

QUESTIONS AND QUESTIONING IN A LOCAL ENGLISH

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1. INTRODUCTION

This paper investigates a small question—why the examples in (1) and (2) are possible:

- (1) a I wondered would I be offered the same plate for the whole holiday.
Roddy Doyle: *The Woman who Walked into Doors*, 154
- b I wondered would the place always look like an abandoned building site.
ibid, 192
- c I wondered was he illiterate.
ibid 96
- d I asked Jack was she in his class.
ibid, 96
- e I'm sure she wasn't far from the truth when she asked was he thinking of throwing her in.
John McGahern: *That They May Face the Rising Sun*, 40
- f He paused briefly and we wondered was he going to list more names and would the then Minister for Defence Jim Gibbons be among them.
The Irish Emigrant April 29th 2001
- g When asked directly by counsel for the families, Michael Lavery QC, did he believe those shot dead on Bloody Sunday had been armed he replied, "Oh yes, I believe that, yes and still do".
Irish Emigrant March 17th 2002
- h She asked the stewards was any member of the committee in the hall.
James Joyce: *Dubliners*, 170, The Lilliput Press, Dublin.
- (2) a I asked him from what source could the reprisals come,
Irish Times, April 24th, 2001
- b The baritone was asked what did he think of Mrs Kearney's conduct.
James Joyce: *Dubliners*, 176, The Lilliput Press, Dublin.
- c Joe was nearly getting cross over it and asked how did they expect Maria to crack nuts without a nutcracker.
James Joyce: *Dubliners*, 126, The Lilliput Press, Dublin.
- d I wonder what is he like at all.
Filppula (1999: 168)
- e You'd be better off asking why did he marry me.
Frank McGuinness: *Dolly West's Kitchen*, 55, Faber and Faber.

The crucial property of (1) and (2) is the application of 'Subject Aux Inversion' (understood here as raising of the content of the functional head T to C) in a complement clause—in polar questions in (1) and in WH-questions in (2).

The question of what makes such structures possible is a small one but is worth asking. First, it is important to set the empirical record straight. It is routinely claimed that examples like (1) and (2) are impossible in “English”. There do seem to be kinds of English of which this claim is true, but structures such as (1) and (2) are extremely common in formal and informal Englishes in many different places around the world. The discussion of this paper is based on detailed investigation of (mostly middle class) Irish varieties of English, but the crucial patterns seem to be very widespread.¹ In Irish English, at least, the sentence types in (1)/(2) are widely attested both in speech and in published sources.²

Secondly, while the question of why (1)–(2) are possible is a small one, the effort of answering it thoroughly leads quickly into difficult and interesting theoretical territory. This is true initially because there are theoretical principles which would lead one to expect the general impossibility of (1)–(2). These principles were not proposed lightly and they do useful work. What becomes of those principles in the face of the many varieties of English in which (1)–(2) are in fact possible? This question is related to a second, in that understanding why (1)–(2) are possible entails understanding why examples such as (3) are impossible:

- (3) a *I found out how did they get into the building.
 b *The police discovered who had they beaten up.
 c *How many people should you invite depends on how big is your place.
 d *I usually know who might they hire.
 e *I remember clearly how many people did they arrest.

This pattern of lexical restrictedness is partly familiar (from work on the formal semantics of questions), and, as we shall see, more complicated than it at first seems to be.

Trying to explain this contrast will therefore be a core concern of the paper. The question of what makes ‘standard’ English different and special will also be addressed. It is as well to admit now, though, that the proposal will not be thrilling—the difference between the two sets of varieties will not follow from anything interesting or deep. Boring as it may seem, this is correct, I think, since the relevant difference seems in fact to be fairly superficial.

¹ See, for instance, Miller (1993: 126), Filppula (1999: 170–173), Edwards and Weltens (1985), Beal (1993: 204). Examples from current usage in the US will be cited from time to time below. In addition, all of the patterns and generalizations considered in the present paper seem to hold of New Zealand English. Thanks to Jen Hay, Kate Kearns, and Kon Kuiper for discussion.

² The term ‘standard English’ for the varieties which have (1)–(2) ungrammatical is not a good one, since it implies that the varieties in which they are grammatical are ‘non-standard’ in some way. But there is no clear sense in which (1)–(2) are non-standard in, for instance, the Irish context, since there seems to be little or no normative pressure directed against them. I have no good alternative to offer, though, and so I will continue to use the term to make the needed distinctions.

The contrast between (1)–(2) on the one hand and (3) on the other seems, however, to be very general and to reflect something more interesting about the syntax, semantics and pragmatics of interrogative complements. Even speakers for whom (1)–(2) are in some sense impossible detect a strong difference in acceptability between those examples on the one hand, and (3) on the other. Explicating that contrast, therefore, will be a core concern of the paper.

These questions have been worked on before. To the best of my knowledge, the basic facts were first observed in the literature of generative grammar by Lee Baker (Baker (1968: 66)), who cites examples from literary texts from the turn of the last century. The matter is further discussed in McCloskey (1992) (the ancestor of the present paper) and subsequently in Henry (1995), Grimshaw (1997), Harris (1993: 168), Corrigan (1997), and especially in Filppula (1999: pp 167–183), all of whom correct, extend, and add to the discussion found in McCloskey (1992). The present discussion will in turn draw on all of these contributions.

2. PARENTHESIS OR PARATAXIS?

A suggestion often made when people first encounter examples such as (1) or (2) is that they do not in fact represent cases of genuine complementation at all, but involve rather parenthesis or a species of parataxis. On this view, the clause in which T-to-C applies is actually a root clause (as expected), to which a parenthetical tag has been added. What makes the general idea plausible is that a case like (4a), a parenthetical structure by many criteria, can be regarded as in some sense a minor stylistic variant of (4b):

- (4) a What should we do, I wonder?
- b I wonder what should we do.

As we will see at a later point, there is something fundamentally right about the intuition behind this analysis. But it cannot be literally correct.

Examples of deeper embedding (such as (5)) are hard to reconcile with parenthesis:

- (5) a I don't think I was ever asked did I see any Provos, Stickies or anyone.
(Irish Times, May 1st 2001)
- b They would have been rebuffed if they had inquired was there anything they could do.

John McGahern: *That They May Face the Rising Sun*, 174

It stretches plausibility to take examples such as (5) as root questions decorated with a parenthetical tag. Rather they mean exactly what we would expect them to mean if they involved routine patterns of complementation. That is, they are exactly paraphrasable in standard English as in (6):

- (6) a I don't think I was ever asked if I saw any Provos, Stickies or anyone.
- b They would have been rebuffed if they had inquired if there was anything they could do.

In fact it turns out that all of the standard properties of complementation hold of the embedded inversion cases—sequence of tense phenomena, for instance, (as in (7)) and pronominal binding (as in (8)):

- (7) a Miss Beirne expected them at any minute and asked could she do anything.
 James Joyce: *Dubliners*, 171, The Lilliput Press, Dublin.
 b *Miss Beirne expected them at any minute and asked can she do anything.
- (8) Every male physicist wonders will he be awarded a Nobel Prize.

Probably the clearest way, though, to see the inadequacy of this family of (potential) proposals is to consider cases like (9):

- (9) a ?She's the kind of person that you wonder will your parents like *t* .
 b ?That's the job that I asked her would she apply for *t* .

In (9), the clause in which T-to-C has applied is a subpart of a relative clause. Such examples are very mildly deviant in a way that is typical of examples involving extraction of a complement (or of a 'referential argument') from a WH-island. Corresponding examples involving subject extraction (10) and adjunct extraction (11) are, by contrast, severely degraded (see McCloskey (1991)):

- (10) a *She's the kind of person that you wonder will *t* like your parents.
 b *That's the job that I asked her would *t* be right for her.
- (11) a *How well were you wondering would your parents like them *t*?
 b *How did you ask them would they tackle this problem *t*?

The pattern in (9)–(11) is the very familiar pattern of extraction out of a WH-island (Huang (1982) and much subsequent work). It is the expected pattern if the clauses in which T-to-C has applied are true interrogative complements—WH-islands. The data have no coherent interpretation, as far as I can tell, if all apparent instances of complement T-to-C are understood in terms of parenthesis.

It will be useful to make a final observation in this context. Declaratives with a rising intonation pattern are absolutely impossible in this context. That is, although (12a) and (12b) might seem to be at least roughly equivalent in their semantic import, (13) is utterly impossible (I use a final ? to indicate rising intonation):

- (12) a Is it raining?
 b It's raining?
- (13) *I wonder it's raining?

Such 'rising declaratives', however, are at least marginally compatible with true quotative parentheticals:

- (14) It's raining?, she mused.

The impossibility of (13) constitutes a puzzle given the conjunction of two positions—first, that the distinctive intonation pattern of (12b) is an alternative (suprasegmental) realization of the question marker, and second, that examples such as (1) involve root, or at any rate unsubordinated, questions. Given this pairing of assumptions, we would expect (13) to be possible, counter to fact. We will return to this issue.

We will see at a later point in the discussion that there is something fundamentally right about the intuition that complement T-to-C always marks a direct question. For now, though, I take forward from this discussion the conclusion that the syntax of parenthesis or parataxis (whatever that turns out to be) will not provide a complete understanding of the well-formedness of (1)–(2).

How then should we understand it? To help resolve the puzzle, we can deepen it a little. To do that, I want to begin an excursus on adjunction possibilities whose relevance to the current problem will probably not be immediately evident.

3. THE ADJUNCTION PROHIBITION

Jackendoff (1972) established the basic outlines of the distributional typology of adverbs in English. One of the adverb-types whose existence and properties was established in that work is a class of adverbs which have as one of their canonical positions a left-peripheral position in TP. This class in English includes (among others) a group of temporal modifiers at the sentential level such as *in general*, *most of the time*, *half the time*, *next Christmas*, *usually*, *every day*, *tomorrow*, *yesterday*, *in a few days* and so on:

- (15) { Usually
 Most of the time } I understand what he’s talking about.

Some, but not all, of these adverbs may also appear at the left edge of VP—that is, to the right of T.

- (16) a I would usually go to Bundoran for my holidays.
 b *I will next Christmas go to Bundoran for my holidays.

The adverbs that make up this class were for long conventionally taken to be left-adjoined to TP, and I will adopt that proposal here. This decision flies in the face of some recent and justly influential work, by Guglielmo Cinque especially (see in particular Cinque (1999)). It will become clearer as the discussion proceeds why it will be useful to understand (15) in terms of adjunction, but let us first see why the traditional analysis seems plausible (see also Ernst (1999), Ernst (2001), Potsdam (1998)).³

The adjunction proposal accounts immediately for the fact that in embedded clauses, adverbs of this type may appear between a lexical complementizer and a subject, and be

³ It is perfectly possible, of course, that the relevant class of adverbs might originate in the specifier of a designated functional head, as in Cinque’s theory, and subsequently raise to the adjoined position that the discussion here assumes.

construed as modifying material in the embedded clause:

- (17) a It's probable that $\left\{ \begin{array}{l} \text{in general} \\ \text{most of the time} \end{array} \right\}$ he understands what is going on.
 b That in general he understands what is going on seems fairly clear.

The assumption that the adverbs in question are adjoined also correctly allows for multiple attachment (in any order) of adverbs of the same distributional class:

- (18) a $[_{TP}$ In general $[_{TP}$ around Christmas-time $[_{TP}$ I go to my parents' house.]]]
 b $[_{TP}$ Around Christmas-time $[_{TP}$ in general $[_{TP}$ I go to my parents' house.]]]

A particularly salient subgroup is the class of adverbial clauses:

- (19) a When he got home, he cooked dinner for the children.
 b After she finished her thesis, she moved to Paris.
 c While washing the dishes, he cut his thumb.

Such complex clausal adverbs mix freely with the adverbs we have already considered, once again suggesting adjunction to TP:

- (20) a In general after people finish their theses, they don't know what to do with themselves.
 b After people finish their theses in general they don't know what to do with themselves.
 c Usually, around Christmas-time, before it gets too cold, we spend a week by the sea.

Adverbial clauses too, as is well known, may appear between complementizer and subject in embedded clauses, again suggesting adjunction to TP:

- (21) a He promised that when he got home he would cook dinner for the children.
 b She swore that after she finished her thesis she would move to Paris.
 c It seems that while washing the dishes he cut his thumb.
 d He asked us if after we arrived home we would cook dinner for the kids.

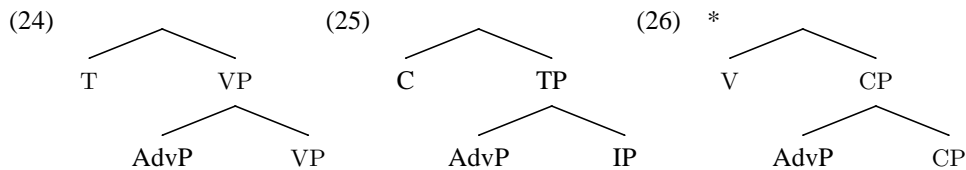
Adverbs of this class, however, may not appear to the left of a complementizer when construed with material in the clause headed by that complementizer. Thus (22) and (23) are ungrammatical if the adverbials are construed with the lower clause:

- (22) a *It's probable in general (most of the time) that he understands what is going on.
 b *In general that he understands what is going on is fairly clear.

- (23) a *He promised when he got home that he would cook dinner for the children.
 b *She swore after she finished her thesis that she would move to Paris.
 c *It seems while washing the dishes that he cut his thumb.
 d *The police worked out after they got back from Reno what their movements had been.

It should be recognized at once that the uncompromising * in the examples of (22) and (23) overstates the matter for many speakers. Such examples are not completely ruled out. There will be something to say on this point later, after more of the analytical groundwork has been laid. For now, I persist in the assumption that such examples are categorically ungrammatical. This is an expositional fiction, to be repaired later.

The patterns observed so far are those schematized in (24)–(26):



That is, adjunction to the VP-complement of T, and to the TP-complement of C are possible, but adjunction to the CP-complement of a lexical head is impossible.

Similar observations can be made in the case of non-finite clauses. Here things are complicated a little by the fact that left-adjunction of an adverbial phrase to non-finite TP is impossible:

- (27) a *I want very much for by the time I get home her to have left.
 b *For by the time I get home her to have left would be great.

The standard assumption (going back to Stowell (1981)) is that in such cases the adjoined adverbial interferes with the Case-licensing of the complement subject, a process in which the complementizer *for* must be implicated, probably in concert with non-finite Tense (Stowell (1981), Watanabe (1996), Rizzi (1997)). But attachment of the adverb to non-finite CP (for which Case considerations are presumably irrelevant) is also impossible:

- (28) a *I want very much by the time I get home for her to have left.
 b *By the time I get home for her to have left would be great.

The only remaining possibility is right-adjunction to VP or TP:

- (29) a I want very much for her to have left by the time I get home.
 b For her to have left by the time I get home would be great.

The general pattern that emerges so far, then, is that adjunction of an adverbial phrase to VP or to TP is freely available, but that adjunction to CP is impossible.

What will account for this?

I take it, to begin with, that whatever theory is constructed over this domain must be based on appeal to general principle rather than on appeal to parochial or language-particular statements. The kinds of patterns which we have just documented for English can be replicated for many other languages⁴

There already exists, in fact, a proposed constraint which will have the required effect. Chomsky (1986: 6) proposes that there is a general prohibition against adjunction to argument-categories (a proposal which we will refine slightly in a moment). Adjunction to VP and TP is possible, since these are not argument-categories in the relevant sense; adjunction to CP in the cases that we have seen so far is impossible since in each case, CP occupies an argument-position (complement or subject). I will call this condition the Adjunction Prohibition, and interpret it as in (30):

- (30) Adjunction to a phrase which is s-selected by a lexical (open class) head is ungrammatical.

As in the *Aspects* theory (Chomsky (1965)), we take the domain of s-selection (the domain in which selectional restrictions are imposed, as opposed to the domain in which subcategorization requirements are checked) to include both complement positions and subject positions.

The Adjunction Prohibition as formulated by Chomsky is intended only (as far as I know) as a condition on movement-derived adjunctions. To provide a full account of the kind of data we have been considering here, the prohibition must be interpreted as a condition on all adjunctions. This extension is very natural, if not forced, in the context

⁴ See Vikner and Schwarz (1991: 3–4) on various Germanic languages, for instance. Cinque (1990: 94–95) discusses some Italian facts that seem initially problematical for the idea that adjunction of TP-level adverbs to argument CP is in general impossible. His examples include (i):

- (i) Mi ha promesso, domani, che verrà
me has promised tomorrow that will come
 ‘He promised me that he will come tomorrow.’

In (i) the adverb *domani* is construed with the embedded clause although it appears to the left of the complementizer *che*. These examples however, do not in fact seem to involve adjunction to CP. In the examples cited ((106)a–c), Cinque is careful to demarcate the adverb with commas, and in fact the adverb in this kind of example is set off prosodically from the rest of the clause. The prosodic features involved suggest parenthesis and the pre-COMP positioning of the adverb is probably the result of the kind of freedom of positioning often granted to parenthetical elements. As Cinque notes, all such examples have a less marked variant in which the adverb appears in the post-COMP position we would expect given our general set of assumptions, as seen in (ii):

- (ii) Mi ha promesso che domani verrà

Of course a question remains as to why parenthetical placement of the adverb in the pre-COMP position is available in Italian but unavailable in general in English (although the considerations of Section 8 below may well be relevant here). Thanks to Guglielmo Cinque and to Giulia Centineo for discussion of this issue.

of the ‘minimalist program’ (Chomsky (1995)) since, within that conception, adjunction by movement will subsume the adjunction sub-case of the operation MERGE as a sub-operation. We will return to the theoretical status of the Adjunction Prohibition at a later point in the discussion. For now let us investigate the empirical ramifications of the formulation in (30).

First, it is clear that adjunction of an adverbial phrase to CP will be permitted just in case the CP in question is not an argument. One case against which we can test this prediction is the case of root CP’s, which are non-arguments virtually by definition. The class of adverbs we have been dealing with do in fact attach to root CP.⁵ The examples in (31)–(33) illustrate this possibility, on the assumption that interrogative and affective operators appear in the specifier of CP, and that Subject Aux Inversion involves movement of finite T to C.⁶

- (31) a When you get home, what do you want to do?
 b When you get home, will you cook dinner for the kids?

- (32) a Next Christmas whose parents should we go to?
 b Most of the time do you understand what’s going on?

⁵ Reinhart (1983: Chap. 3) takes such cases as (31) to involve attachment of the adverbial phrase to the E(xpression) node of Banfield (1973), but, as she points out, it is not crucial for her discussion whether the adjunction is to E or to some higher clausal projection (CP in our terms). The consequences for Condition C effects follow equally well on the assumption that the adverbials in question adjoin to CP. Anticipating later discussion, it would be natural to identify E with the higher C-projection of a double CP-structure.

⁶ Examples analogous to those in (31)–(33) but involving declarative V2 clauses seem to be ungrammatical in some of the V2 Germanic languages but grammatical in others. For German, the relevant structures seem to be uniformly bad in declarative V2 clauses. Example (i) is cited in Vikner and Schwarz (1991: 4):

- (i) *Gestern Peter hat tatsächlich dieses Buch gelesen.
 yesterday has actually this book read
 ‘Yesterday Peter actually read this book.’

The situation, however, is complicated by the fact that corresponding structures for interrogative V2 clauses are grammatical for many (but not for all) speakers:

- (i) Wenn wir nach Hause kommen, was sollen wir kochen?
 when we to house come what should we cook
 ‘When we get home, what should we cook?’

This difference between declaratives and interrogatives seems to be systematic; it holds in many of the Scandinavian languages. The Swedish examples below are from Vikner and Schwarz (1991: 4) and from Wechsler (1991: 187) respectively:

- (ii) *Trots allt Johan vill inte läsa de här böckerna
 despite all will not read these here books
 ‘In spite of everything, John will not read these books.’
 (iii) I en stad som Fremont vem skulle inte vara uttråkad
 in a town like who would not be bored
 ‘In a town like Fremont, who wouldn’t be bored?’

I have no suggestion to make about what explains these differences.

- (33) a Next Christmas, under no circumstances will I be willing to cook dinner.
 b Most of the time, when she is working on a paper, only rarely does she leave her office.

We will consider a number of other instances of adjunction to CP in Section 4 below.

The approach developed here also accounts for an observation made by Pullum (1991) having to do with the distribution of adverbial phrases within gerunds. Pullum observes that left-adjunction of an adverbial phrase to a gerund is impossible:

- (34) a *They resent last Christmas your having been here.
 b *They resent while you were at home your having visited us.
 c *During the winter your having been here astonished many.

This is true despite the fact that adverbials appear freely at the right edge of a gerund phrase.

- (35) a They resent your having been here last Christmas.
 b They resent your having visited us while you were at home.
 c Your having been here during the winter astonished many.

Moreover, those adverbs which can in general appear left-adjoined to VP may also appear left-adjoined to VP within gerunds:

- (36) a They resent our having so often rejected their applications.
 b Our always saying no makes us look bad.

The picture that emerges, then, is that the pattern of adverb-distribution within gerunds is exactly the same as in clauses, except that the possibility of left-adjunction to the entire phrase is missing.

Gerund phrases, whether analyzed as NP (Pullum (1991)), as DP (Abney (1987)), or as clausal (Reuland (1983)) are always arguments to lexical categories, being either subjects, objects or objects of prepositions. That being so, the ungrammaticality of (34) fits without adjustment into the framework of assumptions developed so far. The acceptable examples in (35) and (36) are instances of adjunction to the VP predicate of the gerund, not an argument of an open-class category, and therefore a legitimate adjunction-site according to (30).

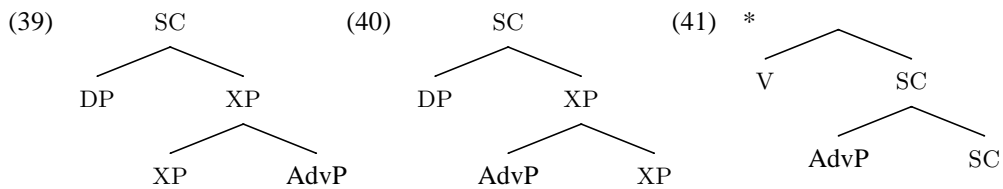
We can see what are arguably the same principles at work in the case of small clauses. Adjunction to a complement small clause itself is, of course, impossible:

- (37) a He needed her by his side always.
 b He needed her always by his side.
 c *He needed always her by his side.

The ungrammaticality of (37c) is consistent with the Adjunction Prohibition, but might be explained in terms of the case requirements of the subject of the small clause. We can factor out the contribution of this effect, though, by considering subject small clauses, whose subjects, for reasons that are poorly understood, are licensed independently of any external Case-assigner (Safir (1983)):

- (38) a Adam on the roof last summer was a wonderful sight.
- b Adam last summer on the roof was a wonderful sight.
- c *Last summer Adam on the roof was a wonderful sight.

The thorough ungrammaticality of (38c) (on the relevant interpretation) is expected on our terms, since it must involve adjunction to the small clause, which, being a subject, is an s-selected argument. For small clauses then also, the facts can be schematized as in (39)–(41):



Once again, these patterns are understandable in terms of the Adjunction Prohibition.

Finally, consider nominal phrases. Cases such as (42):

- (42) The lecture last night (that Erica gave) is mentioned in this morning’s paper.

we take to involve adjunction of the modifying phrase (adverbial or adjectival) to the complement of D. Not being an argument of a lexical head, this is a legal adjunction-site. Kyle Johnson (1991, 1992) points to the contrast in (43):

- (43) a The review in the Times of Chomsky’s book was very favorable.
- b *Of Chomsky’s book the review in the Times was very favorable.

Here too, we can take (43a) to involve adjunction to the complement of D (legal in terms of the Adjunction Prohibition). (43b), by contrast, would involve illegal adjunction to the subject DP. The ungrammaticality of (44) can be understood in exactly similar terms:⁷

- (44) a *Last night the lecture (that Erica gave) is mentioned in this morning’s paper.
- b *I really didn’t like last night the lecture (that Erica gave).

⁷ Tom Ernst raises the difficulty of examples like (i) and (ii):

- (i) Probably our strongest argument is summarized on page two.
- (ii) Arguably the best solution to this problem is illustrated in Figure 3.

If these adverbs—*probably* in (i) or *arguably* in (ii)—are adjoined to the subject, we have a difficulty for the Adjunction Prohibition as formulated in (30).

It is very unclear to me what the syntax of such examples is, but it seems far

Finally, the hypothesis that we are exploring suggests that there is no absolute right of adjunction to TP. If there are cases in which TP is the argument of a lexical (open-class) head, then adjunction to TP in that circumstance should be impossible. Finding clear instances of this configuration is not the easiest.⁸ However, one plausible case is that of adverbial clauses built around prepositions such as *before*, *after* or *since*:

(45) After we got home, we cleaned up after the cats.

from obvious that they involve simple adjunction of *probably* or *arguably* to the subject. Semantically, the adverb seems to modify the superlative adjective. Note, in fact, that such cases are grammatical only if there is a superlative (or marginally a comparative) adjective in the NP:

(iii) *Probably a sound argument against this proposal is presented in Chapter 3.

(iv) ??Probably a stronger argument against this proposal is presented in Chapter 3.

What we have instead is the more expected (v):

(v) A(n) arguably/probably/possibly sound argument against this proposal

Cases such as (v) are entirely consistent with the Adjunction Prohibition, of course, since here the adverb has adjoined to an AP modifier of NP.

Possibly the adverbs in cases such as these occupy the position also occupied by *all* or *both* in phrases such as *all God's children* or *both Susan's parents*. In any event, in the absence of an understanding of the phenomenon, it seems premature to conclude that the preferred analysis will involve a violation of the Adjunction Prohibition.

Similar questions arise about *only* and *even*, which seem to attach to essentially any maximal projection, regardless of its status as argument, predicate or modifier. For an early proposal about how to integrate such elements into X Bar Theory, see Hornstein (1977: 158). For more recent discussion, see Iatridou and Kroch (1992: 21–23), Bayer (1995).

⁸ In addition to those discussed in the text, there are two obvious cases to consider—ECM complements and complements to Raising predicates. In both cases, however, there are complicating factors which make it hard to assess the issue.

Examples such as (i) are certainly ungrammatical, as predicted by the Adjunction Prohibition, if *consider* selects a TP-complement:

(i) *I consider [_{TP} in general [_{TP} this kind of issue difficult to resolve]].

The ill-formedness of such examples is often attributed to a disruption of the Case-licensing relationship between the governing verb and the infinitival subject, as, for instance, in the adjacency requirement explored initially in Stowell (1981). The status of the adjacency condition is unclear in current contexts, though, and the Adjunction Prohibition might provide an alternative account of some of the observations that originally motivated it, such as (i). The account would extend to (27) if the kinship of the complementizer *for* with preposition *for* were sufficient to cause the Adjunction Prohibition to be invoked.

Similarly, (ii) is not perfect:

(ii) ?*Tom tends at Christmas to visit his parents.

But there are a number of confounding factors—the absence of an audible subject and the possibility of extraposition makes it difficult to be sure what the attachment point for the adverbial is.

There would seem to be two plausible analyses of such structures available. One is that they are (adverbial) PP's in which a preposition directly selects a TP-complement:

- (46) [PP [P after] [TP we got home]]

This proposal is perhaps supported by the observation that the elements which standardly appear in the specifier position of PP also occur with these adverbial clauses:

- (47) $\left\{ \begin{array}{c} \text{Right} \\ \text{Just} \\ \text{Immediately} \end{array} \right\}$ after we left home . . .

A second possibility is that *after*, *before* and *since* are actually prepositional complementizers (finite counterparts to *for*), so that the structure of the adverbial clause in (45) would be (48):

- (48) [CP [C after] [TP we got home]]

(48) is the analysis argued for by Huang (1982) and by Lasnik and Saito (1992: 91, 113–115). If the analysis schematized in (46) is right, then it is clear that the TP is lexically selected. But, even if (48) is right, there is evidence, as shown by Lasnik and Saito (1992: 91), that the prepositional complementizer L-marks (in the sense of Chomsky (1986)) its TP-complement in these cases. That is, these are lexically selected TP's under both available analyses. The crucial observation now is that adjunction of an adverbial phrase to TP is impossible in just this circumstance. Compare the (a) and (b) examples of (49)–(51). As throughout, I take it that adverbials which appear at the right edge of TP may be analyzed as instances of right-adjunction to VP, and are therefore compatible with the Adjunction Prohibition.⁹

- (49) a *After while washing the dishes he cut his thumb . . .
 b After he cut his thumb while washing the dishes . . .

- (50) a *Before last year she retired . . .
 b Before she retired last year . . .

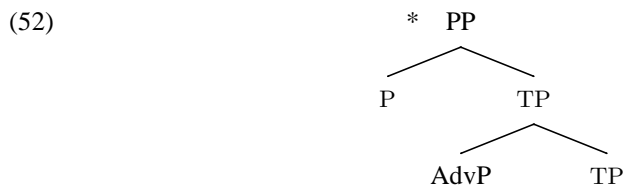
- (51) a *Since a year ago she went away . . .
 b Since she went away a year ago . . .

⁹ The grammaticality of (i):

(i) He said when he got home he would do the dishes.

suggests that the classical complementizer-deletion analysis of such examples is correct. If (i) involved selection of TP, then the contrast between it on the one hand and (49a)–(51a) on the other, would be unexplained. For further discussion, see Stowell (1981), Doherty (1993), Grimshaw (1997).

These observations suggest strongly that TP too is unavailable as an adjunction-site when selected by a lexical head. That is, the patterns we have seen so far can be organized as in (52), suggesting again that the Adjunction Prohibition is in play:



Certain complications arise at this point, however, since *because*, *while*, *although*, and *when* work differently:

- (53) a Because most of the time I understand what's going on
 b Although at the time I thought he was sincere
 c When a year ago I decided I was going to resign

Similarly causal (but not temporal) *since*:

- (54) Since most of the time/usually I understand what's going on, I think I should pass this course.

The 'subordinating conjunctions' which exhibit the pattern in (53) seem to be those which forbid the structure: [P DP]

<i>before</i>	*[_{TP} AdvP [_{TP}	before Christmas
<i>after</i>	*[_{TP} AdvP [_{TP}	after Christmas
<i>since</i> (temporal)	*[_{TP} AdvP [_{TP}	since Christmas
<i>because</i>	[_{TP} AdvP [_{TP}	*because this
<i>although</i>	[_{TP} AdvP [_{TP}	*although that
<i>since</i> (causal)	[_{TP} AdvP [_{TP}	*since your incompetence

A plausible interpretation is that the elements which allow adjunction to their complement TP are members of the category C (suggested by their inability to take DP complements), and that the elements which forbid adjunction to their TP-complements are members of the category P (suggested by their ability to take DP complements). If this interpretation is roughly correct, then the Adjunction Prohibition will once again be seen to lie behind the ungrammaticality of (49)–(51).¹⁰

¹⁰ A difficulty with this interpretation is *until*, which allows a DP complement (suggesting that it is a preposition) but which still allows at least some cases of adverbial adjunction to its apparent complement:

- (i) until next year/tomorrow/the next time we meet/Easter
 (ii) until finally/at last/in 1996 she was forced to resign

Given the proposal in the text, such dual possibilities would have to reflect a lexical ambiguity: *until* would have to belong to two word classes—C and P.

The Adjunction Prohibition, as we understand it so far, is clearly not a complete theory of adjunction possibilities. Adjunction of adverbial phrases to relative clauses and to adjunct clauses in general, for instance, must also be ruled out:

(55) *The people [_{CP} when you get home [_{CP} who want to talk to you right away
...]

(56) *I graduated [while at college [without having really learned anything]].

Neither of these possibilities is ruled out by the Adjunction Prohibition as formulated in (30) or by any obvious extension of it. Grimshaw (1997), responding in part to an earlier version of the present paper, suggests a way in which these cases (and some cases we have still to consider) can be unified.

We will return to these issues shortly in a slightly different context. For present purposes, I will assume that the Adjunction Prohibition as formulated in (30) will either be among the statements that make up a general theory of adjunction possibilities, or else that its empirical effects will follow as a consequence of some more general system of principles, when the theory of adjunction possibilities is complete. If that is so, then we can use the Adjunction Prohibition as a useful diagnostic probe.

4. A CONNECTION MADE—ADJUNCTION AND INVERSION

At this point, the discussion of adjunction possibilities can be linked back to the announced topic of the paper. The connection is that apparent problems for the Adjunction Prohibition arise when we observe the (relative) well-formedness of (57):

- (57) a ?He asked me when I got home if I would cook dinner.
b ?I wonder when we get home what we should do.

How can (57) be possible if the Adjunction Prohibition reflects a true generalization? To answer this question, we must first note that the pattern in (57) is possible only in the complements of certain predicates. The examples in (58) are all completely impossible (with, as always, the lower construal of the adverbial):

- (58) a *It was amazing while they were out who had got in to their house.
b *The police established while we were out who had broken in to our apartment.
c *While you're out how many people break in to your apartment depends on where you live.
d *Who your friends are depends on while you were growing up where you lived.
e *In the course of a single year how much he had grown really astonished me.

The contrast between (57) and (58) mirrors exactly the contrast already observed between the predicates which allow embedded T-to-C and those which do not. That is, my claim is

that the class of predicates which allow inversion in their complements is exactly the class which allows the initially unexpected adjunction-pattern in (57).

Corresponding to the instances of embedded T-to-C in (1)–(2), we have the following instances of adjunction of adverbials to CP. For this class of matrix predicates, the results are either good or only marginally unacceptable:¹¹

- (59) a ?Ask your father when he gets home if he wants his dinner.
 b ?I was wondering next Christmas if he would come home.
 c ?Ask them when they were in Derry if they lived in Rosemount.
 d ?He never asked me when he went to England if I wanted to go with him.
 e ?He inquired when we were young how we used to get about.

And for varieties which allow embedded T-to-C, the corresponding examples are perfect:

- (60) a I wonder this time will he make a move.
 Frank McGuinness: *Dolly West's Kitchen*, 12, Faber and Faber.
 b Ask your father when he gets home does he want his dinner.
 c I was wondering next Christmas would he come home.
 d I'll ask them when they get home do they want a cup of tea.
 e I wonder if a baby was presented with equal exposure to several different languages would they retain their "universal phonetician" status.
 Student Essay (June 2003, California)

But those predicates which completely disallow the option of adjunction of an adverbial phrase to their CP-complement, also completely disallow the option of embedded T-to-C:

- (61) a *It was amazing who did they invite.
 b *The police established who had they beaten up.
 c *Who are your friends depends on where did you live while you were growing up.
 d *How much had he grown really astonished me.

The contrast between this class of verbs and those in (59) is very robust for those speakers who allow embedded T-to-C. It is also, I believe, clearly detectable for speakers of the 'standard' variety.

The correlation is, in fact, closer even than this would suggest. One important complication in the distributional pattern investigated so far has been passed over. It turns out

¹¹ We will be in a position to say something about the marginality of these examples when more of the analysis has been developed. See Section 8.

that the possibility or impossibility of embedded T-to-C depends not only on the governing verb, but also on certain other properties of the matrix clause. Specifically, the verbs which forbid T-to-C in their complements in (3) will permit it to varying degrees of acceptability if the clauses they head are negative or interrogative. This is seen in the illustrative paradigm of (62) and illustrated with attested examples in (63).

(62) a *I remember who did they hire.

b ?Do you remember who did they hire?

c ?I don't remember who did they hire.

(63) a 'Ah, he's a nice young fellow.' 'I don't know is he.'

William Trevor: *The Story of Lucy Gault*, 98

b Do you think will he ever be able to get them right?

John McGahern: *That They May Face the Rising Sun*, 331

c Do you think will Herself get married again?

John McGahern: *That They May Face the Rising Sun*, 11

The examples in (64) are cited in Filppula (1999: 168, 171). (64d) is from Hebridean English, and is cited originally in Sabban (1982). The other examples are all from varieties of Irish English.

(64) a I don' know was it a priest or who went in there one time with a horse-collar put over his neck.

b I don' know what is it at all?

c Do you think is it done?

d But he was telling me he didn't know how did he manage it.

And in just this circumstance, the unexpected adjunction pattern of (59) and (60) turns up again, with the same elaboration that adjunction is most clearly acceptable when in combination with overt T-to-C (as in (66)):

(65) a ?Do you remember when they were in Derry if they lived in Rosemount?

b ?I was never sure when he went to England if I should go with him.

c ?I've never found out if I'd asked him if he really would have come with me.

d ?Did he tell you when he was young how he did it?

(66) a Do you remember when they were in Derry did they live in Rosemount?

b I was never sure when he went to England should I go with him.

c I've never found out if I'd asked him would he really have come with me.

d Did he tell you when he was young how did he do it?

We will be in a position at a later point in the discussion to say something about why negation and interrogation should have this licensing effect (both for adjunction and for allowing T-to-C). For now, we use the observations only to further confirm the pattern with which we are most closely concerned at present—namely that there is a very exact correlation indeed between the possibility of adjunction to CP and the possibility of T-to-C in complement CP.

5. AN INITIAL PROPOSAL

At this point we have a cluster of inter-related puzzles, and the challenge is to construct an understanding of those puzzles that will do the following:

- It must allow for the possibility of T-to-C in embedded interrogatives while preserving whatever was right about the principles that suggested that that possibility should not exist.
- It must provide an understanding of why that possibility is restricted in the ways just documented (determined by the governing verb, in interaction with the presence of negation and interrogation in the matrix clause).
- It must provide an understanding of why the possibility of T-to-C correlates so precisely with the adjunction possibilities in the way just documented.
- It must provide an understanding of why rising declaratives are impossible in the contexts in which complement T-to-C is possible.

The chief puzzle concerning the possibility of embedded T-to-C in the varieties which allow it, is that it seems to violate certain well-established general conditions on T-to-C-movement. The consensus view that has emerged in studies of the Verb Second pattern is that T-to-C fronting is possible if and only if the target C-position is not lexically selected (see especially Rizzi and Roberts (1989), developing earlier ideas of Kayne's (1982, 1983), and Besten (1983)). T-to-C substitution will be possible on this conception in a CP which is not selected at all (in a matrix clause, for instance, or in an adjunct clause such as a conditional), or in a CP which is selected by a functional rather than by a lexical head. Call this the KRR-effect (the 'Kayne/Rizzi/Roberts' effect).

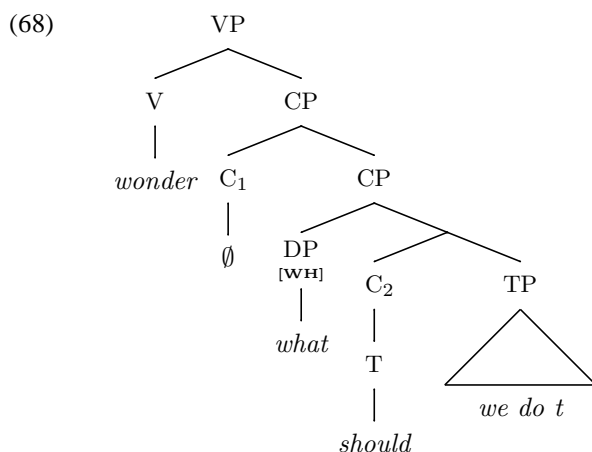
Apparent exceptions to the KRR-effect occur in many of the Germanic languages—cases in which declarative Verb Second clauses (and hence clauses which exhibit T-to-C-movement) appear in what seem to be lexically selected contexts. A number of close studies of this phenomenon came to the conclusion that the syntax which underlies the possibility of embedded Verb Second is the availability of a C which itself takes a CP-complement—a line of analysis sometimes referred to informally (and a little misleadingly) as the *CP-recursion analysis*. Such analyses¹² have been most commonly deployed for declarative complements. However, similar analyses have been developed for

¹² For detailed discussion, see Haan and Weerman (1985), Vikner (1991), Vikner (1995), Rizzi and Roberts (1989: 21–22), Cardinaletti and Roberts (1991: 5–6), Iatridou and Kroch (1992).

All the Germanic languages but Dutch permit embedded Verb Second structures in declarative clauses. German is exceptional in this group in forbidding embedded Verb

interrogative complements in Dutch (see especially Craenenbroeck (2004), building in part on earlier work by Erik Hoekstra, Jan-Wouter Zwart, and Hans Bennis), and in Spanish (Rivero (1978), Rivero (1980), Plann (1982), Suñer (1991), Suñer (1993), Lahiri (2002: 263–284)). We can easily adapt such proposals for our purposes here, proposing something like (68) for (67):

(67) I wonder what should we do.



If (68) is on the right track, then we have an understanding of the observations made so far. The possibility of T-to-C-movement to the lower C-position of a structure like (68) is expected since that position is not lexically selected. The possibility of adjunction to the lower CP is expected for exactly the same reason. Since that CP is not selected by a lexical head, adjunction to it will not lead to a violation of the Adjunction Prohibition. The structure in (68) allows us, then, to tie together the patterns observed so far, and to relate them in turn to a well established array of syntactic patterns in other languages.

Two remarks are in order about this proposal and about its place in larger theoretical context.

First: one might well interpret the structure of (68) in terms of recent work deriving from Rizzi (1997)—work which develops the idea that rather than a single C-projection there is an elaborated series of functional projections devoted to the expression

Second under an overt complementizer.

T-to-C is impossible in complement interrogative clauses in most Germanic Verb Second languages but possible in recent varieties of Afrikaans (Diesing (1990: fn.10), Biberaur (2001)). It occurs, however, only in WH-interrogatives not in polar interrogatives. Biberaur reports that T-to-C occurs in Modern Spoken Afrikaans in 70% of embedded WH-questions in her corpora. The examples she cites are consistent with the lexical restrictions documented in the present paper (embedded under *wonder* and *not know*) but no ungrammatical examples are presented.

Embedded T-to-C in complement interrogatives seems also to occur in certain varieties of non-standard French, judging by Rizzi and Roberts (1989: fn.22).

of information-structural notions like Focus and Topic, and also to illocutionary and clause-typing information (see especially Rizzi (2004)). C_1 and C_2 of (68) would on this view be distinct but related heads—members of the family of categories which jointly define the C-field. In particular, within the framework presented by Benincà (2004) one might identify C_1 of (68) with the Force projection (the projection devoted to the expression of illocutionary force and clause-typing) and the lower C_2 with the Focus projection.¹³

The second remark has to do with what we have called the KRR-effect and how it should be understood. As we have seen, what requires explanation here is this: why might it be that a head position which is the target of lexical selection would resist head-movement? Rizzi and Roberts (1989) suggest that the forbidden head movement gives rise to what are, in effect, selectional violations. A verb which subcategorizes for a particular complementizer requires that the head of its complement be that complementizer. But if that head-position hosts an application of head-movement, the complex object so created is distinct from the complementizer and a violation of selectional requirements results.

This account has great intuitive appeal and considerable explanatory force, but it made little sense in the theoretical context in which it was originally proposed—the framework of Principles and Parameters theory. A core commitment of that framework is the idea that the level of D-structure is the level which is relevant for satisfaction of lexical requirements. In this context, it is hard to see why an application of head movement into the selected position should pose any difficulty, since it will apply, by definition, subsequent to the level of D-structure

Within the terms of the Minimalist Program, though, the larger context is very different. In the absence of a level of D-structure, heads are introduced and their selectional requirements satisfied as the derivation proceeds. In this context, a C-head will host a head movement from within its complement before the CP which it projects is in turn merged with its selecting head. Head movement, then, (as long as it is a syntactic operation) will be expected to interfere with, or interact with, selectional requirements which target heads.¹⁴

To be more specific, we can follow Pesetsky (1982) and Pesetsky (1991: Chap. 1) in maintaining that a central aspect of the selectional system is *l-selection*—that is, that a lexical item may require that the head of its complement be a particular lexical item. In terms of the theory of Bare Phrase Structure, we can understand this as follows: what it means for a lexical item to bear an l-selectional feature [$-H$] is that its complement must be a syntactic object whose label is the lexical item H. Head movement from a lower to a higher head-position modifies the properties of the element that it targets (by adding information), creating a modified lexical item—an object that is not part of the syntactic lexicon. From this, and from the understanding of l-selection just outlined, it follows that any head which

¹³ Benincà's idea is that interrogative WH-movement targets first the specifier of the Focus projection and subsequently the specifier of the Force projection. The latter idea, though, is not consistent with some of the observations made here, since in cases in which an adjoined element appears to the left of a WH-phrase, the logic of the analysis to be developed implies that the WH-phrase is in the lower specifier position (specifier of C_2 in (68)).

¹⁴ See Matushansky (2000) for arguments that head movement is not exclusively on the PF side of the derivation.

hosts a head-movement may not enter into legal I-selectional relations with a subsequently merged lexical item. The KRR-effect can be understood in this way. If particular verbs, adjectives or nouns I-select particular complementizers, then head movement into those C-positions will give rise to violations of I-selectional requirements.

For this to be maintainable, it must be the case that the selectional relations which hold among functional heads are not instances of I-selection (otherwise, head movement would everywhere be impossible). There is, however, a large body of work (see, for instance, Abney (1987), Grimshaw (1992)) which develops exactly this position. If this is right, then we can understand both the KRR-effect and the possibility of T-to-C into the lower C-position of (68).¹⁵

This account will extend to the Adjunction Prohibition, given certain assumptions (admittedly outdated) about how the adjunction relation is encoded in syntactic structures. In earlier versions of the theory of Bare Phrase Structure (Chomsky (1995: Chap. 4)), the difference between adjunction and other structures was encoded on the label of the complex syntactic object formed by adjunction. Specifically, adjunction of α to β , where β has label K, creates a syntactic object whose label consists of the ordered pair $\langle K, K \rangle$:

$$\{\langle K, K \rangle, \{ \alpha, \beta \}\}$$

Adjunction of PP to CP headed by *that*, for instance, will, on this view, create the syntactic object below:

$$\{\langle that, that \rangle, \{ PP, CP \}\}$$

The label in such cases is not a lexical item. Therefore no syntactic object so formed could legitimately satisfy an I-selectional feature borne by a subsequently introduced lexical item. If this is maintainable, then the Adjunction Prohibition and the KRR-effect would both be reflections of a more general requirement on modes of satisfaction of I-selectional features.

Taking stock, then, we can say that the double-CP syntax of (68) makes the right distinctions and correlations, while letting us preserve (and arguably improve on) essential insights concerning the KRR-effect. Two important analytical tasks remain.

The first and most important is that we need the right theory of context-sensitivity. That is, the structure in (68) and its associated syntactic effects may appear only in a restricted range of environments. We need an understanding of why this is so.

The second is that we need to discharge the worry about the emptiness of the higher C head (C_1 of (68)). Discharging the worry involves two tasks. One is that of providing evidence for the existence of two heads where there seems, in the general case, to be only one (or none). The second task is that of providing an account of why one of those heads is typically empty. Section 6 deals with the second of these issues; Section 7 deals with the first.

¹⁵ Head movement of D to N, as in Longobardi (1994), will be permitted in direct object position as long as the D-head is not a target of I-selection. This seems right: verbs do not select particular determiners. See also Pesetsky (1982), Pesetsky (1991).

6. DOUBLE HEADED CLAUSES

In this section, I want to present some evidence that the structure in (68) is a reasonable one, and also to be a little more precise about the mechanisms that it implies.¹⁶

A central element of our proposals is that the lower CP of a double CP-structure becomes a legal adjunction-site in virtue of being selected by a functional rather than a lexical head. As pointed out to me by Richard Kayne, there is direct evidence that the double-CP structure does in fact serve this function. Examples such as (69) are extremely common in both written and spoken English:¹⁷

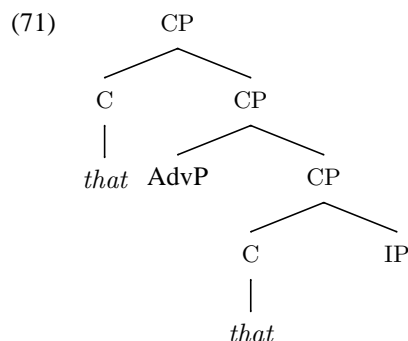
- (69) a But the simple analysis which suggests that because American investment takes place here that we should be a lapdog for their efforts in the war is one that I think is quite objectionable and quite offensive.
Irish Times, Friday February 7th 2003
- b He thinks that if you are in a bilingual classroom that you will not be encouraged to learn English.
 [student essay (California)]
- c My fervent prayer is that for the sake of the president and the sake of this nation that this matter is resolved soon.
 [AP wire report, Jan 29th 1999]
- d It is useful to know that once you have mastered the chosen dialect that you will be able to pick up a newspaper and read it.
 [student essay (California)]
- e I don't think that he should contend that just because he makes a promise that it becomes a responsibility of the United States.
Morning Edition, National Public Radio]
- f I found that when there were an equal number of men and women that the women tended to talk to the women.
 [student essay (California)]

The basic shape of such examples is that in (70) with the analysis in (71):

¹⁶ Interrogative structures which seem to have the structure in (68) as well as many of the distributional and interpretive properties we associate with (68) are well known from Spanish and have been well-studied (Rivero (1978), Rivero (1980), Plann (1982), Suñer (1991), Suñer (1993), Lahiri (2002: 263–284)).

¹⁷ The pattern seen in (69) seems to be fully productive in Galician, judging by the discussion in Iatridou and Kroch (1992: 16–17), which draws on observations made by Juan Uriagereka. Fontana (1993) observes that the same pattern was productive in literary Spanish up until the 16th century. See also Rizzi (1997: 330).

(70) ... *that* AdvP *that* [TP ...]



There is much that is mysterious about (69). In the first place, the two instances of *that* may occur if and only if an adverbial intervenes between them. Secondly, that adverbial must be substantial (though not necessarily clausal, as shown by (69c)).¹⁸

The crucial property of these structures for our immediate purposes, though, is that adjunction of the adverbial phrase is clearly made possible by the ‘protecting’ higher C-projection, whose existence is unambiguously signalled by the presence of two instances of *that*. It is hard, in fact, to avoid the suspicion that that higher layer of structure is projected exactly so as to allow the lower adjunction (that is, to use a crude metaphor, the extra structure is projected as a way of ‘getting around’ the Adjunction Prohibition).

The net of correlations can be extended in one remaining important way. For Irish varieties at least, we also have interrogative examples such as (72), which are in an important sense exact interrogative counterparts to the declarative (69):¹⁹

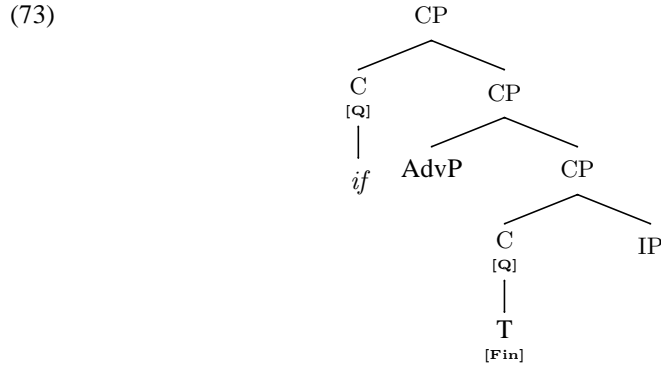
- (72) a Patsy asked him if, when he was sent to college, was it for a clergyman or a solicitor.
- b John Fleetwood ... asks if in the event that a member of Portmarnock Golf Club had a sex-change operation, would he/she still be eligible for membership?
- c John was asking me if, when the house was sold, would they move back to Derry.

Just as the examples of (69) exhibit two instances of the declarative complementizer *that*, separated by an adverbial phrase, so (72) exhibits two instances of the interrogative com-

¹⁸ An initial reaction that many have to examples such as (69) is that they represent performance errors rather than aspects of the grammar. One reason for resisting this scepticism is that the structures in question are commonly found even in the most carefully monitored and closely-edited prose. Other considerations will come up below when the general problem of the licensing of double CP-structures is considered.

¹⁹ (72a) is from *Gort Broc—Scéalta agus Seanchas Ó Bhéarra*, Máirtín Verling, Coiscéim, Dublin, 1996, p. xxxix. It represents a contemporary rural West Cork variety. (72b) is from a letter to the editor, *Irish Times*, December 11th 2002. (72c) is due to Cathal Doherty. Thanks to Cathal Doherty, Maryrose Bourke and Angela Bourke for discussion of these facts. Similar facts seem to hold in New Zealand English and for many speakers of American English.

plementizer separated by an adverbial phrase. The higher of the two is realized as *if*; the lower of the two hosts raising of the inflectional head:



Beside the grammatically parallel examples (69) and (72) we have the paired ungrammaticalities of (74):

- (74) a *They claimed that that they wouldn't harm us.
 b *I asked them if would they like a cup of tea.
 c *I asked them if if they would like a cup of tea.

(impossible in all varieties, as far as I have been able to discover). Many important questions about (72) and (73) remain (some of which will be addressed in Section 7). Their very existence, however, provides support for two key elements of the proposals we have developed so far. Firstly, they provide direct evidence for the existence of double CP-structures in certain interrogative contexts (complements of the *wonder/ask/inquire* class specifically). Secondly, they provide evidence for the interpretation of adverbial adjunction possibilities suggested earlier (adjunction to the lower CP is possible, because it is not lexically selected).

But the pattern in (72) is also important because it lets us glimpse and therefore identify the higher head of the interrogative double CP structure (68)—it is *if*, an interrogative complementizer. But the lower head is also interrogative *if*. We know this because of the (relative) well-formedness of the examples in (65) from Section 4 above, some of which are repeated here as (75):

- (75) a ?Ask your father when he gets home if he wants his dinner.
 b ?I was wondering next Christmas if he would come home.
 c ?Ask them when they were in Derry if they lived in Rosemount.

By the logic of our proposals, the adverbial clause here must be adjoined to the lower CP of (68) (to escape the effect of the Adjunction Prohibition), and the higher C must be null. It

follows that the lower C of (68) must also be *if*.²⁰ If no material intervenes, then, between the higher and lower C we will have a sequence of two interrogative complementizers (as in (74)).

To construct an account of these observations, let us assume that the lexicon of English makes available two variants of the interrogative complementizer, one with and one without an uninterpretable T feature.

$$(76) \quad \begin{matrix} C \\ [\alpha_Q] \end{matrix} \qquad (77) \quad \begin{matrix} C \\ [\alpha_Q] \\ u_T \end{matrix}$$

(76) is realized as *if*; (77) forces an application of raising of T, to ensure the elimination of its uninterpretable feature.

All interrogative-taking predicates 1-select $\begin{matrix} C \\ [\alpha_Q] \end{matrix}$. Because of the KRR, however, (77) may not appear in a position exposed to selection by a higher lexical head. T-to-C is therefore impossible in the complement of *discover*, since (for reasons which will be clarified in Section 7 below) that verb generally forbids the double CP interrogative structure in its complement position. (77) may however appear in the lower C-position of the complement of *wonder* (selected by the higher C, not by the verb) and T-to-C therefore may (and in fact must) target that lower position.

All varieties of English (as far as I know) require that a root interrogative complementizer must be (77). What makes ‘standard’ English special is that it in addition imposes a restriction that (77) may occur only in the root, a requirement which obscures almost all of the patterns that we have been concerned with here.²¹

This set of assumptions yields directly the pattern seen in (72). Some additional mechanism must ensure that, in conditions other than those of (72), one at least of the heads goes unpronounced. Let us assume, then, that interrogative C is deletable, but that the filter below constrains possible outcomes:

The Complementizer Haplology Filter

$$* \begin{matrix} C \\ [\alpha_Q] \end{matrix} \begin{matrix} C \\ [\alpha_Q] \end{matrix} \quad \text{If both instances of C have phonological content.}$$

which will forbid all of (74) but allow (69) as well as (72).

²⁰ I postpone until Section 8 the issue of why the examples in (75) are marginal, and why the cases in which inversion applies (i.e. (60) of Section 4 above) are not similarly marginal.

²¹ As pointed out by Héctor Campos and Raffaella Zanuttini, this assumption leaves unresolved the difficult question of why T-to-C apparently fails in subject WH-questions. If (77) occurs in every root question, and if subject WH-questions involve the CP-layer, then we expect T-to-C in such questions, counter to fact. The alternatives open seem to be: (i) claim that subject WH-questions do not involve the CP-layer (ii) claim that the restriction on (77) is that it may only occur (but need not occur) in the root C-position, or (iii) follow Pesetsky and Torrego (2001) in holding that the uninterpretable tense feature of (77) in such cases is satisfied by means other than head movement (i.e. in interaction with the nominative subject). I have nothing to add here to the debate on these questions.

I assume that recoverability requirements guarantee that a raised auxiliary will never delete, and further that such requirements also guarantee that both complementizers may not simultaneously delete. These are embarrassingly large promissory notes, but I am not in a position to make good on them here.

Summarizing to this point, however: it has been argued that the the CP-complements of *wonder*, *ask* and similar predicates must contain at least two distinct projections of the C-type—their presence indicated by facts concerning adjunction and head movement. Such structures must exist in all varieties of English (so that we can understand the adjunction facts). While the presence of the two heads and their associated projections is revealed clearly in the local and informal varieties studied here, it is obscured in more ‘standard’ varieties by the kinds of morphosyntactic factors dealt with in this section.

Of the analytical goals set out at the beginning of the paper, then, the principal one that remains is that of constructing an understanding of the context-sensitivity of the phenomena we have been concerned with. That task now reduces to the task of understanding why the double-CP syntax of (68) (with its associated syntactic effects) is restricted to its characteristic set of environments. To a first approximation, we must ensure that these structures may occur in the complement-position of *wonder*, *ask*, and *inquire*, but not in the complement position of *discover*, *find out*, or *remember*. We will have to, in addition, construct an understanding of how it is that the presence of negation or interrogation in the matrix clause can influence these distributional possibilities.

Trying to address these issues brings us into the most difficult territory we have had to explore so far.

7. SEMANTICS, PRAGMATICS AND SELECTION

As an important preliminary, We can observe that the crucial distributional patterns are not specific to English. In Italian, for instance, Clitic Left Dislocation may place a topic (resumed by a pronoun internal to the clause) to the left of an interrogative phrase, as in the examples in (78) (see especially Cresti (1995)):

- (78) a Mi domando Mario chi l' ha visto.
me I-ask who him has seen
 ‘I wonder who has seen Mario.’
- b Mi domando Mario chi l' abbia visto
me I-ask who him has [SUBJ] seen
 ‘I wonder who has seen Mario.’

The verb governing this structure in (78) is (the Italian version of) *wonder*, the same verb which in English licenses both the unexpected adjunction pattern and the unexpected application of T-to-C in its complement. Changing the verb in question to one which forbids these two patterns in English produces corresponding ungrammaticality in Italian (data from Paolo Acquaviva, Luigi Burzio, Anna Cardinaletti, Giulia Centineo, Michela

Ippolito, Cecilia Poletto, and Luigi Rizzi, to all of whom I am very grateful):

- (79) a *Ricordo Mario chi l' ha visto.
I-remember who him has seen
 'I remember who saw Mario.'
- b *Ti ho detto Mario chi l' ha visto.
you I-have told who him has seen
 'I told you who saw Mario.'
- c *Ho scoperto Mario chi l' ha visto.
I-have found-out who him has seen
 'I found out who saw Mario.'

And the correlation is again closer, since, as reported by one of the consultants:

'but your examples with *stabilito* (*establish*), *detto* (*say*), *scoperto* (*discover*) sound degraded; they seem to become fine again if the main clause is a question, though: *ti hanno detto, Mario, chi lo ha visto? Hai poi scoperto, Mario, chi lo ha visto?'*

In addition, it seems that negating the matrix verb has a similar, but weaker, ameliorating effect:

- (80) a *Ricordo Mario chi l'ha visto. *remember*
 b ?Non ricordo Mario chi l'ha visto.
- (81) a Non so Mario chi l' abbia visto.
NEG I-know who him have [SUBJ] seen
 'I don't know who saw Mario.'
- b Non ricordo Mario chi l' abbia visto.
NEG I-remember who him have [SUBJ] seen
 'I don't remember who saw Mario.'

In such cases, we are dealing with movement of an argument from a clause-internal position rather than with merge of an adverbial phrase as in our discussion of English. The logical structure of the puzzle, however, is the same in the two cases: the Adjunction Prohibition correctly predicts the ungrammaticality of (79) if we assume (counter to fashion) that these cases too involve adjunction to CP. The puzzle—in Italian as in English—is to understand why certain governing predicates (and the influence of negation and interrogation in the matrix structure) can license structures in which the effects of the Adjunction Prohibition are amnestied. Given the analysis we have developed so far, we must assume that the complement of *domandarsi* is (at least) a double-CP structure, while the complement of *ricordare* is the simpler single CP structure. And, as in English, the subtler challenge is to allow for the effect of negation and questioning in the matrix.

It can hardly be an accident that the lexical partition documented here (in English and in Italian) corresponds exactly to a distinction that has been central in work on the formal semantics of questions. One of the core issues in that body of work has been what Ginzburg and Sag (2000: 65) call the ‘Interrogative Uniformity Thesis’—the thesis that all syntactic constituents corresponding to the pre-theoretical category ‘interrogative’ have a uniform denotational type. Karttunen’s influential 1977 discussion accepted the thesis, assigning to the complement of *wonder* and *ask* the same semantic type as that assigned to the complement of *know*, *remember*, *tell* and so on. Almost from the beginning however (see for instance Boër (1978)), scepticism was expressed about the thesis, in particular because it requires the postulation of numerous lexical doublets so that alternations like those in (82) will be allowed for:

- (82) a They told me/discovered/knew/forgot who had been nominated.
 b They told me/discovered/knew/forgot that Susan had been nominated

The alternation illustrated in (82) seems systematic rather than idiosyncratic. Verbs like *wonder* and *ask* of course do not permit the option of (82b):

- (83) a They wondered/asked who had been nominated.
 b *They wondered/asked that Susan had been nominated.

Partly as a consequence, there is a conviction running through much of the relevant literature that the contrast between (82) and (83) reflects some fundamental difference between the two classes of verbs and the complement-types that they take. For this, and for other reasons (see especially Szabolcsi (1997)), a large body of work argues that the complement of *wonder* is semantically very different from the complement of *discover* (Groenendijk and Stokhof (1984b), Groenendijk and Stokhof (1984a), Groenendijk and Stokhof (1989), Groenendijk and Stokhof (1997), Munsat (1986), Berman (1991), Lahiri (1991), Ginzburg (1992), Suñer (1993), Szabolcsi (1997), Krifka (1999), Lahiri (2000), Ginzburg and Sag (2000), Krifka (2001), Lahiri (2002)).

No single terminological system has so far established itself in this discussion, but I will follow Ginzburg and Sag (2000) in distinguishing between the two classes by using ‘Question Predicates’ as a name for the class that includes *wonder*, *ask*, or *inquire*, and the term ‘Resolutive Predicates’ for verbs such as *find out*, *discover*, *remember* and so on.

The common thread running through the work cited above is that Question Predicates embed complements whose semantic type is the same as that of a root question, while Resolutive Predicates embed complements which are more akin to propositions (hence their occurrence with predicates which also select propositions). This central intuition has been worked out in a variety of different ways. In one influential strand (Groenendijk and Stokhof (1984b), Groenendijk and Stokhof (1984a), Groenendijk and Stokhof (1989)), complements to Resolutive Predicates are taken to be extensional (propositions which express true and complete answers to a question) while root questions and the complements of Question Predicates denote the corresponding intensions (functions from possible worlds to propositions, which divide the set of possible worlds into partitions defining the space of

possible answers to a given question). For Ginzburg and Sag (2000), working in the context of Situation Semantics, *wonder* selects a ‘question,’ while *find out* selects a ‘fact’—a model-theoretic construct which constitutes an answer to the question expressed by the interrogative clause. An important subsidiary claim for them is that the *that*-complement of (82b) also denotes a fact, and they thus succeed in making a natural connection between the possibility of (82a) and the possibility of (82b).

For much of what I want to argue here, it does not matter which theory of interrogative types turns out to be right; what is important is that there be a difference between two types. At a later point in the discussion, I would like to follow down a particular one of these paths, but for immediate purposes, I will circumvent the issue by speaking of the semantic type assigned to the complement of *wonder* as the ‘higher’ interrogative type, and speaking of the type assigned to the complement of *find out* as the ‘lower’ interrogative type. The initial analytical strategy should then be fairly clear—we will say that Question Predicates select complements in the higher interrogative type and that Resolutive Predicates select complements in the lower interrogative type, and we will hold that the larger structure of (68) is the syntactic correlative of the higher interrogative type, and that the smaller, single CP-structure is the syntactic correlative of the lower interrogative type.

More must be said, of course, but we can make two observations even at this preliminary point. First, we can now redeem a promissory note issued at p. 6 above, where it was observed that embedded inversion routinely brings with it the intuition that the complement clause is in some sense a direct question. Since the complement of a Question Predicate and a root question are assigned to the same semantic type (the higher interrogative type), this intuition has a real basis in the analysis sketched so far.

Second: the debate on the Interrogative Uniformity Thesis has largely proceeded on the assumption that there is no syntactic difference between the two types of interrogative complement. The inability to detect syntactic differences between the two complement-types has, in fact, been the source of some scepticism about whether the type-differentiation is real (see, for instance, Lahiri (2000) and especially Lahiri (2002: Chap. 6)). If our argumentation here is correct, the proposed difference in semantic type is mirrored closely by a difference in syntactic structure, and a source of scepticism about the type-differentiation is eliminated.

Pushing further, though, we can ask some additional questions. One of the conclusions we have been brought to on syntactic grounds is that the complement of a Question Predicate is ‘larger’ than the complement of a Resolutive Predicate, in a very particular sense—the former include a layer of structure not present in the latter (this is the ‘protective’ layer of higher structure which crucially allows raising to the lower head and adjunction to the lower CP). Put another way, the syntax corresponding to the higher interrogative type properly contains the syntax of the lower interrogative type. One can ask why this should be so.

In thinking about this, I will follow the account of Krifka (1999), which develops a set of proposals that dovetail particularly well with the syntactic conclusions argued for here.

Krifka’s theory of the higher interrogative type is that it is the type of question acts. Root questions, and the complements to verbs of the *wonder/ask/inquire* class, are taken to denote speech acts (question speech acts more specifically). It is proposed that the denotational semantics for speech acts is properly modeled by a semi-lattice—more limited

than a full Boolean algebra in that the operation of conjunction is defined but the operations of disjunction and negation are not. This proposal yields an appropriate semantics for pair-list readings of multiple questions, as well as a solution to a puzzle which has bedevilled work on the formal semantics of questions since the beginning—the puzzle of why apparent wide-scope readings are available for universal quantifiers (but supposedly only for universal quantifiers) inside WH-questions:

- (84) Which dish did every student make?

Krifka's resolution of this puzzle is grounded in the observation that universal quantification (but not other kinds of quantification) can be understood in terms of the conjunction operation alone. In addition, the proposal also yields a good understanding of conjunctions of questions.

Resolutive Predicates, by contrast, do not select a question act (type *a*) but rather an interrogative sentence radical (which denotes a set of propositions (Hamblin (1976), Karttunen (1977))). From this difference is derived the well-known differences in quantificational behavior between the two classes of complement (Berman (1991), Lahiri (1991), Szabolcsi (1997), Lahiri (2002)). Interrogative radicals (the lower interrogative type) stand in a systematic relation to question acts (the higher interrogative type), in that there is an operator QUEST, which is a function taking sets of propositions and yielding a corresponding interrogative speech act. The application of this function to the denotation of an interrogative sentence radical (the denotation type for the complement of a Resolutive Predicate) yields an object (a speech act) which is of the right type to be the complement of a Question Predicate. That is, the semantics of the complement of *wonder* involves an extra compositional step (application of the QUEST operator) deriving it from the semantics of the complement of a verb such as *discover*.

The connection to the concerns of the present paper should by now be apparent. Our core syntactic proposal is that there exists a layer of syntactic structure in the complement of a Question Predicate which is absent in the interrogative complement of a Resolutive Predicate. The natural move to make at this point is to assume that that additional layer of phrase structure is the syntactic correlate of the extra compositional step proposed by Krifka, the step in which the QUEST operator is introduced and applied to the interrogative radical (realized by the lower CP). Put another way, the double CP-structure is the 'canonical structural realization' (in Grimshaw's sense) of the semantic type of speech acts, the projection of the higher CP rationalized since it is the locus of the introduction of the QUEST operator. Such a proposal links the syntactic effects which have been at the center of the present discussion with the semantic differences between the two classes of interrogative complement, and links both with the distributional differences that have been documented here throughout. In addition, the connection between those complement clauses in which inversion applies and direct questions is very directly made (both denote question acts).²²

²² It should be recognized, however, that Krifka (2001) revises the proposals in ways that are less clearly compatible with the syntactic framework developed in the present paper. In that later work, the complement of a Resolutive Predicate is also taken to

It has been routine in descriptive work in syntax and in pragmatics to assume that illocutionary force indicators may be embedded—witness the line of work extending from Hooper and Thompson (1973) on embedded assertions, through discussions of embedded Verb Second in Germanic languages (dominated by the effort to make sense of the notion ‘embedded assertoric force’), to recent work in the ‘cartographic project’ (Rizzi (1997), Rizzi (2004), Benincà (2004) among many others). In the proposal just sketched here, combining our syntactic conclusions with the semantic proposals of Krifka (1999), the higher C-projection of (68) is exactly an embedded illocutionary force indicator. In a different intellectual tradition, however (in the philosophy of language and in work in formal semantics informed by logic and philosophy of language) there is a well-established and widely-held view that there can be no such thing as an embedded illocutionary force indicator and that analyses which make appeal to such notions are incoherent. This is one of the

denote a speech act (an answer) and no predicate directly selects an interrogative radical. These proposals mesh less well with the syntactic proposals developed here, in that the correlation between syntactic category and semantic type is less harmonious. As far as I know, Krifka (2001) presents only one reason for abandoning the proposal of Krifka (1999). This has to do with examples like (i):

- (i) Molly announced how many cakes three/most/several visitors had eaten.

The observation is that we seem to have to allow for wide scope for the subject of the WH-complement (i.e. for three/most/several visitors, Molly announced how many cakes they had eaten). This creates a dilemma for the earlier proposal, according to which the complement of a Resolutive Predicate denotes an interrogative radical (a set of propositions). If the subject takes wide scope only in the lower clause, that clause is not of the appropriate logical type (it denotes a set of propositions) for the quantificational structure to be interpretable. But the other obvious alternative (raising the embedded subject so that it take scope in the matrix clause) is also problematical, in that it will violate widely-accepted constraints on quantifier raising. To implement the idea, one must tolerate raising out of the subject-position of a WH-island. The response of Krifka (2001) is to re-think the nature of the ‘lower’ interrogative type (which, on this view, is not in fact lower at all) and maintain that it too corresponds to a speech act (an answer), and to argue that the denotational algebra for this type is such that it will support the needed quantification.

I have no serious response to offer in the face of this dilemma, but I would like to make two remarks. The first is that the observation here is a very delicate one. The second is that there is in fact independent reason to believe that a scope-extending operation of the type needed in (i) (one which would raise the embedded subject of a WH-complement to a matrix scope position) is needed. Although it has not been much discussed in the formal literature on reciprocals, it is very well-known that reciprocals in the position of the embedded subject of (i) can have antecedents in the matrix clause:

- (ii) The linguists and the philosophers had no idea what each other were doing.

Examples like (ii) are extremely common in informal English. If the binding of reciprocals subsumes a covert scope-extending mechanism (as in Heim et al. (1991)), it must be possible for the embedded subject of a WH-complement to take matrix scope.

reasons why Krifka's proposals about the semantics of questions have been controversial. The issues, then, are of fundamental importance.²³

Partly for that reason, I want to end by suggesting that Krifka's proposals may provide the basis for understanding the non-lexical effects on the distribution of the higher interrogative type that we have documented here for English and for Italian—the contribution of matrix negation and interrogation to the licensing of embedded questions.²⁴

The starting point for the discussion is the kind of paradigm seen in (85):

- (85) a *I remember was Henry a Communist.
 b ?I don't remember was Henry a Communist.
 c Do you remember was Henry a Communist?

That is, predicates which normally reject inversion in their complements (Resolutive Predicates) are more tolerant of such complements when they are themselves negated or head an interrogative clause. In the framework developed here, this must mean that negated and questioned verbs will accept the double CP structure of (68), even when their non-negated or non-questioned counterparts will not. And it must follow in turn, then, that matrix verbs which will not normally tolerate the higher interrogative type in their complements will tolerate it when the matrix is negative or interrogative. This is so because the logic of our analysis implies that embedded inversion is always the surface sign of a complement of the higher interrogative type (a true question)—a consequence whose plausibility is enhanced by the observations we are dealing with here.

In the context of Krifka's idea that the higher interrogative type is a question act, a natural solution to this puzzle presents itself.²⁵

Speech acts can be viewed as having a particular kind of context change potential—they induce transitions from one commitment-state to another, where commitments may be shared or not by participants in the conversation, and may be private or public (Gunlogson

²³ For a recent survey and for extensive discussion, see Green (2000), who argues that the traditional ban is too strong and that what is justified and required is a weaker condition which he calls *Illocutionary Tolerance of Force Indicators* (Green (2000: 441)). This principle holds that if a sentence *S* contains a substructure ψ , which in turn contains an illocutionary force indicator *f*, then ψ cannot constrain the variety of forces with which *S* (or its semantic value) may be put forth. This is consistent with Krifka's proposals, and with the syntactic extension of those proposals developed here. The force indicator is the higher C of (68), and ψ is the CP complement projected from it. But of course, the embedded force indicator has no effect whatever on the force with which the root structure is put forth (it can be used as an assertion, a question, an order, a threat, a promise, or whatever else).

²⁴ For negation, this discussion is at one level just a generalization of Groenendijk and Stockof's (1984b) decision to treat *not-know* as a question-embedding predicate of the same type as *wonder*.

²⁵ The discussion that follows has been deeply influenced, in ways that might not be fully obvious, by Gunlogson (2001) and by Groenendijk (1999), as well as by discussions with Bill Ladusaw and Sandy Chung.

(2001), Krifka (2001)). Each such act will be subject to a characteristic set of felicity-conditions, defined, in part, on the basis of the commitments which hold at the point in the conversation at which it is made. For a question, one of the conditions that must be met is that the semantic content it puts forth must be at issue (un-resolved, or controversial) in the initial state of the transition. A direct question such as (86):

(86) Will Bush win the November election?

is felicitous only in the context of a commitment-state which does not include either the proposition that Bush will win the election or the proposition that he will not.

If we take seriously the idea that speech acts may be embedded as complements to certain predicates (that *wonder*, for instance, denotes a relation between an individual and a certain type of context change potential), then we will expect that the effect of their characteristic felicity conditions will be felt in the embedded context and not at the root. So in a case like (87):

(87) I wonder will Bush win the November election.

the complement to *wonder* will be felicitous only if the issue of Bush's electoral success is un-resolved for the referent of the experiencer argument of *wonder* at the present time. In the particular case of (87), because of the accident of identity of reference between the speaker and the experiencer argument of *wonder*, and because what is relevant is the commitment state at the present time (the time of speaking), the effect of uttering (87) (which is, strictly speaking, an assertion) is barely distinguishable from the effect of performing a question act (barely distinguishable, that is, from (86)). In the case of (88), however:

(88) I wondered would Bush win the November election.

the appropriateness of the complement will depend on the commitment-state of the speaker at some point in the past (not the commitment state at the time of the conversation), and the effect is clearly distinguishable from the asking of a direct question. And for (89):

(89) Mary wondered would Bush win the November election.

the calculation to be made is whether or not the issue of Bush's electoral success was resolved for Mary, at the time in the past which functions as reference-time. The commitment-state of the speaker is crucial for calculating the felicity of the matrix assertion, but is irrelevant for judging the felicity of the embedded question (a term now understood literally).

Ginzburg and Sag (2000: 65, 111, 352–357) introduce the term *resolutive predicates* for the class of predicates which do not embed true questions, and their characterization of these predicates (*tell*, *discover*, *remember* and so on) is that they carry 'a presupposition that the embedded question is resolved' (p. 65, fn. 10).

Given that characterization, we understand why (85a) fails. The embedded inversion means that this is, in our terms, a double CP-structure. It follows (on the assumptions that we are currently exploring) that the complement must denote a question act, understood

as a certain kind of context change potential. The question act is appropriate in this context only if the issue it raises is unresolved for the individual denoted by the experiencer argument of the embedding verb (in this case, as it happens, the speaker). But lexical properties of the predicate entail that this condition cannot be met. A way of understanding this would be to hold that the syntactic and semantic computation proceeds to an outcome in a case like (85a), but that that outcome incorporates a contradiction. It simultaneously entails or presupposes that the issue defined by the embedded question is resolved for the experiencer (the rememberer) and entails or presupposes that it is not.

But we also understand why (85b) becomes possible. The effect of negation here is exactly to entail/assert that the issue defined by the complement is not resolved (for the referent of the experiencer argument). As a consequence, the question act is felicitous in its context.

We can also understand why (85c) is possible. (85c) is a direct question, which in its turn brings with it a felicity-condition—namely, that the issue it raises is not resolved (for the participants in the conversation). Assume that the addressee in (85c) is Sandy Chung. (85c) is then appropriately used only if it is an open issue at that point in the conversational game whether or not Sandy Chung remembers whether or not Henry was a communist. But if it is an open issue for Sandy Chung whether or not she remembers if Henry was a communist, the issue of whether or not Henry was a communist cannot be resolved for Sandy Chung (the individual referred to by the experiencer argument of *remember*). It follows in turn that the felicity condition on the embedded question is met and that (85c) should be possible.

The fact that the matrix subject of (85c) is second person plays a crucial role in the chain of inference just laid out. That is the accident which ensures that issues unresolved for the participants in the conversation are also unresolved for the referent of the experiencer argument of the embedding verb. In this way we understand an observation that has been made to me many times in the course of the years during which I have been presenting this material to audiences in various parts of the English-speaking world—namely that the person of the matrix subject is crucial in licensing the embedded inversion. There is an enormous contrast between (90) and (91):

- (90) a Do you remember was he a communist?
 b Do you think will he be re-elected?
 c Do you know will he accept the offer?

- (91) a *Does Sally remember was he a communist?
 b *Does Sally think will he be re-elected?
 c *Does Sally know will he accept the offer?

The examples in (91) fail because the fact that it is an open issue for participants in the conversation what Sally remembers or thinks or knows implies nothing whatever about

what is an open issue for Sally. But it is this last circumstance which is crucial for licensing of the embedded inversion (via the mechanisms discussed earlier).²⁶

Negation and questioning are not the only devices which can expand the licensing capabilities of Resolutive Predicates. Any of a number of devices which determine non-veridical contexts (in the sense of Giannakidou (1997)) have the same effect.

Consider the examples in (92), one noted in conversation, one from a literary text.

- (92) a Everybody wants to know did I succeed in buying chocolate for Winifred.
 b Aunt Kate wants to know won't you carve the goose as usual.
 James Joyce: *Dubliners*, 223, The Lilliput Press, Dublin.
 c I was dying to find out was he circumcised
 James Joyce: *Ulysses*, 615, Penguin Books.

In (92a), licensing of the higher interrogative type in the complement of *know* depends on the epistemic state of the individuals denoted by the experiencer argument of *know*, that state in turn evaluated with respect to the parameters defined in the matrix clause (realis and finite, therefore at the present time in the actual world).²⁷ Evaluated in this way, the issue raised by the embedded question is unresolved for the wanters and the knowers (the same individuals in this case because of the Control configuration). For those individuals, at the present time in the actual world, the issue raised in the question is unresolved. As a matter of historical fact, in the conversation of which (92a) was a part, the issue raised in the embedded question was completely resolved for both participants; but that is not a relevant consideration for licensing of the embedded question. What matters for that is the commitment state for the individuals referred to by the experiencer argument of *know*.

Unsurprisingly, the same effect can be achieved by use of an imperative:

- (93) Find out does he take sugar in his tea.

²⁶ There is, in fact, a similar effect for the negation cases. That is, (i) is more natural than (ii):

- (i) I don't know will she get married again.
 (ii) Fred doesn't know will she get married again.

This contrast in naturalness is reflected, I believe, in the fact that the majority of attested examples of this type that I have seen have first person subjects. The contrast between (i) and (ii) seems to depend on the following difference: in (i) the issue defined in the embedded question is unresolved both for the referent of the experiencer argument of *know* and for at least one of the participants in the conversation (the speaker). In (ii), by contrast, the issue is unresolved only in the embedded context. I do not understand why this should make a difference, but the effect is probably related to that of (87).

²⁷ Presumably, evaluation takes place with respect to parameters defined in the matrix clause because this is a context of Control and/or because *want* is a restructuring predicate. The licensing effect in question is otherwise more local:

- (i) *Do you think that Freddy knows what will he do?

As Bill Ladusaw points out, the interpretation in terms of restructuring is close to the observation that *want-to-know* is a near-synonym for *wonder*.

For (93), what is relevant is whether or not the issue raised by the question is resolved or open for the addressee. Clearly it is open.²⁸

Why are rising declaratives impossible (see (13) of Section 2 above and its associated promissory note), despite their apparent similarity to polar interrogatives? This fact too is understandable given the present proposals and those of Gunlogson (2001, 2002), where it is demonstrated that in their syntax and in their semantics, rising declaratives simply are what they appear to be—declarative CP's which have propositions as their denotation type. Their particularity (what is signalled by their distinctive intonation) is that they withhold commitment to the truth of their propositional content on the part of the speaker, but attribute such commitment to the addressee. The proposition introduced is thus rendered controversial (in a sense formally defined in her system), and the overall effect of uttering such a sentence is as a consequence very close to (but not identical to) that of introducing a question. On this view (developed, of course, without reference to the present set of puzzles), the impossibility of rising declaratives in the complement of any question-embedding verb (see (13)) reflects an irreparable violation of selectional requirements.²⁹

This is amateur semantics, and the discussion skates blithely over some formidably difficult issues. Many questions remain open, and the proposals may or may not survive incorporation into a serious formal framework. Nevertheless, the general approach holds out enough preliminary promise, it seems to me, at the explanatory and descriptive levels, that it is worth asking where we will be, theoretically, if it turns out to be roughly on the right track.

Where we end up, it seems, is with a version of the Interrogative Uniformity Thesis. That is, there is no deep divide between the Question Predicates and the Resolutive Predicates with respect to their selectional properties. Rather, there are two related semantic types systematically associated with interrogative clauses—a lower type and a higher type. Whatever the correct understanding of these types turns out to be, all interrogative-selecting predicates may, in principle, combine with complements of either type. Some of the resultant meanings are filtered out by a clash between felicity conditions associated with the higher type (true questions) and entailments (or presuppositions) associated with one subclass of embedding predicates (the Resolutive Predicates).

This general conclusion is close in spirit to that of Ginzburg and Sag (2000) and also to that of Lahiri (2002), both of whom argue for a uniform type-assignment for interrogative complements but also propose that there exists a repair-mechanism for the type-clash which

²⁸ An intriguingly similar set of observations and proposals can be found in work by Paul Portner and Raffaella Zanuttini on exclamatives (Zanuttini and Portner (2003)). Portner and Zanuttini observe that the felicity of an exclamative complement under a predicate like *amazing* is sensitive to many of the same factors considered here—presence or absence of negation in the embedding context, presence or absence of interrogation in the embedding context. Their account is that the exclamative complement introduces an implicature that the semantic content they put forth is noteworthy in some way, an implicature which can be in harmony with, or at odds with, the effect of negating or questioning the matrix factive.

²⁹ Suggesting that Ginzburg and Sag (2000) are right in their claim that interrogative-embedding verbs never select propositions.

results when a Resolutive Predicate finds an object of inappropriate type (a question) in its complement-position. Lahiri's idea is that the complement of *know* differs from the complement of *wonder* neither in syntactic category nor in semantic type. Rather, the CP complement of *wonder* is interpreted *in situ* but the CP-complement of *know* undergoes obligatory QR forced by a type mis-match between the complement and the verb with which it must combine. For Ginzburg and Sag (2000), the repair-mechanism is a kind of coercion which is stated as a constraint on the lexical entries of Resolutive Predicates.

If the suggestions made here are on the right track, though, there is no deep incompatibility between question-meanings and Resolutive Predicates. For the effects discussed here, at least, the necessary discriminatory work is done by ultimately pragmatic conditions on the use of true questions, and we do not want to hardwire into the lexical entry of a Resolutive Predicate a constraint which forbids it to combine with a complement of the higher interrogative type.

8. DECLARATIVE COMPLEMENTS

There is no reason to believe that the effects just considered should be exclusive to interrogative complements and question speech acts. Indeed, Krifka's (1999) analysis is explicitly designed to be a general theory of embedded speech acts and their relation to the 'sentence radicals' (sets of propositions in the case of questions, propositions in the case of assertions and orders) upon which they are based. Given the ideas developed earlier, then, it is natural for us to expect 'double CP' structures in declarative contexts also, with the associated syntactic effects, conveying embedded assertions rather than embedded questions.

These expectations are entirely in harmony with the numerous studies of 'embedded Verb Second' phenomena in a range of Germanic languages and of 'embedded root phenomena' more generally. It was in this context, as noted earlier, that the 'recursive CP' hypothesis first emerged. Further, an intuition that runs through this line of work (see especially Hooper and Thompson (1973), Wechsler (1991), Reis (1997), Gärtner (2000), Gärtner (2001), among many others) is that embedded Verb Second structures have assertoric force.

However these important issues are ultimately resolved (and the corresponding issues for interrogative clauses and question speech acts), we can with reasonable confidence adopt the idea that double CP-structures are attested in declarative contexts as well as in interrogative contexts, that they have 'assertoric protoforce' as their semantic content, or else that (as in Krifka's (1999) system) they directly denote assertoric speech acts.³⁰

³⁰ It might be that the examples of (69) reflect this possibility directly—that is, that such structures are only possible as embedded assertions. If this is the correct interpretation, examples of the type in (69) should appear only in the restricted range of contexts allowed by (95) (see discussion below). Unfortunately, my investigation of this prediction yielded results which were too inconclusive to be worth presenting here.

The other view of these structures that one might take is that the higher layer of CP-structure exists only to facilitate the adjunction. By a requirement of 'economy

This much granted, it becomes possible to clear up some loose ends and to indulge in some larger speculations.

We can, in the first place, redeem a promissory note made earlier and better understand the intermediate status of (22) and (23), repeated here as (94):

- (94) a *It's probable in general (most of the time) that he understands what is going on.
 b *He thought when he got home that he would cook dinner for the children.
 c *She believed after she finished her thesis that she would move to Paris.
 d *It seems while washing the dishes that he cut his thumb.

It was pointed out when this phenomenon was introduced that such examples are not uncompromisingly ungrammatical for all speakers. Given the idea that a certain class of verbs (the 'weak assertives' of Hooper and Thompson (1973), the 'bridge verbs' of Erteschik-Shir (1973) and much of the literature on embedded Verb Second phenomena) take, as one option, double CP-complements with assertoric force, we now expect examples such as (94) to be grammatical or ungrammatical depending on whether or not they are construed as having single CP or double CP structures (with the associated semantics). The judgment task is thus a rather subtle one, and the variation attested is as a consequence expected.

Furthermore, the distribution of such double CP-structures is known to be limited in a very mysterious way (Vikner (1991), Vikner (1995), Iatridou and Kroch (1992)). Iatridou and Kroch (1992) is especially useful as a survey and an integration of much of the relevant observations and literature. Their statement of the restriction is as in (95):

- (95) *Embedded verb second ... is found only in clauses governed by
 an L-marking non-negative, non-irrealis bridge verb ...*
 Iatridou and Kroch (1992: 7)

It follows from (95) that the judgments about adverbial adjunction to CP should sharpen in contexts in which the double CP structure is ruled out by (95). This is clearly the case,

of representation', it is absent when there is no adjunction, because in this circumstance the higher layer would serve no grammatical function. (74a) is ungrammatical because it violates this economy requirement. Bury (2003) develops a set of proposals in which this intuition can be fleshed out in a particularly interesting way.

as is shown in (96):³¹

- (96) a That in the course of the day the weather would worsen was very clear.
 b *In the course of the day that the weather would worsen was very clear.
 c That after graduating she would move to Paris was widely predicted.
 d *After graduating that she would move to Paris was widely predicted.
 e They expressly denied that while coming home they had been delayed.
 f *They expressly denied while coming home that they had been delayed.

Analogous considerations apply in the case of interrogatives. It was noted earlier (see (65), Section 4 and (75), Section 6) that examples such as (97) are marginal:

- (97) ?Ask them when they were in Derry if they lived in Rosemount.

in a way that the corresponding examples in which inversion has applied in the complement clause are not (see (60)):

- (98) Ask them when they were in Derry did they live in Rosemount.

This subtle effect we can now understand in the same terms as (95) (earlier (22), (23)). In asking a consultant to provide a judgment on (97), the task we are asking them to perform is this: First decide if the complement is a true question. If it is, then a double CP structure must be postulated. Given that, there is a structural ambiguity to resolve—(97) could reflect either a structure in which the adverbial is adjoined to the higher CP-layer (in which case, *if* could appear either in the higher or the lower head position) or else a structure in which the adverbial is attached to the lower CP layer, in which case *if* must appear in the lower C position. The latter parse should yield a judgment of acceptability; the former should yield a judgment of unacceptability. No wonder judgments are tentative.

(98), by contrast, involves one less level of uncertainty. The appearance of the fronted modal identifies that position unambiguously as the lower C position (since raising to the higher C position is impossible by the KRR).

There are other phenomena for which these considerations are relevant. Alison Henry has documented a variety of English in which one finds T-to-C in the complement to a bridge verb, triggered by successive-cyclic movement of a WH-phrase (Henry (1995)):

- (99) a They wouldn't say which candidate they thought should we hire.
 b I'm not sure which one I think should we buy.

³¹ The distribution of interrogative double CP structures is also subject to this strange restriction, in that they may only appear in complement position:

(i) *What did he think was never asked.

Compare (2b) above.

If these structures also involve the licensing of ‘assertoric’ double CP-structures, and raising of T to the lower of the two C-positions, these observations also fall into line with theoretical expectation.³²

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³² More specifically, what would characterize these dialects is the existence in the lexicon of C bearing an Operator feature (facilitating successive-cyclic movement) as well as the uninterpretable T-feature which forces T-to-C. More familiar varieties restrict the appearance of this lexical item to the root C-position.

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