. Thus, work on a set of North Italian dialects would be more microcomparative than work on a set of Indo-European languages including Italian, Greek, and English. (As a first approximation, we can take degree of historical relatedness as an informal guideline for degree of syntactic "closeness."[9]) Work on a set of Indo-European languages, in turn, would be more microcomparative and less macrocomparative than work on a set including some Indo-European and some Afro-Asiatic.

It might be that one can distinguish in a similar vein microparameters and macroparameters. Different settings of microparameters would characterize differences between very closely related languages and dialects such as American English and British English. One example would involve *do*-support—in particular, the fact that British English, but not American English, has what looks like nonfinite *do*-support, in sentences like *He may do*, *He may have done*. But it is not clear a priori that the parameter(s) underlying this difference (however best formulated) have effects only within English.[10] More generally put, although there will certainly be syntactic param-

8. The term may have been used first by Hellan and Christensen (1986, 1).

9. It may be possible to go further than this; see Guardiano and Longobardi (2003) and Longobardi (2003).

10. Compare the fact that some Romance has *do*-support of a sort close to that of English (Benincà and Poletto 2004).

eters distinguishing pairs of very closely related languages, the same parameter(s) might be active in unrelated families, with effects that might look superficially rather different, due to interactions with other properties of that other family.

We can thus use the term microparameter to pick out those parameters that, at least in some cases, differentiate two very closely related languages. Whether microparameters in this sense (or minor parameters as above) differ in any systematically interesting way from other parameters should be taken as an open question at this early stage of comparative syntax work.

A similar degree of caution would be appropriate for the notion of macroparameter as in Baker (1996, 8). On the one hand, Baker might be correct in thinking that there are some parameters or macroparameters that compactly characterize a significant group of languages such as the so-called polysynthetic ones,[11] which are historically not necessarily related. On the other hand, one of the key properties of polysynthetic languages, namely the obligatory appearance of a pronominal agreement element in addition to the nonincorporated lexical argument (if there is one), is also found within languages of an apparently rather different sort. For example, the Italian CLLD construction (clitic left dislocation; Cinque 1990) requires the presence of a pronominal clitic in addition to the dislocated direct object argument. In Italian this does not carry over to indirect prepositional (dative) arguments, but in Spanish it does. In Spanish, dative arguments (preceded by a preposition) must to a large extent be accompanied by a pronominal clitic even when not "dislocated." In many North Italian dialects, this is an absolute requirement. Some North Italian dialects impose the presence of a pronominal subject clitic in addition to a lexical subject.

Although these varying requirements found in language families like Romance that are not polysynthetic in any general way might turn out to be unrelated to Baker's polysynthesis parameter, it could alternatively be the case that the systematic obligatoriness of pronominal agreement morphemes in Mohawk is just an extreme example of what is found to a lesser extent in some Romance.[12] (A theoretical reason for remaining cautious about the polysynthesis parameter is that, as Baker (1996, 505) notes, it leads to an expansion of the universe of possible parameters, which would have to be allowed to contain some parameters of a certain "visibility condition" sort.)

Uncertainty concerning the importance of a micro- versus macroparametric distinction does not affect the special status of microcomparative syntax, which I think has a certain special importance. (Macrocomparative syntax work is essential, too, of course). This special status of microcomparative syntax resides in the fact that it

11. For arguments against the head-initial/head-final parameter, see Kayne (1994) and chapter 9 in this volume. For recent argument against "nonconfigurationality," see Legate (2002).

12. Baker (1996, 20, 282) states that full-fledged referential Noun Incorporation implies that the language in question also has obligatory subject and object agreement (with the exception of inanimate objects, recalling the fact that animacy is a large factor in the appearance of *a* preceding direct objects in Spanish). This is reminiscent of Cinque's (1990) discussion of Italian CLLD and may suggest that Noun Incorporation involves phrasal movement to a specifier position in the sentential projection.

is the closest we can come, at the present time, to a controlled experiment in comparative syntax.[13]

In a universe (very substantially) unlike the one we live in, we could imagine experimenting on individual languages. We could take a particular language, say Italian (in which pronominal clitics follow infinitives), and alter it minimally—for example, by giving it a "twist" in such a way as to change the position of its clitics relative to infinitives. We would then look carefully at this new language (variant of Italian) to see if any other syntactic properties have changed as an automatic result of our experimental twist. If some have, then we can conclude that there must be some parameter(s) that link these other properties to the position of clitics relative to infinitives.

By performing many such experiments on many languages, we would develop a substantial body of evidence concerning which syntactic properties are parametrically linked to which others. These experiments would dramatically increase our knowledge of what clusters of syntactic properties are linguistically significant and would dramatically facilitate our discovering the correct theory of syntax. Our increased knowledge would facilitate delineating the primitive parameters of the syntactic component of the language faculty, and a deeper understanding of the working of syntactic parameters could not but facilitate our making progress toward understanding the universal principles that these syntactic parameters are so tightly connected to.

We cannot do such experiments. But by examining sets of very closely related languages, languages that differ from one another in only a relatively small number of syntactic ways, we can hope to achieve something of the same effect. We can take one language or dialect, then look for another very similar one that differs with respect to a property we are interested in. The closeness of the languages and dialects in question will make it relatively more likely that any other syntactic property that we discover to vary between the two will be parametrically related to the first.

It is not that microcomparative syntax is easy to do, nor that one is guaranteed of success, nor that there is a black and white distinction between micro- and macrocomparative syntax. It is rather, I think, that the probability of correctly figuring out what syntactic property is parametrically linked to what other one (and consequently the probability of discovering what the relevant parameter(s) may be) is higher when the "experiment" approches to a greater extent the ideal of a controlled one, with fewer variables to be taken into account. Intra-Romance comparisons can at least sometimes be pursued without one being forced (in a crucial way) to look further afield than Romance, whereas comparative work taking, for example, English and Japanese as a starting point might lead almost anywhere, at the risk of making the comparative work not impossibly difficult but certainly more difficult.[14]

13. See Kayne (1996) and Benincà (1994, 7). Controlled experiments of a different sort can be done in the syntactic part of comparative acquisition work; comparative neurolinguistics of syntax may be expected to become relevant in the future.

14. Kuroda's (1988) interesting proposal about English versus Japanese runs into difficulty when one takes into account, for example, Dravidian languages that have subject–verb agreement. The probability that intra-Romance work will have to pay central attention to Dravidian is lower— and for comparative work based on a set of Italian dialects, the probability is even lower.

Putting things another way, we might say that microcomparative syntax work provides us with a new kind of microscope with which to look into the workings of syntax.[15] That it is syntax in general that is at issue, and not just comparative syntax proper, is a point worth emphasizing: the study of the principles of syntax is not and cannot be a separate enterprise from the study of the parameters.

Let me illustrate this with one example. English allows embedded infinitival interrogatives such as:

(1)   We don't know where to go.

(2)   We don't know whether to leave.

But it does not allow:

(3)   *We don't know if to leave.

Romance languages very often allow infinitival interrogatives in the way that English does. They typically have no word corresponding directly to *whether*. They do, however, have a counterpart to *if*. Some Romance languages are just like English in disallowing a controlled infinitive with their counterpart of *if*—as in French:

(4)   *Jean ne sait pas si partir. ('J neg. know not if leave$_{infin}$ ')

What is surprising is that some Romance languages do allow it, such as Italian:

(5)   Gianni non sa se partire. ('G neg. knows if leave$_{infin}$')

A standard comparative syntax question would be to ask what this intra-Romance (French/Italian) difference might correlate or cluster with, and then to bring in English and other languages. Although it is logically possible that the answer to this sort of question might in a given case be "nothing" (i.e., that we are looking at an isolated differential property),[16] the best working strategy at the present stage of development of the field is to assume, I think, that there exists some positive answer (i.e., some clustering of properties) and then to look hard for it.

In the particular case at hand, there is a very good candidate, since those Romance languages which like French disallow 'if'+infinitive appear to differ systematically in another way from those which like Italian allow it. This other way has to do with the relative placement of pronominal clitic and infinitive. The Romance languages that are French-like (with respect to (4)) have the order clitic–infinitive, while the Italian-like ones have the order infinitive–clitic.

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15. Baker (1996, 7) notes that microcomparative work can lead to the "fragmentation" of parameters. This seems rather similar in a general way to what happens in the natural sciences, as microscopes of different types come into being. We can expect that clusterings of properties or correlations will continue to be found, though the properties themselves will be much finer-grained than in the past.

16. This may be correct as in the case of *enough* mentioned earlier.

This correlation within Romance between control with 'if' and the order infinitive–clitic is of obvious importance to any attempt to delineate the parameter(s) underlying the syntactic differences at issue. At least as important, however, is the fact that this correlation within Romance promises to provide an invaluable clue to a general understanding of the theory of control. Put another way, it is entirely reasonable to impose on any proposed theory of control the requirement that it lend itself to a natural account of this correlation. (This kind of cross-Romance correlation could by definition come to the fore only as the result of comparative syntax work.)

Since, in the spirit of Emonds (1978) and Pollock (1989), the difference between clitic–infinitive order and infinitive–clitic order almost certainly involves a difference (or differences) in verb movement, it is plausible that verb movement is in part what underlies the French/Italian difference with respect to control with 'if' seen in (4) and (5). If this is true, then the correct theory of control must be sensitive to verb movement.

In Kayne (1991) it was suggested that a theory of control embedded in the version of the government-based binding theory put forth in Chomsky (1986, 170ff.) meets this criterion in the desired way. Chomsky's more recent minimalist work has attempted to move away from the use of government. If that evolution is on the right track, then the correct theory of control cannot depend on government, yet must continue to meet the unyielding requirement that it be able to express the Romance correlation at issue.[17]

The study of what underlies (1)–(5) is also relevant to the earlier discussion of micro- versus macroparameters—in particular, to the idea that apparently macroparametric differences might all turn out to dissolve into arrays of microparametric ones (i.e., into differences produced by the additive effects of some number of microparameters). This idea could be elevated to a general conjecture:

(6)   Every parameter is a microparameter.

What this would mean is that every syntactic parameter is such that each of its (two) values yield (when all other factors are held constant) a pair of UG-admissible grammars that characterize two languages that we would all (informally) agree are very closely related.

The importance of (1)–(5) lies in showing that microparameters (e.g., the relatively microparametric one(s) responsible for clitic–infinitive vs. infinitive–clitic order) are perfectly capable of participating in an explanation of a "cluster of prop-

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17. It might be possible to alternatively relate the control difference within Romance to another well-known difference within Romance concerning postverbal subjects (in turn, arguably related to verb movement). (On the limited way in which French reaches sentences with postverbal subjects, see chapter 1. On other Romance languages, see Kayne [1991, 657].) In turn, this might depend on having control involve movement, not so much in the manner of O'Neil (1995; 1997) or of Hornstein (1999; 2001) (recently criticized by Landau 2003) as in the manner of chapter 6, where movement is paired with a doubling structure (the controller would be the double of PRO). (The proposals concerning control in Chomsky and Lasnik 1993 do not by themselves account for the Romance correlation in question.)

erties," in this case of the correlation with control in interrogative 'if' clauses. It may be that some of the clusters of syntactic properties that were under prominent discussion twenty-five years ago were too coarsely characterized. It may be that as research progresses, a much finer-grained picture of syntax will substantially displace the one current twenty-five years ago (not to mention even earlier ones). Yet it may, and very likely will, also turn out that the type of parametric explanation put forth twenty-five years ago in the early stages of comparative syntax will have long-term validity and long-term importance.

12.2.   How many parameters? How many languages?

12.2.1.   How many functional elements?

The hypothesis that syntactic parameters are invariably features of functional elements does not imply that every functional element is associated with some parameter, but that additional hypothesis is a plausible one that I would like to entertain:

(7)   Every functional element made available by UG is associated with some syntactic parameter.

If (7) is correct, then we have a minimum number of parameters. There must be at least as many syntactic parameters as there are functional elements in the syntax.

How many functional elements are there, then? Before hazarding a guess, let me separate this question from the question of the proper analysis of such elements. Consider, for example, the English suffix *-ish* (meaning approximately 'more or less'), as in:

(8)   We're ready-ish.

(9)   John looks thirty-five-ish.

(10)   It must be a quarter after five-ish.

The last example (in which *-ish* has scope over *a quarter after five*) surely suggests a strongly syntactic approach.[18] In this case, the absence of a direct counterpart of *-ish* in French is of immediate interest to comparative syntax.

But even suffixes that cannot follow phrases can readily have syntactic import—for instance, the agentive *-er* or the nominalizing *-ion*, which interact with the expression of arguments, not to mention inflectional tense suffixes, going back to Chomsky (1957). Let us therefore take such "derivational" suffixes as *-er* and *-ion* (as well as standard inflectional suffixes) to be part of the syntax, broadly construed. More specifically, let us assume that such suffixes are subject to parameterization that affects the syntax, whether or not they are to be analyzed as functional heads or

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18. Compare Julien (2002), Koopman and Szabolcsi (2000), and note 102.

as elements triggering movement to a higher functional head. (An informal conjecture would be that, as more and more comparative work is done on derivational suffixes, they will come to be seen more and more clearly as part of syntax.)

In building up our inventory of functional elements, thinking of Cinque (1999), we of course want to take into account as many languages as possible and to count as relevant functional elements even those elements that occur overtly only in some languages. A list of functional elements relevant to syntax would now plausibly include (in no particular order):

(11)   Complementizers like *that* or *for*

(12)   Elements expressing mood; also subjunctive/indicative morphemes; imperative morphemes

(13)   Modals of different sorts

(14)   Tense elements

(15)   Aspectual elements

(16)   Negation morphemes; emphatic and affirmative morphemes

(17)   Person morphemes—in particular, first and second person

(18)   *Se*-type reflexive morphemes (related to person) and morphemes like French *on*

(19)   Number agreement morphemes; gender morphemes and word markers; noun class markers

(20)   Third-person pronouns; locative clitics like French *en*, *y*; non-clitic locatives

(21)   Pro-"predicate" morphemes like French *le*

(22)   Demonstratives

(23)   Definite articles; specific articles

(24)   Indefinite articles

(25)   Elements like *some*, *any*

(26)   Numerals and the arguably related *several*

(27)   Universal quantifiers

(28)   Quantity words like *many* and *few*

(29) Classifiers

(30) Degree words, including comparatives and superlatives; *very*

(31) *Have/be*; copula versus existential

(32) Possessive morphemes such as *of*, *'s*; suffixes as in French *mon* (= *m-* + *-on*), and as in Russian

(33) Nouns like *body*, *thing*, *place*, *one* that have special (functional) behavior, as in *somebody else*

(34) Filler nouns, like *one* in *a blue one*

(35) *Body*, *self*, *-même* in complex reflexives

(36) Wh-words in interrogatives; in relatives; in free relatives; in exclamatives

(37) *-Ever* as in *whoever*

(38) Functional adpositions; perhaps all adpositions

(39) Case morphemes; direct object marking morpheme sensitive to animacy or definiteness

(40) Particles like *up* and *down*, and directionals like German *hin* and *her*

(41) Prefixes of all sorts, e.g., *re-*, *out-*, *over-*; negative *un-*; reversative *un-*

(42) Adverbial *-ly*

(43) Suffixes like *-less*, *-ful*, *-ish*, *-y*; also *-th* as in *two hundred and fiftieth*; also *-ity*, *-ness*

(44) Nominalizing morphology like *-ion*, gerundive *-ing*, infinitive suffixes like Romance *-r*

(45) Functional verbs like causatives and *get*; also restructuring verbs à la Cinque (2001b; 2002a)

(46) Functional adjectives like *other*, *same*, *good*

(47) Focusing elements like *only*, *just*, *even*, *also*, *too*

(48) *As*, *than*

(49) Conjunctions like *and*, *or*, *but*

(50)   (*Al*)*though*, *while*, *after*, *before*, *if*, *because*, *since*

    I have certainly forgotten some, if not many, functional elements. Others I am not aware of because they are found overtly only in languages that I have never come into contact with (in most cases because the languages in question have not come into existence yet, or else they have disappeared without leaving a trace). In other words, the above list is no doubt too short. That is so despite the fact that it mentions over fifty English morphemes and indirectly alludes to many more (from English and other languages; see, in particular, Cinque 1999).

    In some cases (e.g., *any*), I may have included elements that are actually bimorphemic (*an* + *-y*, thinking of *every* as possibly being *ever* + *y*). The conclusion is that the number of functional elements in syntax is not easy to estimate, but at the same time that 100 would be a low estimate.

    Let us take that low estimate and let us associate each functional element with one (binary-valued) parameter, making the additional simplifying assumption that the resulting 100 parameters are all independent of one another: each can be set independently of all the others. The number of syntactically distinct grammars characterizable even by this (in all probability artificially small) set of 100 independent parameters is large, on the order of 10^{30}—one followed by thirty zeros.[19]

    There is no problem here (except, perhaps, for those who think that linguists must study every possible language), since neither the language learner nor the linguist is obliged to work directly with the set of possible grammars. The learner needs only to be able to manage the task of setting the 100 parameters (or whatever the number is), and the linguist needs only to figure out what they are, and what the accompanying principles are, and why they are as they are.

12.2.2.   How many parameters per functional element?

The number of syntactic parameters would increase (while still remaining manageable) if a given functional element could be associated with a small number of distinct parameters. The extent to which this is likely to hold is not entirely clear. The answer is in part dependent on a proper understanding of the extent to which syntax is "decompositional."

    Consider the contrast within English:

(51)   They've written few (*number) articles.

(52)   (?)They've written the fewest number of articles of anybody I know.

Although *few* cannot be immediately followed by *number*, the superlative counterpart is much more acceptable. For this and other reasons, it is plausible that *few articles* is to be analyzed as *few NUMBER articles* (where the capital letters indicate nonpronunciation), with *few* taken to be an adjective similar to *little* or *small*, but

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19. For additional discussion, see Kayne (1996).

restricted to modifying the noun *number* or NUMBER. In the same vein, *a red car* is arguably to be analyzed as *a red COLOR car*, where *red* necessarily modifies COLOR, rather than *car* (which is itself modified by *red COLOR*).[20]

   If these analyses are correct, we need to ask why the learner of English would have ended up with them. The simplest answer is that there was no choice, in the sense that these analyses are the only ones that UG makes available for such phrases. (I am setting aside the question whether *few NUMBER* and *red COLOR* are reduced relatives.) As to why these would be the only analyses made available by UG, a plausible proposal is that UG respects a principle of decompositionality that can be formulated as follows:[21]

(53)   UG imposes a maximum of one interpretable syntactic feature per lexical or
       functional element.

The idea is, for example, that *a red car* simultaneously expresses, in addition to what is attributable to *car* and to *a*, the notion of color plus a distinct notion having to do with the particular position or interval on the color scale. What (53) says is that UG requires that those two notions correspond to two separate elements (two separate nodes).[22] (The range of implications of (53) will depend on the correct characterization of "interpretable syntactic feature.")

12.3.   Some parameters having to do
         with nonpronunciation

12.3.1.   Pronunciation versus nonpronunciation:
           the case of French *-aine* and English *-AINE*

Returning to parameters, on the one hand, it seems clear that the more decompositional syntax is, the more likely it is to be true that each functional element can be associated with just one syntactic parameter. On the other hand, there is one type of

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   20. Note that *a red color car*, with overt *color*, is fairly acceptable, and that *What color car did they buy?* is fully so.

   See Lanham's (1971, 310) proposal that the *mu* of *Ngimude* ('I *mu* tall') appears because one really has the intermediate 'Mina muntu ngili mude' (1sg. absolute pronoun + person + *ngi* + ultimately unpronounced copula *li* + *mu* + *de*) and *mu* is agreeing with *muntu*. He also notes that postulating *mina-muntu* as an abstract subject is supported by the fact that it is a possible NP in Zulu; see Postal (1966) and Delorme and Dougherty (1972).

   21. See chapter 8. An early suggestion for a decompositional approach (to causatives) can be found in Chomsky (1965, 189). The kind of counterargument given by Fodor (1970) and Ruwet (1972, chap. 4) was weakened by the subsequent development of the notion of "small clause," which allows one to say that *cause to die* and *kill* differ in that the latter lacks, for example, an embedded tense of the sort that the former has.

   22. It seems very plausible that both *few* and *number* in the text examples fall on the functional element side of the distinction between functional element and lexical element. *Color* may well be a functional element, too, more likely than *red*.

parameter (which can be thought of as straddling syntax and phonology) that might
be readily able to coexist with another, more purely syntactic, parameter. What I have
in mind here is cross-linguistic variation with respect to the pronunciation versus
nonpronunciation of a given functional element.

While it is logically possible that the absence of an overt functional element in
language A corresponding to a functional element visible in language B could indi-
cate that language A entirely lacks that functional element, there is a substantial tra-
dition that has profitably taken the opposite position—namely, that if language B
visibly has some functional element, then all languages must have it, even if in some
or many it fails to be pronounced at all.

The postulation of unpronounced functional elements is familiar from the area
of inflectional morphology—for example, in Vergnaud's work on Case, in much work
on agreement (and pro-drop), and more widely in Cinque (1999).[23] Let me mention
here one potentially interesting example from what would be called derivational
morphology. French has a nominal suffix -*aine* (feminine in gender) that can readily
follow certain numerals (10, 12, 15, 20, 30, 40, 50, 60, 100), with an interpretation
akin to *about*.[24] An example is:

(54)   Elle a déjà publié une vingtaine d'articles cette année ('she has already published
       a$_{fem}$. twenty-*aine* of articles this year' = . . . about twenty articles . . .).

English has no visible suffix that matches -*aine*.

Yet there is some evidence that English does have an unpronounced counterpart
of this -*aine*.[25] This is suggested by the contrast:

(55)   a hundred (*of) articles

(56)   hundreds *(of) articles

As an ordinary numeral, *hundred* cannot be followed by *of* (apart from partitives
containing definites like *a hundred of these articles*), but plural *hundreds* must be
followed by *of* (unless the following NP is itself left unpronounced). Moreover, (56)
has an "approximate" rather than a precise numerical interpretation and would be
translated in French by *centaine*:

(57)   des centaines d'articles ('of-the hundred-*aine*-s of articles')

rather than with the simple numeral *cent* ('hundred').

23. See also Chomsky's (2001a, 2) uniformity principle. On Case, see Rouveret and Vergnaud
(1980) and Vergnaud (1985).

24. Jean-Yves Pollock (pers. comm.) reminds me that *douzaine* can also sometimes be ex-
actly twelve.

25. See Carstens's (1993) proposal for an unpronounced zero-affix in the case of diminu-
tives and augmentatives in Bantu; for much relevant discussion, see Pesetsky (1995).

Now the presence of *of* in (56) versus its absence in (55) is plausibly to be thought of as reflecting the nominal behavior of *hundreds* versus the adjectival behavior of *hundred*, with the strong unacceptability of:

(58)   *three hundreds articles

as opposed to:

(59)   three hundred articles

then parallel to that of:

(60)   *three excellents articles

versus:[26]

(61)   three excellent articles

Why, though, should *hundreds* be nominal if *hundred* is adjectival? The answer must be that *hundreds* necessarily contains a nominal suffix (that I will represent as -AINE) akin to overt French *-aine*:

(62)   hundred + -AINE + -s of articles

with the nominal character of that suffix responsible for the appearance of *of*, much as in *a box of apples*. The fact that this nominal *hundreds* is not compatible with a further numeral, as in:

(63)   *seven hundreds of articles

means that its nominal suffix has something in common with *oodles* and *numbers* in:

(64)   They have (*seven) oodles of money.

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26. Similarly for *thousands* versus *thousand*, *millions* versus *million*, and so on—of particular interest is *zillions of articles* versus *a zillion articles*, implying that *zillion* in the latter is adjectival (i.e., without any nominal -AINE suffix), in which case the imprecision of *zillion* should be attributed to its *z-* prefix (compare the *ump-* of *umpteen*).

In French, *cent* ('hundred') and *mille* ('thousand') are adjectival in that they do not take *de* ('of'), but *million* is nominal, perhaps because it is *mill-* + *-ion*, with *-ion* nominal (whereas English *million* is *m-* + *-illion*, with *-illion* adjectival).

The presence of *a* in *a hundred articles* is licensed by the unpronounced singular noun NUMBER: 'a hundred NUMBER articles' (see chapter 8).

Italian *cento* ('hundred') is adjectival in that it does not take *di* ('of'), yet it shows no number agreement (unlike the general case for Italian adjectives), probably like *meno* ('less') and *abbastanza* ('enough').

(65)   We've invited (*seven) large numbers of linguists to the party.

If English has an unpronounced suffix -AINE comparable to French *-aine*,[27] we can ask whether the two of them differ in some other parametric way, beyond the phonological difference. A good candidate has to do with singular versus plural. French has both singular:

(66)   une centaine d'articles ('a hundred-*aine* of articles' = about a hundred articles)

and plural:

(67)   des centaines d'articles ('of-the . . .' = hundreds of articles)

Whereas alongside (56) English does not allow:

(68)   *a hundred of articles

(In addition, (55) does not have the approximative interpretation.[28])

What looks like a similar restriction to plural holds for me in the contrast between (64) and:[29]

(69)   *They have an oodle of money.

27. Like French *douzaine* (see note 24), *dozen* can be either exact, as in (i), or inexact, as in (ii):
  (i)   He's spent a dozen years on that paper.
  (ii)   There are dozens of typos in your paper.
Yet while plural *dozens* is quite parallel to plural *douzaines*, singular *dozen* differs from singular *douzaine* in not by itself being able to express approximation and in not taking *of*, suggesting that *dozen* does not contain an *-en* parallel to *-aine* but is rather a variant of *twelve* that has the syntax of *hundred* (including the ability to take -AINE) except for:
  (iii)   three hundred/*dozen and two days
  (iv)   two thousand three hundred/*dozen days
  28. *A good hundred articles* does not have that interpretation, either, and the possible presence of *good* does not imply that *hundred* is a noun (as opposed to Jackendoff [1977, 128]), any more than it does for *many* in *a good many articles*. Rather, both *hundred* and *many* are adjectival, modifying unpronounced NUMBER—see chapter 8 on *many* and *few*; see also note 26. Still, there are differences between adjectival numerals and ordinary adjectives that remain to be understood—for example, with respect to agreement.
  Moderately acceptable is *She's written twenty-ish* (*of) *articles this year*. The impossibility of *of* suggests that *-ish* cannot be nominal (as opposed to adjectival).
  29. The restriction against numerals seen in (64) and that against the indefinite article may have something in common, but they diverge in:
  (i)   They have tons / a ton / *seven tons of money.
The idiomatic "very large quantity" reading is lost with the numeral; similarly for *lots/a lot/*seven lots* and for *large amounts/a large amount/*seven large amounts*.

On the reasonable assumption that this is an intrinsic property of *oodle* and of English -AINE (and that (68) and (69) are one phenomenon), we seem to have, in the case of *-aine*/-AINE, an example of two parametric differences—pronunciation (French) versus nonpronunciation (English); compatibility with singular (French) versus incompatibility with singular (English)—associated with a single derivational suffix.

However, it might be that incompatibility with singular follows from nonpronunciation, in particular if English -AINE needs to be licensed by overt plural *-s*, and if that licensing requirement is imposed by the nonpronunciation of -AINE.[30] In this case, the two parametric differences in question would reduce to one: pronunciation versus nonpronunciation.

In the universe of inflectional suffixes, postulation of two parametric properties for one functional element is not unfamiliar. For example, Spanish and Italian differ from Paduan in robustly allowing null subjects in the third-person singular and plural. Taking Harris (1969) to be correct in arguing that the third-person singular suffix in Spanish is zero (and generalizing to Italian), we seem to reach the conclusion that this zero suffix, in addition to its phonological property (which distinguishes it from the third-person singular [present tense][31] suffix of German), has, in Spanish and Italian, some further property that licenses a null subject, as opposed to the apparently similar zero third-person singular suffix of Paduan. Alternatively, one might

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30. Jean-Yves Pollock (pers. comm.) suggests that the licensing of -AINE by plural might be linked to the licensing by plural of the indefinite determiner. For relevant discussion, see Delfitto and Schroten (1991), Longobardi (1994), and Déprez (2005).

Guglielmo Cinque (pers. comm.) points out that *-aine* and -AINE may well correspond to a functional head in the (sentential) syntax (see note 102), given in particular the so-called approximative inversion (NP-movement) that seems to be induced by their (unpronounced) counterpart in Russian and Ukrainian, as discussed by Franks (1995, 165).

Note the contrast:

(i)   John has hundreds/*fifties of friends.
(ii)   John has tens/hundreds/*fifties of thousands of dollars.

as opposed to:

(iii) John is in his fifties.
(iv)   John was born in the fifties.

Why *fifty* (and other non-powers of ten) is incompatible with -AINE in (i) and (ii), yet compatible with YEAR(S) in (iii) and (iv) (see chapter 10) remains to be understood, as does the analysis of:

(v)   ?Your articles must number in the fifties.

perhaps with an unpronounced pronominal:

(vi)   in the fifty N -s

which would recall French (Gross 1977):

(vii) Vous avez publié dans les cinquante articles. ('you have published in the 50 articles'
       = . . . about 50 . . .)

31. The fact that German *-t* for third singular occurs in the present but not the past recalls English *-s*, but cannot be attributed to German disallowing two inflectional suffixes, contrary to (the spirit of) Bobaljik and Thráinsson (1998, 59).

try to reinterpret this second property by reducing it to the fact that Paduan (but not Spanish or Italian) has subject clitics.[32]

12.3.2.   Nonpronunciation and licensing: the case of *something heavy*

Pronunciation versus nonpronunciation of a given functional element has in some cross-linguistic cases effects that seem likely to follow at least in part from UG principles. Such cases (as perhaps the case of French *-aine* vs. English -AINE just mentioned) seem to indicate that pronunciation versus nonpronunciation is unlike a simple difference between one non-zero phonological realization and another.[33] Another example of interest is the following.

English has:[34]

(70)   somebody famous, something heavy

whereas French has:

(71)   quelqu'un de célèbre ('some-one of famous')

(72)   quelque chose de lourd ('some thing of heavy')

with an obligatory preposition *de*:

(73)   *quelqu'un célèbre

(74)   *quelque chose lourd

that English cannot have:

(75)   *somebody of famous, *something of heavy

That (70) and (71)–(72) are essentially the same phenomenon (as suggested to me by Hans Bennis), modulo the preposition, is reinforced by the fact that both languages fail to allow this with fully lexical nouns:

(76)   *Some linguist famous just walked in.

(77)   *Some book heavy just fell off the table.

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32. Though that might not extend to Hebrew or Finnish, which resemble Paduan; for some relevant discussion, see Kayne (2001a).
33. Recall the possibility that irregular morphology is associated only with phonological features, as in chapter 10 (116).
34. For one recent approach, see Kishimoto (2000). The text discussion will need to be extended to cover *something else*, *everything else*.

and similarly in French (if we abstract away from focalization effects). In addition, there is a determiner restriction that holds for (70):

(78)   *thebody famous, *thatthing heavy

that also holds for French (again abstracting away from focalization effects).[35] That French (71) and (72) are strongly parallel to English (70) is further suggested by their common limitation to singular:[36]

(79)   *somethings heavy/abnormal

(80)   *quelques choses de lourds/anormaux ('some things of heavy/abnormal')

12.3.3.   Determiners and unpronounced EVER

A way in which English and French contrast here has to do with the range of allowable determiners. English allows fairly well:

(81)   Everybody famous is happy.

(82)   Everything expensive is worth buying.

As in (76)–(77), a fully lexical noun is not possible:

(83)   *Every writer famous is happy.

(84)   *Every book expensive is worth buying.

French normally expresses *everything* as *tout*, a single morpheme, and *everybody* as *tout le monde*, literally 'all the world'. Combining these with *de* plus adjective is not possible, however, in contrast to (71)–(72):

(85)   *tout le monde de célèbre ('all the world of famous')

(86)   *tout de cher ('all of expensive')

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35. On these effects, see Azoulay-Vicente (1985).

36. If the suggestion in notes 26 and 28—to the effect that *three hundred*(*s) *books* is impossible with *-s* because *hundred* is adjectival—is correct, then either *thing* in *something*(*s) *heavy* is adjectival (which seems odd), or these two cases of plural *-s* being impossible are to be kept apart. The latter solution may receive support from **three/a thing heavy/heavys*.

French does allow:

(i)   quelques-uns de célèbres ('some-ones of famous')

but (i) is not the plural of (71) (and is not limited to animate the way (71) is). Rather, it corresponds to English *some famous ones*, with an understood antecedent.

A possible account might be the following. First, note that *tout* is identical in form to the masculine singular French counterpart of *all* in *toutes les filles* ('all$_{\text{fem.,pl.}}$ the girls').[37] Second, we might claim that *all* and *every* differ in definiteness, with *all* definite and *every* indefinite.[38] Third, it might be that indefiniteness is a necessary condition for (70)–(72) and (81)–(82).

Parametrically speaking, this would point up the importance of the fact that English *each*, *every*, and *all* have only two counterparts in French—*chaque* and *tout*. If *chaque* is a close counterpart of *each*, as seems very likely, and if *tout* corresponds to *all*,[39] then it looks as if it is *every* that is missing in French. This, in turn, might (if we are willing to think of *every* as *ever* + *y*, perhaps parallel to *any* as *an* + *y*) be linked to the absence in French of any overt morpheme corresponding to nontemporal *ever*,[40] as found in English in:

(87)   Wherever he goes, they'll be unhappy.

What French would have is:

(88)   Où qu'il aille, . . . ('where that he goes, . . .')

with no *ever*, but with an overt complementizer (and the verb in the subjunctive). It may be that the overt complementizer *que* (normally impossible in standard French in combination with a Wh-word) is necessary in (88) to license an unpronounced counterpart of *ever*.[41] That is, French may have:

(89)   Où EVER qu'il aille, . . .

But this unpronounced French EVER would be unable to occur as a part of a determiner—perhaps because French has no -*y*.

What this seems to indicate, in a way that is partly familiar from earlier work on the ECP,[42] is that languages may differ in that one language may associate no pronunciation with a functional element that is pronounced in the other; yet the

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37. The paradigm is *tout* (m.sg.), *toute* (f.sg.), *tous* (m.pl.), and *toutes* (f.pl.).

38. On *every* as indefinite, see Beghelli and Stowell (1997).

39. In which case, the limited *all else* needs to be looked into. An alternative approach, at least for (86), might involve a link with:

(i)   tout *(ce) que tu vois ('all that that you see')

although there would be a problem with:

(ii)   *tout ce de cher

40. French does have *jamais* corresponding to English temporal *ever* or *never*; all three of these arguably cooccur with an unpronounced TIME.

41. French also lacks any visible counterpart of the *ever* of:

(i)   We'll go wherever you go.

though here there would be no *que*, for reasons that need looking into.

42. See Chomsky (1981) on the Empty Category Principle.

unpronounced version will be subject to licensing requirements that may in some cases force the presence of an element (here, *que* in (88)) not otherwise needed, and at the same time in other cases result in the unpronounced version being unusable (as with the absence of a French counterpart to *every*).

12.3.4.   "Extraposition" differences

This brings us to a second way in which French and English differ in the area of syntax under discussion. The French counterpart of *someone else*, *something heavy* contains the preposition *de* ('of'), which we saw in (71)–(74) to be obligatory. In English the corresponding overt preposition is impossible, as seen in (75). Nevertheless, there are major similarities between French and English (restriction to nouns like *one* and *thing*; restriction to indefinite determiners; restriction to singular), as seen in (76)–(80). A natural proposal, therefore, is to take English *something heavy* and the like to contain an unpronounced counterpart to French *de*, call it OF:

(90)   something OF heavy

Now the difference between pronounced *de* and unpronounced OF seems to correlate with the fact that French allows combining this construction with extraposition to a greater extent than English does. For example, French has:

(91)   Rien n'est arrivé de très intéressant. ('nothing neg. is happened of very interesting')

while:

(92)   ??Nothing happened very interesting yesterday.

is not very good, as opposed to all of these:

(93)   Nothing very interesting happened yesterday.

(94)   Nothing happened that was very interesting yesterday.

(95)   Nothing happened of much interest yesterday.

with the last of these showing an overt *of* that is arguably responsible for the contrast with (92), parallel to (92) versus (91). Similarly, in Wh-cases, French allows:

(96)   Qui as-tu invité de célèbre? ('who have you invited of famous')

while English is not very happy with:

(97)   ??Who did you invite famous?

as opposed ((94) and (95)) to:

(98)   Who did you invite that/who was famous?

(99)   Who did you invite of interest?

   That extraposition of OF + Adj. is less successful than extraposition of *de* + adj. has a familiar ring to it, in that it recalls the well-known fact that, within English, relative clause extraposition is degraded if the complementizer is unpronounced:

(100)   Something just happened *?(that) John isn't aware of.

Thus the French/English contrast concerning extraposition with adjectives will plausibly follow from general principles of licensing (again, in the spirit of the ECP[43]), interacting with the parametric difference between a pronounced and an unpronounced preposition.

12.3.5. Quantity word differences and nonpronunciation

This parametric difference concerning *de* versus OF is in one sense more complex than the apparently similar one discussed earlier concerning the French derivational suffix *-aine* and its unpronounced English counterpart, in that English *of* /OF is often pronounced, so its nonpronunciation with adjectives cannot simply be a general feature of it.[44]

   A perhaps related case in which French has *de* and English has no visible preposition is the case of quantity words. The closest French counterparts of:

(101)   too few tables

(102)   so few tables

are:

(103)   trop peu de tables ('too *peu* of tables')

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43. Example (100) is better for me with *he* in place of *John*; see Kayne (1994, 156).
   Interestingly, French and English also differ in the nonextraposed Wh-cases. Although *Who else did you invite?* and *Qui d'autre as-tu invité?* are both fine, *??Who famous did you invite?* is less good than *Qui de célèbre as-tu invité?* The deviance of the former might be relatable to that of (97) if *who famous* can never be a derivation-final constituent; see Kayne (1998b, (18)) and appendix to chapter 5 in this volume.
   For an analysis of extraposition that involves no rightward movement—but, rather, leftward movement keyed to the complementizer—see Kayne (1998b, (28)) and Cinque (2003).
44. In addition, there are cases of English *of* that cannot be transposed to French—for example, *all of the books*, *all three of the books*, *the three of us*. Here, there may be a link to the fact that English is unusual, too, in having a complementizer *for* responsible for objective Case on a following subject (see Kayne 1981c).

(104)   si peu de tables ('so . . .')

and similarly for *little* in:

(105)   too little sugar

(106)   so little sugar

which in French are:

(107)   trop peu de sucre ('too *peu* of sugar')

(108)   si peu de sucre ('so . . .')

with *peu* translating both *few* and *little*. (I return later to the question of what exactly *peu* corresponds to.)

(The very fact that English distinguishes *few* and *little* on the basis of plural versus mass while French uses *peu* in all of (103)–(106) itself reflects a parametric difference of interest, comparable to the fact that English has both *someone* and *somebody*, whereas French has a close counterpart only of the former—*quelqu'un*.)

These parametric differences are of course "in the lexicon," in the specific sense that they are based on features of particular functional elements, but they are equally "of the syntax" and raise all sorts of interesting questions—for example, how best to characterize the relative distribution of *-one* versus *-body*, or of *few* versus *little*, and how best to understand the principles that underlie the distributional differences. In the case of *few* versus *little*, we have a distinction that is clearly related to the distinction between *number* and *amount* (and *quantity*), leading to interesting questions concerning the contrast:

(109)   (?)That library has a large amount of books in it.

(110)   *John has a large amount of sisters and brothers.

The parallelism between *someone* and *quelqu'un*, while certainly real, itself leads to the question whether *some* and *quelque* are quite the same, given:

(111)   Some are interesting.

versus:[45]

(112)   Quelques*(-uns) sont intéressants.

45. The appearance of *-uns* ('ones') here is atypical of French. For relevant discussion, see Pollock (1998).

and the ensuing thought that *quelque* is actually *quel* ('which') + complementizer *que*.[46] In turn, the idea that *quelque* is not a perfect match for *some* may be supported by the arguable absence in French of any simple counterpart to *any*. Whether French has a (closer) covert counterpart of *some* (and *any*) (and if not, why not?) is a valid and important question that I will not try to pursue here.

More generally, all work in comparative syntax depends in part on often implicit hypotheses concerning correspondences between morphemes across languages. In many cases, discerning what French morpheme corresponds to what English morpheme, for example, is straightforward; in other cases it is less so, as in the example just mentioned of *some* and *quelque*. (It seems highly likely that the proportion of straightforward cases is greater, the more microcomparative the work.) As we shall see below, the similarity between *peu* and *few/little* in (101)–(108) is, in fact, misleading.

Before taking on the correspondence question, let us focus again on the *de* that appears in (103)–(104) and (107)–(108), as well as in the corresponding examples without a degree element:

(113)   peu de tables

(114)   peu de sucre

These contrast with *few* and *little* in (101)–(102) and (105)–(106) and in:

(115)   few tables

(116)   little sugar

which do not have *of* (and cannot).

In this respect, one can see a parallel to (70)–(75) that, in turn, may be related to an English/French contrast concerning relative clause complementizers, exemplified by the contrast:

(117)   the books (that) you have read

(118)   les livres *(que) vous avez lus

The fact that English has no overt preposition in *something interesting* might perhaps (and perhaps similarly for (115)–(116)) depend on English allowing an unpronounced counterpart of *that* in (some) finite relative clauses. (Whether this itself is an intrinsic feature of *that* or itself follows from something else about English remains to be understood.)

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46. I'm thinking of the interpretive similarity within English between *We'll buy any book you recommend* and *We'll buy whichever book you recommend*, and the earlier postulation of unpronounced EVER (for French). Italian *qualche* takes a singular noun. Whether French has any exact counterpart of *some* is an open and important question; for relevant discussion, see Jayaseelan (2000).

On the other hand, the Italian counterparts of (113)–(116), namely:

(119)   poche (*di) tavole

(120)   poco (*di) zucchero

do not show the preposition *di* ('of') that one might expect, given that the Italian relative clause complementizer *che* is more like French *que* than like English *that*. But this contrast between French and Italian is probably related to the fact that Italian *poco*, *poca*, *pochi*, and *poche* agree with the noun in number and gender, while the corresponding French *peu* does not agree at all. Put another way, Italian may allow a covert preposition here—like English does, but for a different reason—if that covert preposition in Italian is licensed by the overt agreement morphology.[47]

The English/French contrast concerning *of* and *de* with *few* and *little* versus *peu* carries over to:

(121)   too many (*of) tables

(122)   too much (*of) sugar

versus:

(123)   trop *(de) tables ('too of tables')

(124)   trop *(de) sucre ('too of sugar')

despite the fact that (123) and (124) contain no overt element corresponding to *many* or *much*. The obvious proposal is that these French examples contain an unpronounced counterpart of *many* and *much* (which I'll represent as MUCH):

(125)   trop MUCH de tables/sucre

Licensing is once again required; in the absence of any appropriate element like *trop*, unpronounced MUCH would be impossible—alongside *Have they eaten much sugar?*, there is no French:

(126)   *Ont-ils mangé de sucre? ('have they eaten of sugar')

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47. See Kester (1996) on English versus other languages with respect to *John bought a big *(one)*.

Overt versus covert is too simple (as it is in the area of pro-drop), since Italian *abbastanza* ('enough') does not agree, yet occurs without *di*, as opposed to English *enough* and French *assez*. (Of importance, too, is the fact that Catalan sometimes has agreement cooccurring with a preposition; see Martí Girbau 2001.)

On the relevance of paradigmatic considerations, see Pollock (1994).

Not every degree word is a possible licenser, however. *Assez* ('enough') does act like *trop*; for example, like (124)–(125) is:

(127)   assez de sucre

with the analysis:

(128)   assez MUCH de sucre

and like (107) is:

(129)   assez peu de sucre ('enough *peu* of sugar' = little enough sugar)

However,

(130)   si peu de sucre ('so *peu* of sugar')

has no counterpart:

(131)   *si de sucre

It might be that the licenser of unpronounced MUCH in French must be +N, and that while *trop* and *assez* are or can be +N, *si* cannot be, just like *très*:

(132)   très peu de sucre ('very *peu* of sugar' = very little sugar)

(133)   *très de sucre

Given that alongside the possible (124) and (127) we have the impossible (126), (131), and (133), the question arises as to how French does express what they were intended to express. Let me focus on *much sugar*, which would normally be translated as:

(134)   beaucoup de sucre

Yet *beaucoup* does not seem to be a true counterpart of *many* or *much*. For example, it cannot be modified by *trop* ('too'), *si* ('so'), or *très* ('very'):

(135)   *Jean a mangé trop beaucoup de sucre. ('J has eaten too *beaucoup* of sugar')

(136)   *Jean a mangé si beaucoup de sucre.

(137)   *Jean a mangé très beaucoup de sucre.

In addition, *beaucoup* is not a polarity item in the way that *much* is:[48]

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48. In my (colloquial) English, *many* is a polarity item, too, though to a lesser degree:
(i)   ?They have many students this year.

(138)   Jean a mangé beaucoup de sucre.

(139)   *?John has eaten much sugar.

Rather, *beaucoup* looks more like a French counterpart of *a good deal*, as in:

(140)   He's spent a good deal of time in London.

It is not that the two morphemes that make up *beaucoup* correspond exactly to *good* and *deal* (although *beau* and *good* have something in common)[49] but, rather, that there are two; that the first is adjectival and the second nominal; and that the restrictions against modification in French seen in (135)–(137) carry over to *a good deal*:

(141)   *He's spent too/so good a deal of time in London.

(142)   *?He's spent a very good deal of time in London.[50]

and that neither *beaucoup* nor *a good deal* can be preadjectival modifiers (comparatives aside):

(143)   *Jean est beaucoup riche. ('J is *beaucoup* rich')

(144)   *John is a good deal rich.

The conclusion that *beaucoup* is more like *a good deal* than like *many* and *much* (despite the fact that *a good deal* (unlike *beaucoup*) is less natural with plurals than with mass nouns) seems solid and might be taken to indicate that French simply has no overt morpheme corresponding to *many* and *much*. Consider, however, that (107), (129), (130), and (132) have parallels with adjectives, in the sense that *trop*, *assez*, *si*, and *très* occur in:

(145)   trop petit, assez petit, si petit, très petit ('too, enough, so, very small')

49. In some respects, *beaucoup* is more like *a great deal*—for example:

(i)   You haven't spent a great/good deal of time in London.

In the sense of *not very much*, (i) seems appreciably more possible with *great* than with *good*. (With *good*, (i) seems possible only as a denial.) *Beaucoup* is natural in the scope of ordinary negation.

For my purposes here, the important point is that *beau* in *beaucoup* is an adjective. How exactly it matches up with *good*, *great*, and *beautiful* (to which *beau* often corresponds) is an important question that I will not pursue.

50. Here *a great deal* diverges from *beaucoup*, in that *a very great deal of time* is fairly acceptable.

Against the background of (145), consider now:

(146)   Jean a mangé tant de sucre. ('J has eaten *tant* of sugar')

which would normally be translated as *J has eaten so much sugar*. Given the proposal made earlier in (125) that *trop de sucre* is really *trop MUCH de sucre*, one could well think the same of *tant de sucre*. But *tant* is crucially unlike the degree words *trop*, *assez*, and *si* (and also *très*) in that it cannot directly modify adjectives:

(147)   *Jean est tant petit. ('J is *tant* petit')

This suggests the possibility that (146) is better analyzed as:

(148)   SO tant de sucre

with SO unpronounced and with *tant* then a truly close counterpart of *many* or *much* (except that overt *tant* is parametrically restricted to cooccurring with SO).[51]

Taking *tant* to be essentially like *many* and *much* allows us to relate (147) to:

(149)   *John isn't much intelligent.

That is, to the fact that English *much* is normally impossible with adjectives. The fact that one can say:

(150)   That book isn't much good.

is almost certainly due to *good* being able to act as a noun, as suggested by:

(151)   It isn't of much good to anybody.

since overt *of* can normally not go with adjectives in English (cf. (90)), and by:

(152)   What good is that?

since *what* otherwise requires a noun.

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51. Alternatively, the required unpronounced modifier of *tant* might be THAT, thinking of English *that much sugar*, which has no overt counterpart in French.

Extended to Italian *tanto zucchero*, the hypothesis that *tant* and *tanto* correspond to *many* and *much* raises the question of the status of Italian *molto zucchero*, readily translated as *much sugar*. Alternatively, *molto* is an Italian counterpart of *very*:

(i)   molto MUCH zucchero

This might help with an understanding of **moltissimo intelligente* versus *?pochissimo intelligente*.

An additional similarity between *tant* and *much* lies in the observation that *so*, in the case where it takes an adjective as antecedent, is sometimes compatible with a preceding *much* (in a way that the adjective itself would not be):[52]

(153)   John is intelligent, too much so, in fact.

combined with the observation that the closest French counterpart of this *so*, namely clitic *le*, is also compatible with *tant*, even when *le* takes an adjective as antecedent:

(154)   Jean ne l'est pas tant que ça. ('J neg. so is not much *que* that')

    Like (146) versus (147) is:

(155)   Jean a mangé autant de sucre que Paul. ('J has eaten as much of sugar *que* P')

(156)   *Jean est autant petit que Paul. ('J is as much small *que* P')

If *tant* is strongly parallel to *much*, then *autant* can readily be decomposed into *au* + *tant*, with *au-* parallel to the English comparative *as* that precedes adjectives or (adjectival) quantity words. The way French expresses the adjectival counterpart of (155) is:

(157)   Jean est aussi petit que Paul.

where *aussi* is clearly composed of the *au-* of (155) plus the *si* of (130) and (145).[53] Transposing back to English, we reach:

(158)   *John is as so small as Paul.

which is not possible, but which suggests that the following:

(159)   John is as small as Paul.

is really:[54]

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52. I take this to mean that this *so* (like French *le*—on which, see Sportiche 1995a) is not an adjective (see Corver [1997, 160] (vs. his p.128)), as also suggested by:

 (i)   enough so to
 (ii)   *so enough to

and by:

(iii)   a big enough room
(iv)   *a so enough / enough so room

53. The doubling of the *s* is orthographic; no third morpheme is involved.
54. See note 51.

(160)   . . . as SO small . . .

with an unpronounced SO, and similarly for:

(161)   John has eaten as much sugar as Paul.

(162)   . . . as SO much . . .

in which case (155) must be:

(163)   . . . au SO tant . . .

unifying it with (148).

   This analysis of (159) and (161) amounts to saying that the degree element in these examples is the unpronounced SO rather than *as* itself, and thereby makes it possible that the second *as* in (159) and (161) is the same functional element as the first (rather than an accidental homonym, though its exact status needs to be elucidated).

   This in turn makes it interesting (and imperative) to ask why French does not use *au-* twice:

(164)   *Jean est aussi petit au Paul.

(165)   *Jean a mangé autant de sucre au Paul.

and, conversely, why English does not use a correspondent of the *que* seen in (155) and (157):

(166)   *John is as small that/what Paul.

(167)   *John has eaten as much sugar that/what Paul.

Since saying that *au-* cannot appear in (164) and (165) because it cannot be an independent "word" is not much of an answer (why could it not be?),[55] I will leave that question open. (The question posed by (166)–(167) is not easy, either.)

   Given that French overt *tant* is akin to *much* and *many* except that it is restricted to occurring with the unpronounced degree element SO, we have a parametric difference of a noteworthy sort, about which we can begin to ask further questions. For example, we can wonder why SO is the only degree element that can occur unpronounced with *tant* ((146) cannot be interpreted as if it had an unpronounced TROP or ASSEZ). Relevant may be sentences like:

(168)   He can stand only so much noise.

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   55. See Julien (2002) for systematic doubts about the syntactic importance of the notion 'word'.

in which *so* has a demonstrative-like interpretation, suggesting that *so* itself may have less interpretive content than *too* or *enough*,[56] and thereby be more recoverable (in a sense to be made precise, thinking of the fact that pronouns are cross-linguistically often unpronounced) than *too* or *enough*.

If this is correct, we can then ask why English does not follow the same path as French (in which case English would allow 'SO *much*') and vice versa (in which case French would allow **si tant* ('so much')). That French does not allow **si tant* would appear to be part of a clear generalization to the effect that *tant* (unlike *many* and *much*) cannot occur with any overt degree modifier (recall that from the present perspective the *au-* of (155) is not a degree element):

(169)   *Jean a mangé trop/si/assez/très tant de sucre. ('J has eaten too/so/enough/very much of sugar')

This, in turn, looks like the other side of the coin represented by (125) and (128): in place of the impossible **trop tant* and **assez tant*, French has '*trop* MUCH' and '*assez* MUCH'. The question now is how best to state this. Tentatively assume the following:

(170)   If in a given language a given functional (or lexical) element can be pronounced, then it must be.

(171)   Principle (170) can be overridden.

From this perspective, English *too *(much) sugar* is expected, while French must have recourse to (171).

12.3.6.   A licensing parameter possibly reinterpreted as a movement parameter

From the preceding perspective, French and English differ in that in French MANY and MUCH can be unpronounced in the context of certain +N licensers like *trop* ('too')—for example, *trop de sucre*.[57] As is so often the case, this is less a difference between the two languages taken as wholes than it might appear. The reason is that English itself allows unpronounced MANY and MUCH in the specific instance of *enough sugar*. This contrast within English between *enough sugar* and **too sugar* appears to be related to *smart enough* versus **smart too*: the only degree word that allows *many* and *much* to be unpronounced in English is precisely the one that requires its adjectival complement to move to its left.

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56. In which case the exclamative sense of:

(i)   He's eaten so much sugar!

must be attributed to a distinct (unpronounced) element or elements.

57. Also *énormément de sucre* versus **enormously (of) sugar*. For additional details, see chapter 7.

This leads to an alternative approach: instead of just attributing to *trop* a licensing ability with respect to MUCH denied to its counterpart *too*, it might be that in French (but not in English) MUCH moves leftward past *trop* in a way parallel to what happens overtly in English with *enough* and adjectives (despite the fact that it does not happen in French with overt adjectives).

This would make the licensing configuration for unpronounced MUCH the same in *enough sugar* and *trop de sucre*:[58]

(172)   MUCH enough sugar

(173)   MUCH trop de sucre

and might alter our view of the French/English difference here from simply being a parameter concerning licensing to being a parametric difference that also concerns movement. Put another way, it might be that the licensing of MUCH (a case of (171)) would be automatic whenever MUCH moved leftward past its degree modifier. If so, then *too much sugar* versus *trop de sucre* would reduce to the same general kind of movement parameter that one sees within English in *smart enough* versus **smart too* (apparently, a feature of the degree word itself).

In English, the adjective must cross *enough*:

(174)   *John is enough smart.

On the natural assumption that the obligatoriness of this movement carries over to the relevant French cases,[59] we have an immediate account, parallel to (174), of:

(175)   *Jean a mangé trop tant de sucre. ('J has eaten too much of sugar')

Instead, the question is now why French excludes (given (173)):

(176)   *Jean a mangé tant trop de sucre.

The answer must be the same as for English:

(177)   *John has eaten much enough sugar.

and could be attributed to:

(178)   If (171) comes into play, it does so obligatorily.

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58. The link between the licensing of an unpronounced element and movement recalls Rizzi's (2000, 316) discussion of null topics in German, which suggests that the movement of MUCH may be forced by UG.

59. Ideally, because movement is never optional—see Chomsky's (1995, 256) "Last Resort."

In other words (in a way parallel to the obligatoriness of movement—see note 59):

(179)   If the nonpronunciation of an otherwise pronounceable element is licensed in some environment, then pronunciation of that element in that environment is impossible.

     We can think of (178) and (179) as imposing a kind of blocking effect, but if we do, we must keep this blocking distinct from the weaker notion of morphological blocking that favors *sincerity* over *sincereness*, or *invisible* over *unvisible*. I say "weaker" because both *sincereness* and *unvisible* seem to me essentially acceptable, and in any event appreciably more acceptable than (177).[60]
     As is well-known, (177) contrasts with:

(180)   John has eaten little enough sugar.

which, in turn, correlates with the fact that the following:

(181)   John has eaten enough sugar.

cannot have the interpretation of (180). Put another way, *little* must be pronounced, unlike *much*, even when preposed to *enough*. As in the discussion of (168), some notion of recoverability must be at issue. (For example, it might be that (180) contains an unpronounced negation that must be licensed by overt *little*.)
     The word order in (180) does not match French:

(182)   Jean a mangé assez peu / *peu assez de sucre.

Similarly, alongside the proposed (173), we have:

(183)   Jean a mangé trop peu / *peu trop de sucre.

French *peu* does not move past degree words in the way that French MUCH has been postulated to. This may correlate in part with the fact that *peu* does not correspond as closely to *little* as it might seem to. (Again, I return to this later.)
     Recall from (131) that *si* ('so') acts differently from *assez* and *trop* in that *si* is incompatible with unpronounced MUCH:

(184)   Jean a mangé si peu de sucre. ('J has eaten so *peu* of sugar')

(185)   *Jean a mangé si de sucre.

In place of (185), French has:

     60. Some cases of sharp judgments in "morphology," such as:

(i)   John saw/*seed Paul.

might actually fall under (179), at least in part.

(186)   Jean a mangé tant de sucre.

which I have argued to be 'SO *tant*', with *tant* corresponding to English *much*. The question now is how exactly to exclude (185). One possibility was mentioned at (131), using the feature +N. Another might be that if *si* is just the pronounced counterpart of SO, then (179) provides an answer, in particular if the nonpronunciation of SO in (186) is licensed prior to the point in the derivation at which MUCH could move. (The fact that overt *tant* in French, unlike overt *much* in English, licenses SO needs further elucidation.)

Apparently like (184) and (185) is:

(187)   Jean a mangé très peu de sucre. ('J has eaten very *peu* of sugar')

(188)   *Jean a mangé très de sucre.

but there is an important difference: there is no obvious candidate to express (188) in the way that (186) expresses what (185) might have. Put another way, English has, in particular in polarity contexts, pairs like:

(189)   John didn't eat very much sugar.

(190)   John didn't eat much sugar.

but French, it would seem, has nothing comparable. (We may be able to exclude (188) on the basis of *très* not being +N,[61] as just mentioned for *si*.)

The absence of a word-for-word counterpart in French of *too much sugar* (see (175)) has a partial parallel in the absence in French of a word-for-word counterpart of interrogative *how much sugar*. The parallel is partial in the sense that while French does have *trop petit* as a good match for *too small*, it has no two-word equivalent at all for interrogative *how small*, and more generally for interrogative *how* + adjective.[62] The translation of *how much sugar* would normally be:

(191)   combien de sucre

but there is no interrogative:

(192)   *combien petit

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61. There may be a parametric difference here between French and Italian; see note 51.

62. In some cases, French can use something like *to what extent*. I leave aside the more complex question of exclamative *combien*, as well as the related question of what happens when *combien* or *tant* is separated from the adjective.

12.3.7.   Missing Wh-words

Now the word *combien* is itself arguably bimorphemic, with the second morpheme equal to *bien* ('well') and the first essentially the same as the *comme* that occurs in exclamative:

(193)   Comme il est petit! ('how he is small')

in:

(194)   Vous considérez Jean comme un homme intelligent. ('you consider J as/like a man intelligent')

and in:

(195)   Comme j'ai dit, . . . ('as/like I have said')

The range of English glosses here might be taken to suggest that French *comme/com-* corresponds homonymously to at least two distinct elements of English. Yet while homonyms surely exist (cf. the usual (*river*) *bank* and (*savings*) *bank*), the set here (*how*, *as*, *like*) does not seem to be sufficiently arbitrary, so we should feel obliged, I think, to consider the stronger hypothesis that takes *comme/com-* to be a single element. (In a general way, we should be as skeptical as possible about allowing homonyms within the universe of (non-zero) functional elements.)

    Comparing *comme* to *as* and *like*, we can note the contrast within English:

(196)   As is obvious, . . .

(197)   *Like is obvious, . . .

and the fact that in this respect *comme* acts like *like*:

(198)   *Comme est évident, . . .

If we add to this the fact that neither instance of *as* in comparatives like *Mary is as smart as Ann* translates as *comme* in French (see the discussion of (155) and (166)), we can conclude that *comme* is closer to *like* than to *as*. Thinking further of the nonstandard:

(199)   We were saying like as how we'd been there long enough.

it might be that *comme* in (195) is to be analyzed as:[63]

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    63. See den Besten (1978) and Larson (1987).

(200)   comme HOW j'ai dit ('like HOW I have said')

and similarly for *combien de sucre*, which would be:

(201)   com- HOW bien MUCH de sucre ('like HOW well MUCH of sugar' = how much sugar)

   If interrogative *comme/com-* were to require *bien* to appear (for reasons that would remain to be elucidated), and if *bien* were to require MUCH and if MUCH requires the presence of a noun (rather than an adjective), we would have a way of accounting for the absence in French of interrogative *how small*, in part by denying that French has any overt counterpart to *how* at all.
   In which case, we could try to relate the absence of *how* in French to the absence in French of any true counterpart of *why*.[64] French *pourquoi* appears to be used in the same way, but it is bimorphemic and in that sense corresponds closely to English *what . . . for?*, apart from the preposition-stranding.[65]
   French may seem to have *how* in interrogatives like:

(202)   Comment ont-ils résolu le problème? ('*comment* have they resolved the problem')

but following the preceding discussion, *comment* may itself be bimorphemic: *comme + -ent* ('like + HOW + *-ent*', with the status of *-ent* needing to be understood), with that perhaps related to its incompatibility with the EVER of free relatives mentioned earlier (see the discussion of (88)). While French has counterparts of *Whoever . . .*, *Whatever . . .*, and *Wherever . . .* with *qui* ('who'), *quoi* ('what'), and *où* ('where')— for example:

(203)   Qui que tu invites, . . . ('who EVER that you invite')

there is none using *comment*:

(204)   However you solve this problem, . . .

(205)   *Comment que tu résolves ce problème, . . . ('*comment* that you solve this problem')

and similarly for *combien*:

(206)   However much money you have, . . .

(207)   *Combien d'argent que vous ayez, . . . ('*combien* of money that you have')

   64. See Benincà and Poletto (2004).
   65. For a parametric proposal about preposition stranding, see Kayne (1981c).

It may be that unpronounced EVER in French must directly follow the Wh-word but cannot with *comment* or *combien* because of the presence of *-ent* and *bien*.[66]

Taking French to lack direct counterparts of overt *how* and *why* leads us to *when*, whose apparent French counterpart *quand* acts like *comment* in being impossible in free relatives:

(208)   Whenever we see them, . . .

(209)   *Quand que nous les voyions, . . . ('when that we them see')

and also in simple relatives (see note 66):

(210)   the year when we met them

(211)   *l'année quand . . .

Thus *quand*, along with *comment* and *pourquoi*, may be (bi- or) multimorphemic (presumably at least *qu-* + *-and*[67]) in French in a way that it is not in English (whereas *qui*, *quoi*, and *où* would correspond more directly to the possibly bimorphemic *who*, *what*, and *where*).

Assuming, then, that French lacks "simple" overt counterparts to *when*, *how*, and *why*, we can ask why it does (though I have no specific proposal for this case). More generally put, whenever one language lacks an overt element corresponding to one found in another language, one can (and must) ask whether the absence of such in the first language is an irreducible parametric property of the particular element in question, since it might alternatively be that that absence can be derived from independent factors.

A relevant example is:

(212)   At the age of seven (years), John . . .

(213)   A l'âge de sept *(ans), Jean . . .

English readily omits *years*, whereas French cannot omit *ans*. Although this might appear to be an irreducible property of *year*(s) versus *an*(s), there is reason to think that this English/French contrast is related to and follows from another difference

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66. There may be a link here to the absence in French of a direct counterpart to the non-standard relative *how* of:

(i)   the way how they solved the problem

(ii)   *la façon comment . . .

67. This *-and* does not participate in a pairing with any non-Wh element in the manner of *when* and *then*. (French does not have a good counterpart to the *then* of *We saw her just then*.)

According to Houngues (1997, 130), Mina (Gengbè) lacks simple Wh-words entirely (with the exception of a counterpart of *which*).

between them concerning number morphology[68]—namely, that English prenominal adjectives (as opposed to French prenominal adjectives) are not accompanied by a plural morpheme. If this is correct, then the availability of unpronounced *year(s)* in English versus French is not irreducible.

12.4.   Related parameters

12.4.1.   The indefinite article

I suggested earlier at (140) that French *beaucoup* is more akin to *a good deal* than it is to *many* and *much*, while neglecting the fact that English *a good deal* contains an *a* that *beaucoup* lacks entirely. While important, this contrast between *a good deal* and *beaucoup* is, I think, orthogonal to the idea put forth that *beaucoup* is bimorphemic and that it does not correspond directly to *many* or *much*. The basic reason for this orthogonality is that the presence of *a* in *a good deal* versus *beaucoup* seems to be part of a wider difference between the two languages.

It is not that French lacks an indefinite article. (In fact, except for various special cases, it prohibits arguments from being bare singulars.[69]) Its *un* behaves in many ways like a typical indefinite article, in addition to being used as the stressed numeral corresponding to *one*, and fits in naturally with Perlmutter's (1970) hypothesis that indefinite articles are unstressed forms of the numeral *one*. It is, rather, that English imposes an indefinite article in a class of cases where French either does not impose it or does not allow it at all. One concerns predicate nominals. English has:

(214)   Mary is *(a) doctor.

whereas French allows the indefinite article to be absent:[70]

(215)   Marie est médecin.

A second is:

(216)   What *(an) imbecile!

(217)   Quel (*un) imbécile!

a third:

(218)   Mary has published *(a) hundred / *(a) thousand articles.

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68. See chapter 10. There is a partial similarity here to Carstens's (1997) proposal concerning unpronounced locative nouns in Bantu. Unpronounced pronominals have long been thought of as licensed by the presence of other "morphology"—see, for example, Rizzi (1982) on null subjects; see also Kester (1996), Lobeck (1995), and Delfitto and Schroten (1991).

69. For relevant discussion, see Déprez (2005).

70. For a comparative analysis, see Pollock (1983).

(219)   Marie a publié (*un) cent / (*un) mille articles.

This last pair is moderately close to *a good deal* versus *beaucoup*. Even closer is:

(220)   Unfortunately, *(a) good number of linguists disagree with you.

(221)   Bon nombre de linguistes . . . ('good number of linguists')

where this French example lacks an overt indefinite article.

This last pair indirectly establishes a link between *a good deal* and *a good number* (and between *beaucoup* and *bon nombre*). Another point in common (this time internal to English) between *a good number* and *a good deal* lies in their nonpluralizability:[71]

(222)   *?Unfortunately, good numbers of linguists disagree with you.

(223)   *Mary has eaten good deals of sugar.

Also:

(224)   *three good numbers of linguists

(225)   *three good deals of sugar

In turn, this nonpluralizability recalls the fact that *that long a book* has no plural counterpart:

(226)   *that long books

The indefinite article of *that long a book* cannot be replaced by any other determiner, as:

(227)   *that long some book

I think this carries back over to:

(228)   *?Unfortunately, some good number of linguists disagree with you.

(229)   *Mary has eaten some good deal of sugar.

It may be that for *that long* to precede the determiner in *that long a book*, the determiner must not only be unstressed, as Perlmutter had the indefinite article, but also

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71. Some adjectives are fully compatible with *numbers*:
 (i)   Large numbers of linguists have been coming to the talks.
(ii)   *Large deals of sugar have been eaten.

be cliticized, in the strong sense of occupying some special clitic position, one available to *a* or *an*, but not to any other determiner. In this case, we could say that the same holds (as the result of some UG requirement) of the *a* or *an* of *a good number*, *a good deal*—that is, it must occupy a special clitic position—and then add that French *un* generally lacks that option, for reasons to be discovered. Following this reasoning, the general lack of that option in French would preclude the appearance of *un* in (217) and (219), and arguably also with *beaucoup*.[72] (French also lacks any word-for-word counterpart of *that long a book*.)

If the preceding is on the right track, the article difference between *a good deal* and *beaucoup* is orthogonal to the real parallelism between them. Both involve adjective plus noun; *beaucoup* is closer to *a good deal* than it is to *many* and *much* (which is usually not expressed in French). (A separate question is whether French has an unpronounced counterpart of the indefinite article in some of the cases mentioned above.)

12.4.2.   The categorial status of *few* and *little* versus *peu*

Unlike *a good deal* and *beaucoup*, which agree in taking a following preposition:

(230)   a good deal of sugar

(231)   beaucoup de sucre

few and *little* and *peu* diverge in that *de* must intervene between *peu* and the noun:

(232)   peu *(de) livres ('*peu* of books')

(233)   peu *(de) sucre

as opposed to English:

(234)   few (*of) books

(235)   little (*of) sugar

A natural proposal, in part motivated by the appearance of *de* and *of* with *beaucoup* and *a good deal* (where *deal* is obviously nominal), is that *de* appears with *peu* because *peu* is nominal, and that *of* fails to appear with *few* and *little* because they are adjectival.

Taking *little* in *little sugar* to be adjectival has the immediate advantage of relating it strongly to the *little* of *a little boy*.[73] In addition, it straightforwardly accounts

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72. *Un* is possible, however, in (221).
73. A more thorough analysis of *little sugar* would have *little* directly modifying an unpronounced AMOUNT. See chapter 8.

for *very little sugar*, *so little sugar*, and the like, where *little* takes modifiers or degree words typical of adjectives, as opposed to nouns. The adjectival character of *little* is brought out, too, by the contrast between *a little* and *a lot*, with *lot* acting clearly like a noun. This is seen in the contrast:

(236)   a little (*of) sugar

(237)   a lot *(of) sugar

and similarly for:

(238)   *a whole little sugar

(239)   a whole lot of sugar

as well as:

(240)   (?)They want only a very little sugar.

(241)   *They want (only) a very lot of sugar.

In pretty much the same way, *few* is clearly adjectival:[74] for example, *very few books*, *so few books*, *fewer books*, *the fewest books*, as well as **a whole few books* and (*?*)*They need only a very few books*.

More intriguing is the question of the categorial status of French *peu*, whose *de* suggests nominal status, as noted. One might object, though, that nominal status for *peu* is difficult to maintain, given:

(242)   si peu *(de) livres

(243)   très peu *(de) sucre

where *de* appears even in the presence of *si* ('so') and *très* ('very'), which otherwise modify adjectives, such as *si grand* ('so big') and *très grand* ('very big').[75]

But that would be to miss the importance of sentences like:

(244)   Jean a faim. ('J has hunger')

This kind of sentence, the normal way of expressing *John is hungry* is French, has an interesting property. Although *faim* is a noun by familiar criteria—it has intrinsic

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74. As noted by Jespersen (1970a/1914, 106).
75. Why English and French contrast with respect to:

(i)   Mary is so very intelligent!
(ii)   *Marie est si très intelligente!

remains to be understood.

gender (fem.), it does not agree with anything else in the manner of an adjective, it can take determiners and relative clauses the way nouns do—*faim* has the property that in these sentences with *avoir* ('have') it needs no determiner and can be modified by adjectival modifiers:

(245)   Jean a si faim. ('J has so hunger' = J is so hungry.)

(246)   Jean a très faim. ('J has very hunger' = J is very hungry.)

    Somewhat similarly, French allows, with nouns like *professeur*:

(247)   Jean fait très professeur. ('J makes very professor' = J looks very much like a professor.)

with no determiner and a modifier that otherwise normally goes with adjectives.

    Yet when *professeur* (and the same holds for *faim*) does have a determiner, this kind of modifier becomes impossible:

(248)   Jean ressemble à un (*très) professeur. ('J resembles to a very professor')

(249)   Jean a une (*très) faim extraordinaire. ('J has a very hunger extraordinary')

Let me take (245)–(247) to involve NPs that are not part of any larger DP at all— that is, are not associated with any determiner at all, not even an unpronounced one.[76]

    The idea now is that the way to understand the combined presence of *si* or *très* and *de* in (242)–(243) is to take *peu* there to be a noun that is behaving like *faim* and *professeur* in (245)–(247) (i.e., *peu*, though a noun, is not associated with any determiner).[77] It is the nominal status of *peu* that determines the presence of *de*; yet, in French, nominal status is not necessarily incompatible with modification by *si* ('so') and *très* ('very'), as we have seen.

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76. Whether *très* is part of that NP is not entirely clear. Relevant is *Jean a trop* (**de*) *faim* ('J has too of hunger').

77. The parallel between *très peu de sucre* and *très professeur* suggests taking *très peu*, when followed by *de*, to originate within a relative clause-like structure with a copula, thinking of the relation between (*very*) *few books* and *books that are* (*very*) *few* (*in number*).

    The impossibility of *de* in:

  (i)   Jean a très peu (*de) faim. ('J has very *peu* of hunger')

would then be linked to:

  (ii)   Jean a faim (*qui est étonnante). ('J has hunger that is astonishing')
(iii)   Jean est professeur (*qui est célèbre). ('J is professor who is famous')

with the generalization being that relative clauses (and APs that originate as reduced relatives; and possessives like *de Marie*) require a DP (see Kayne [1994, 87]) and cannot combine with a bare NP.

    On (i) without *de*, see note 76.

That *peu* is a noun is supported by its ability to occur with an overt determiner in examples like:

(250)   un peu de sucre ('a *peu* of sugar')

Of interest is the fact that when *peu* is preceded by *un*, it can no longer be modified by *très* (just as we saw in (248)–(249) for *faim* and *professeur*):

(251)   *un si/très peu de sucre

Rather, it acts like a normal noun embedded within DP and can take an adjective:

(252)   un petit peu de sucre ('a little *peu* of sugar')

When there is no determiner, *petit* is not possible:

(253)   *Jean a mangé petit peu de sucre. ('J has eaten little *peu* of sugar')

There is obviously now a problem of sorts with the glosses. In (252), *peu* can hardly be glossed as *little*, given the presence of *petit* = 'little'. Rather what comes to mind is:

(254)   a little bit of sugar

In fact, if we take *peu* to be the French counterpart of English *bit*, we have an immediate understanding of the fact that *peu* requires a following *de* in, for example, (242) and (243), since *bit* in English is clearly a noun and requires *of* before the associated NP:

(255)   a bit *(of) sugar

Further indication of the nominal (as opposed to adjectival) character of *bit* comes from (254) versus:

(256)   *a very bit of sugar

(Moreover, *a bit of N* shares with *un peu de N* a strong preference for mass over count.) The possibility of (242) and (243) in French is compatible with the nominal character of *peu*, as we saw from the discussion of (245)–(247).

Against the background of the conclusion that *peu* corresponds to *bit*,[78] let us turn to some explicit questions of parameters. The fact that French allows (245)–

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78. This correspondence holds strongly in the singular, but English plural *bits*, as in:

 (i)   ?John has bits of money in various bank accounts.

has no French counterpart with *peu*.

    Note also that *peu*, when not embedded within DP, is compatible with a plural N or NP:

 (ii)   Jean a peu d'amis. ('J has *peu* of friends')

though here there is no direct comparison available with English, given (262).

(247), and English *not*, may well reduce to the fact that in (apparently) simpler cases French allows (215) and:

(257)   Jean est professeur. ('J is professor')

while English does not allow:[79]

(258)   *John is professor/teacher/doctor.

(If so, then *faim* in (245)–(246) and *professeur* in (247) will probably turn out not to be arguments.)
      Taking:

(259)   un peu de sucre

to match (almost) perfectly:

(260)   a bit of sugar

we can ask why there is a sharp contrast when the indefinite article is omitted:

(261)   Marie a mangé peu de sucre.

(262)   *Mary has eaten bit of sugar.

To express (261) English has:

(263)   Mary has eaten little sugar.

whose word-for-word equivalent in French is ill-formed:

(264)   *Marie a mangé petit sucre.

Let me suggest that the answer might lie in aligning (252) and (254) and in claiming that *a bit* and *un peu* always require adjectival modification, which need not be overt; that is, (259) and (260) are:[80]

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79. See Pollock (1983). With titles, English does allow *John is professor of history at* . . .
80. If (179) is correct, then either the unpronounced adjective here is not exactly the equivalent of *little* or else the structure of (265) and (266) is not identical to that of (256) (which in any event shows that LITTLE could not be modified by *very*).
      The special relation between *little* and *bit* is also suggested by:
  (i)   a little/?small/*large bit of sugar
 (ii)   a small/large/?little amount of sugar

(265)   un LITTLE peu de sucre

(266)   a LITTLE bit of sugar

From this perspective, we could say, first, that (262) reflects the greater English need for a determiner discussed in (214)ff.,[81] second, that that need is waived if *bit* is unpronounced (and licensed by *little*), as it arguably is in (263):

(267)   . . . little BIT sugar

third, that French does not allow *peu* to be unpronounced at all, so that (264) is not available:

(268)   . . . *petit PEU sucre

and fourth, that (267) generalizes to:

(269)   a little BIT sugar

with the indefinite article.

12.4.3.   In what sense can a difference in category be a parameter?

Although (263) and (261) are natural translations of each other in French and English, the proposal in this essay is that *little* is an adjective while *peu* is a noun. At the same time, taking into account (265)–(269), we can see that the claim is definitely

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This contrast is sharper in:

   (iii)   John is a little/*small/*large bit tired.

Note also:

   (iv)   *John is a small/large amount tired.

       Why there is a contrast:

   (v)   John has quite a (little) bit of money.
   (vi)   *John is quite a (little) bit tired.

needs to be looked into. See:

  (vii)   John is (*quite) a little unhappy.

suggesting that (viii) is really (ix):

 (viii)   John is a little unhappy.
   (ix)   . . . a little BIT unhapppy

       81. When French leaves out the determiner, an ordinary adjective becomes impossible, as in (253). Note that Italian would render (252) as:

(i)   un pochino di zucchero ('a bit *-ino* of sugar')

where *-ino* is a suffix arguably equivalent to *little*, and presumably requiring movement across it.

not that *little* is the English equivalent of the noun *peu* in an adjectival guise. Rather, *little* corresponds strongly to the French adjective *petit*, and *peu* corresponds strongly to the English noun *bit*. The differences between English and French in this area of syntax depend on what can or cannot be pronounced and under what conditions.

Put another way, this is NOT an example of a parameter of the sort:

(270)   Some element X in UG is realized as category A in one language but as a distinct category B in some other language.

The question is, is (270) ever an admissible type of parameter? In the spirit of Baker's (1988, 46) UTAH principle, the answer should arguably be negative. Yet there do seem to be cases that one might be tempted to look at as instances of (270). In fact, there is at least one revealing case internal to English itself that bears, I think, on the correctness or incorrectness of (270). Consider:

(271)   John has enough/sufficient money to buy a new house.

It is very hard to see any difference in interpretation between *enough* and *sufficient*. Still, there are some very sharp syntactic differences:

(272)   John is sufficiently/*enoughly rich.

(273)   John has a sufficient/*enough amount of money.

(274)   insufficient(ly); *unenough/*inenough

In these various ways, *sufficient* looks like an adjective (in allowing -*ly* and *in*- and in occurring between determiner and noun), but *enough* does not. *Enough* is usually called a "degree word," as distinct from an adjective, that in English has a specific word order property mentioned earlier at (174):

(275)   John has rich enough friends.

which is not possible with:

(276)   *John has rich sufficiently friends.

In light of all this, one might be tempted to conclude that *enough* and *sufficient* correspond to one and the same UG element, except that *enough* is that element realized as a degree word, whereas *sufficient* is its realization as an adjective.

This is not so much wrong, I think, as incomplete, as one can see by extending the discussion to:

(277)   That argument does not suffice to make the point.

(278)   That argument is not enough to make the point.

In light of the verb *suffice*, it is natural to take *sufficient* to be a derived form—that is, to be an adjective (or participial adjective) composed of *suffice* plus an adjectival suffix. If we do this, then it is primarily the relation between *enough* and *suffice* that we need to ask about. A clue comes from German, whose counterpart of *enough* is *genug*, and in which *suffice* can be translated as the verb *genügen*, transparently based on *genug*. Taking this to be an instance of "incorporation" (perhaps in the sense of Hale and Keyser 1993) and transposing back to English, we arrive at the proposal that *suffice* has (in suppletive fashion) incorporated *enough*, and that it is only in that sense that *suffice* and *enough* correspond to the same UG element.

Saying that *suffice* incorporates *enough* can be interpreted to mean simply that sentences with *suffice* contain a nonverbal node corresponding to the degree element ordinarily realized in English as *enough*. A possible, more precise proposal would have (277) derived from a structure resembling (278): to have *enough* incorporated into *be* (or perhaps just moved to *be*), whether by head-movement or (see note 12) by phrasal movement. Generalizing, we reach the following principle (cf. Grimshaw 1979, Pesetsky 1995, 3):

(279)   A given UG element is invariably associated with only one syntactic category.

By itself, (279) underdetermines the answer to the question which of such a pair is to be analyzed as incorporated into which, and how exactly that is to be done. In addition (cf. Pesetsky's [1995, chap. 3] discussion of the range of theta roles associated with psych verbs), it does not provide an algorithm for determining when two morphemes or words reflect a common UG element. *Suffice* and *enough* seem to constitute a very plausible pair; other cases may be more complex.

An interesting cross-linguistic case is mentioned by Cinque (2001b, 111):

(280)   John almost fell.

(281)   Jean a failli tomber. ('J has *failli* fall$_{infin}$')

The French example (281) appears to be an extrememly faithful rendition of (280), although it contains an auxiliary verb *faillir* in past participle form (in addition to a finite form of auxiliary *have*). Example (281) is quite different in shape from (280), despite the apparent (absolute) synonymy. It might be that, along the lines of (270), this is an instance of a single UG element being realized variously as an adverb in English and a verb in French (which would be incompatible with (279)).

Note that this question cuts across the cross-linguistic, one-language dimension, since within English we have:

(282)   John just missed falling.

which seems very close in interpretation to (280) and quite close in shape to (281). English also allows:

(283)   John came close to falling.

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If (280)–(283) (or some subset of them) do reflect a common UG element, then (279) becomes relevant and imposes some version of an incorporation analysis, as opposed to having *almost*, *miss/faillir*, and *close* as varying categorial realizations of one UG element.[82]

Ultimately, the correct theory of UG will provide a restrictive characterization of the set of available incorporation analyses that will, in turn, impose limits on what pairs or sets of sentences can be related in that fashion. Examples (277) and (278) seem very likely to constitute a pair that can (and must) be so related. Whether that is also true of (280)–(282) is a little less clear, though for those to be syntactically related seems plausible. Whether that relation should extend to (283) seems a bit more uncertain, but still possible. (How wide the range of sentences will turn out to be that fall under this kind of relation will depend in part on the limits imposed by the theory of incorporation and movement and in part on how impoverished the functional part of the UG lexicon is.[83])

12.5.   Comparative syntax and Greenbergian typology

12.5.1.   Syntactic data

Comparative syntax must subsume the kinds of universals discovered within the Greenbergian typological tradition.[84] That tradition is obviously highly macrocomparative in the sense of macrocomparative mentioned earlier in section 12.1.2. But before going on to say something about the relation between Greenbergian universals and generative comparative syntax, let me make a digression to the question of syntactic data.

Generative syntax taught us early on that in working on a given language, a native speaker has an advantage over a non-native speaker. Being able to provide acceptability judgments oneself is an advantage. It saves time and energy, which are finite. I can work on English faster than I can work on French. I can see no disadvantage to that whatsoever. (When necessary, I can also do informant work with speakers of English, as I always must with speakers of French.)

It is almost certainly the case (although not literally provable, as usual) that I can go deeper into the syntax of English, and learn more about the human language faculty from it, than I ever could by devoting myself in isolation to the study of a language that no linguist had ever worked on, no matter how many years I devoted to it. The reason is not simply one of how fast I can work on one or the other. In working on English I can see, if not actually feel, connections between phenomena.

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82. Alternatively, as Guglielmo Cinque (pers. comm.) suggests, it might be that (281) contains an unpronounced ALMOST and (280) an unpronounced verb MISS comparable to *faillir*—see Cinque (2001b, 111). In the same spirit, (277) might contain an unpronounced ENOUGH, thinking of the near-possible:

(i)   ?That won't suffice enough.

83. Relevant here is Ronat's (1972) criticism of Postal (1970). See also note 21.
84. Cf. Greenberg (1966) and later work, for example Dryer (1992).

In working on one problem, on one kind of sentence, I can readily jump to others that are relevant. Other data always come to mind because I am a native speaker of English. That can happen to some extent when I work on French, but appreciably less. If I were to try to work on Chinese, it would happen not at all, and my chances of achieving descriptive adequacy in Chomsky's (1965, 24) sense would be greatly reduced. (Every syntactician is a full-fledged native speaker of at least one language and occasionally of some very small number of languages. Which language that is is an accident of history that is of practical importance in that it determines which language, or languages, we have an advantage working on.)

The disadvantages that we all face when working on a language not our own can fortunately be reduced. We can enlist the help of syntacticians who are native speakers of that language (as I have done for the past thirty-five or so years for French). They can make the connections that we cannot (or not as readily). Our chances of achieving descriptive adequacy can increase substantially.

All syntacticians face a problem when it comes to languages for which there are at a given time no native-speaking syntacticians available. Sometimes there are non-linguist informants available who are gifted at syntax, who can make connections, who can suggest other sentences that we haven't thought of, who can point out interpretations that would have escaped us. Sometimes there are not (or not to a sufficient degree), and in that case we have to accept that that language (at that time) may not be fertile ground for syntactic study (or at least not to the degree desired), and that it cannot participate to the same degree as others in the construction of syntactic theory.

To a certain extent, these considerations cut across macro- and microcomparative syntax. There may be a North Italian dialect that I am particularly interested in but for which I can find no native-speaking syntactician. Or even worse, if it is a dialect once spoken in France, I may be able to find no native speaker at all. In that case, even if there is a very good grammar available, my chances of gleaning something of theoretical importance are reduced even further (though not necessarily to zero). On the other hand, in the case of North Italian (or French) dialects, I would be dealing with a language whose broad outlines are familiar and many (but not all) of whose properties are well understood, by transposition from related dialects for which there are native speakers or native-speaking syntacticians.

In that sense, the challenges of this sort posed by microcomparative syntax (in well-studied families) are on the whole more manageable than the corresponding problems that arise with work in macrocomparative syntax, where a potentially interesting language may be inaccessible to a more substantial degree.

Cutting across all of this is the question of accuracy of the data and of the descriptive generalizations. For languages like English, Japanese, and the like, for which there are many native-speaking syntacticians, replicability of data is readily at hand. Inaccurate or unclear data or generalizations can be picked up and criticized widely and quickly. The fewer the number of native-speaking syntacticians for a given language, the greater the danger that a mistake will fail to be pointed out.

In that case, those of us who try to keep track of and use work from many languages (whether in a micro- or macrocomparative vein) risk incorporating misinformation into our own work. There is no perfect solution—only the need to remain

consistently sceptical, taking into account the range and variety of sources for the data and generalizations from a given language. (The judging of analyses and theoretical proposals involves additional factors of a more language-independent sort.)

There is no implication here that every individual syntactician needs to take into account many languages. But the field as a whole does, and has. The number of languages taken into account has increased dramatically over the past forty years, in part simply as the result of the increase in the number of languages spoken natively by syntacticians from around the world. (The number of languages and dialects for which there exist native-speaking syntacticians is of course still modest, compared to the number of currently spoken languages and dialects, not to mention the number of possible human languages (see section 12.2).)

Greenbergian typological (highly macrocomparative) work has emphasized large numbers of languages (where "large" must be kept in the perspective just mentioned),[85] some or perhaps many of which have not been worked on by native-speaking linguists. To some extent the ensuing potential problems of observational and especially descriptive adequacy have been mitigated by a restriction to relatively more accessible syntactic properties (word order and agreement, for example, as compared with parasitic gaps, quantifier scope, weak crossover, etc.). The resulting universals (more precisely, hypotheses concerning UG) have sometimes failed to hold up over time (as happens in all varieties of syntax and science).[86] Other times, the proposed universals seem to have substantial solidity.

12.5.2. Missing languages

Comparative syntax can and must take these Greenbergian universals (the ones that seem to be solid) as facts to be explained, as facts that are likely to tell us something important about the human language faculty. For example, it seems that verb-initial and complementizer-final are mutually exclusive, i.e. that one never finds a language whose normal order is:[87]

(284)   *V IP C

At first glance, this is surprising, in particular against the background of the widespread mixed-headedness found across languages. (The idea that languages are predominantly either head-initial or head-final looks thoroughly wrong, especially when one takes into account a wide variety of heads, including those that are not pronounced.) The question, then, is why the order within CP should "affect" the relative order of CP and V. I have proposed elsewhere that (284) can be made sense of (only) if one gives up the

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85. Work on large numbers of languages is, of course, not specific to the typological tradition—see, for example, Cinque (1999) and Julien (2002).

86. See Dryer (1988b) on adjectives.

87. See Dryer (1992). Specifying "normal order" is necessary since, as Bayer (2001, 32) points out, postverbal C-final clauses are possible in Marathi, Telugu, and Malayalam. See also the discussion of (290) below.

idea that there is a constituent CP composed of C and IP. Rather, C is merged outside VP and IP moves to it. In languages like English of the V C IP sort, the visible word order is in part the result of VP-movement to the Spec of C. That is possible only if C is "initial." No reasonable combination of movements will yield (284).[88]

Generative syntax has taught us the importance of paying close attention to what is not there. Sentences that are unacceptable in a given language have a central role in telling us about the grammar of that language (and about UG). In a parallel fashion, comparative syntax teaches us the importance of observing what a priori plausible types of languages are not there, the Greenbergian case of (284) being one example.

In a rather different area of less macrocomparative syntax, there is the case of ECM constructions. The existence in English of sentences like:

(285)   Everybody believes John to have made a mistake.

is well known, and various analyses have been proposed. But the proper analysis of (285) must allow us to understand why (285) is not possible (or much less widely possible) in many other languages, e.g. French. Some analyses are too powerful (i.e., reflect theories that are too powerful) in that they make it "too easy" to generate one or other kind of sentence. In that sense, an approach to (285) based on S-bar (CP) deletion is unsatisfactory—it gives us no immediate way to understand why (285) is not available in all languages.[89] Another example, closer to (284), lies in the area of Heavy-NP Shift, as exemplified in English by:

(286)   They put back on the table the book that had just fallen.

Again, various analyses have been proposed over the years that I think again (despite their increasingly positive contributions) have made it 'too easy' to generate such sentences, and that have not made it easy to understand why some VO languages such as Haitian lack (286) entirely.[90] That they do, must, I think, be accounted for by any proposal about (286) in English.

12.5.3.   English and Haitian

In other words, crucial data bearing on (286) in English comes from Haitian. There is no paradox. As soon as we grant that all human languages have a common UG

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88. For details, see Kayne (1998b), chapter 9 in this volume, and Cinque (2003).

89. The government-based approach of Kayne (1981c) needs to be rejuvenated, but it is probably closer to the truth.

On the causative subtype of ECM, leading to the question why some languages, but not others, need to dativize the embedded subject, see Rouveret and Vergnaud (1980), Kayne (1981d), and chapter 5 in this volume.

The *want*-subtype of ECM found in English is almost certainly dependent on English having a *for*-complementizer that can fail to be pronounced; see Kayne (1981d) and note 44 above.

90. On Haitian, see Dejean (1993).

"infrastructure," it follows (since evidence bearing on that common infrastructure can come from any language, and since any analysis of a particular type of sentence in any language will rest in part on hypotheses about that infrastructure) that evidence bearing on one language can readily and unsurprisingly come from another.

As for why Heavy-NP Shift is absent in Haitian, I think the key is the observation that Haitian has D following NP, rather than NP following D as in English. What this means is that for Haitian to have (286), it would have to allow:

(287)   *V . . . NP D

which is arguably impossible in a way parallel to the similar (284), with D in (287) playing the role of C in (283).[91]

Similarly, Haitian lacks right-dislocation, and also right-node raising[92]—that is, it lacks counterparts of:

(288)   We like him a lot, the guy over there.

(289)   We like, but they dislike, the young man who was just elected mayor.

Again, any analysis of English right-dislocation or English RNR, must (together with the theory in which it is embedded) allow an account of their absence in Haitian.[93] (An initial proposal would be that both right-dislocation and RNR involve D in a way parallel to Heavy-NP Shift, despite various ways in which the three constructions diverge.[94])

12.5.4.   Adpositions

Closer still to (284) than is (287) is the following (with P an adposition, not a particle):

(290)   *V DP P

which is a way of stating the Greenbergian near-universal that postpositional languages are generally not verb-initial.[95] To this generalization there are some appar-

91. More exactly, what is parallel to C is a D merged high, not a low one; for details, see chapter 11 in this volume.
92. I am indebted for these data to Michel Degraff.
93. And the same is true for English Q-floating or stranding and its absence (Michel DeGraff, pers. comm.) in Haitian.
94. For example, RNR allows preposition-stranding more readily than does Heavy-NP Shift. Michel DeGraff tells me that (non-Gallicized) Haitian also disallows sentences like:

(i)   John knows and appreciates classical music.

See also Dejean (1993 (102b), supporting the proposal in Kayne (1994, 61) that such apparent verb coordination is really RNR.
95. See Dryer (1992, 83).

ent counterexamples, but it is at least possible that they are, in fact, instances of V P DP P with a phonetically unrealized preposition (and a final P that is better analyzed as nominal). Assuming that to be so, we need an account of (290).

As in the discussion of (284), I think that the traditional approach to P, which has it merged with DP as complement, provides no way of understanding the apparent "effect" of the relative order of P and DP on their relative order with respect to V. Instead, we need to give up the idea that P is merged with DP, in favor of having P introduced outside VP, as in the derivation (292), for (291):

(291)   They're looking at us.

(292)   looking us → merger of K
        K looking us → movement of DP to Spec,K[96]
        us$_i$ K looking t$_i$ → merger of P
        at [us$_i$ K looking t$_i$] → movement of VP to Spec,P
        [looking t$_i$]$_j$ at [us$_i$ K t$_j$]

K in (292) is a Case element of the sort that is paired with P in a visible fashion in some languages such as German and Russian but is unpronounced in English. VP-movement in the last step is remnant movement of a familiar sort.

The key idea with respect to word order here is that V can come to precede P only via such VP-preposing and that that preposing depends on P having an available Spec position. If P (and categories in general) can have only one Spec position, then VP-preposing in (292) is incompatible with DP being in Spec,P. In which case, given the antisymmetric claim (which I take to be valid) that DP in (290) could not be in complement position of P, (290) is excluded.

We can readily recast (290) in terms of clustering of properties. According to (290), the property of a language "being postpositional" clusters together with the property "being V-final." The proposal sketched in (292) is part of the explanation. Another piece of the whole picture, of course, must be the distinction between prepositions and postpositions. If a language is prepositional, it has VP-preposing of the sort illustrated in (292). But from the perspective of a theory that attributes to sentences with prepositions a derivation like (292), what kind of derivation should be attributed to sentences with postpositions? And what kind of parameter underlies the difference between prepositions and postpositions?

In Kayne (1994) I had taken prepositions to in effect be merged with their associated DP as complement, and postpositions to be the same except that postpositions further had that DP complement move to their Spec. Postpositions from that perspective could have been thought of as having a feature inducing movement to Spec (and lacking in prepositions). However, if (292) is correct in denying the existence of PP and in using K in an essential way, the difference between preposition and postposition needs to be rethought.

96. See McCloskey (1984).

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12.5.5.   Movement as a side effect of doubling

The proposal made in chapter 9 has the following components. First, just as Spec,P in (292) does not contain DP, so it does not with postpositions, either. Second, K is uniformly introduced outside VP (as P is, but earlier), in both prepositional and postpositional languages. Third, postpositional languages with overt K seem to have DP-K-P order rather than *DP-P-K order. Putting these together leads to the idea that postpositions are necessarily accompanied by an unpronounced double (called P') that is merged later than K but earlier than P itself. A derivation would be (using English morphemes):

(293)   looking us → merger of K
        K looking us → movement of DP to Spec,K
        us$_i$ K looking t$_i$

At this point, the unpronounced double of P—P'—is introduced, with VP moving to its Spec (just as VP moves to Spec,P in (292), with prepositions):

(294)   us$_i$ K looking t$_I$ → merger of P'
        P' us$_i$ K looking t$_i$ → movement of VP to Spec,P'
        [looking t$_i$]$_j$ P' us$_i$ K t$_j$

Then P itself is merged, with KP moving to its Spec:

(295)   [looking t$_i$]$_j$ P' us$_i$ K t$_j$ → merger of P
        at [looking t$_i$]$_j$ P' us$_i$ K t$_j$ → movement of KP to Spec,P
        [us$_i$ K t$_j$]$_k$ at [looking t$_i$]$_j$ P' t$_k$

The analysis reflected in the derivation (293)–(295) has the property that it lo-cates the difference between prepositions and postpositions in the unpronounced double P', which is present with postpositions but absent with prepositions.[97] In so doing, it establishes a link (though how close a link remains to be ascertained) with other parametric differences involving doubling, such as the difference between Spanish and French with respect to overt dative clitic doubling, which is widespread in Spanish but absent in French with nondislocated lexical DPs.

The derivation in (292) differs from that in (293)–(295) in that the latter has P' and the former does not. We can ask how that kind of parameter (and similarly for clitic doubling) fits in with the idea that parameters are invariably (simple) fea-tures of functional heads. An immediate question is whether French has unpro-

97. Absent in (292), that is. Whether prepositions can have unpronounced doubles in more complex constructions such as quantifier stranding and right- and left-dislocation is a related but separate question. I also leave aside here the question of visible doubles of prepositions, as found to some extent in Italian (Rizzi 1988, 514) and more marginally in French (Kayne 1975, 154n).

nounced clitic doubles in those cases in which Spanish has overt clitic doubles. If the answer is positive,[98] then Spanish versus French clitic doubling simply becomes another instance of pronunciation versus nonpronunciation, with the question remaining as to how exactly to assure the correct distribution of pronounced and unpronounced clitic doubles. The same holds for unpronounced P' versus pronounced P'—that is, pronounced adpositional doubles, as mentioned in note 97—with the additional (open) question whether pronounced adpositional doubles are ever found with postpositions.

A potentially interesting property of (292) versus (293)–(295) is that there is no irreducible movement difference involved (between prepositions and postpositions). DP moves to Spec,K in both. VP moves to Spec,P with prepositions and to Spec,P' with postpositions, but that is less a movement difference than just the difference between pronounced P and unpronounced P'. The only salient difference in movement appears to be that what moves to Spec,P in (292) is VP, whereas what moves to Spec,P in (293)–(295) is KP.

12.5.6.   Feature-driven movement or "closeness-driven" movement?

However, focusing on the category difference VP versus KP obscures an important similarity between the two derivations. In both, what moves to Spec,P is the complement of the head just below P (K in (292), P' in (295)).

We can express this similarity by saying, in part, that P must have some phrase move to its Spec (P has an EPP feature).[99] The question is what phrase. Assume:[100]

(296)   The complement of a given head H can never move to the Spec of H.

(In featurechecking terms, this could be achieved if upon Merge the maximal set of matching features had to be checked.[101]) Then VP-movement to Spec,P in (292) and KP-movement to Spec,P in (295) would both follow from:

(297)   Move to Spec,P the category closest to P (that is not excluded by (296)).

Principle (297) recalls Chomsky's (1995, 296) MLC and Rizzi's (1990) relativized minimality, except that (297) is blind to specific categorial (and other) features.

98. As seems plausible; see Sportiche (1995b).

99. Possibly, every functional head has an EPP feature—or, better, there is no such feature but, rather, a general need for functional heads to have filled Specs; see Kayne (1998b, (45)).

100. This is contrary to Kayne (1994). Having P (and similarly for K, C, and—as in Sportiche (2002)—D) introduced outside VP makes it unnecessary (and impossible) for DP-P order to be produced by complement-to-specifier movement.

101. Alternatively, thinking in part of Nunes (2001), it might be that H-XP and XP-H are contradictory orders.

In essence what (296) and (297) say is that what gets moved to Spec,P is determined by what was merged below P and in what order. For example, KP is moved to Spec,P in (295) as the result of P' being merged just between K and P—that is, just above K and just below P.

Generalizing (297) to all phrasal movement would yield:

(298)   Move to Spec,H the category closest to H (that is not excluded by (296)).

If (298) is true, it means that what is moved where is entirely determined by what is merged (in a given derivation) and in what order.

Setting aside the question of the validity of (298) as being beyond the scope of this article, we can still see that (297) has the effect that prepositions and postpositions will not differ with respect to movement in any way that is not a consequence of the merger versus nonmerger of P'. Put another way, the parameter underlying prepositional and postpositional languages has to do at bottom with the presence or absence of P'—that is, of a certain kind of doubling.

This approach to adpositions is compatible with the antisymmetry claim that every word order difference rests on a difference in movement, though the discussion underscored the point that that claim does not by itself determine exactly what these cross-linguistic movement differences themselves rest on.

Orthogonal to the question whether movement is feature-driven in Chomsky's sense or subject to (298), or both, is the question whether a movement approach to cross-linguistic word order differences should also extend to cross-linguistic morpheme order differences involving affixes (i.e., morphemes not considered to be words) and to those involving clitics. Let me assume without discussion that ordering differences involving clitics, as, for example, those alluded to in the discussion of (4) and (5) and more generally those discussed in Kayne (1991), definitely do rest on movement differences, whether on differences in clitic movement or on differences in verb or verb phrase movement (or both).

Turning to affixes, one example of a morpheme order difference would hold between, say, Bambara, which has a causative prefix (see Koopman 1992), and Bantu languages that have a causative suffix. I think the key observation here was already made by Greenberg (1966, 93), whose Universal 27 pointed out a certain correlation between prefixation and suffixation and the position of adpositions relative to objects. What Greenberg's correlation suggests is not merely that movement is involved in establishing whether some affix ends up looking like a prefix or like a suffix (which could hold via movement within the "word"), but something much stronger—namely, that movement underlies all cross-linguistic morpheme order differences, and those movements that affect affix order are not segregated from phrasal movement of the familiar sort.[102]

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102. On the lack of segregation between morpheme order within "words" and order at the phrasal level, see Kayne (1994, 40) (and (10)). A still stronger position (which I think is likely to be correct) is taken by Julien (2002) and by Koopman and Szabolcsi (2000).

12.6.   Conclusion

In these "notes," I have touched on some (and only some) of the ways in which comparative syntax can shed light on a wide variety of questions concerning the human language faculty. In many or most or perhaps even all of the cases treated, the same results could not have been reached otherwise. Comparative syntax has become an indispensable, if not privileged, part of our attempt to understand the (syntactic component of the) human language faculty.

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The spelling of ordinary words with capital letters indicates non-pronunciation.

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