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## **The Adverb Effect: evidence against ECP accounts of the *that-t* effect\***

Peter W. Culicover

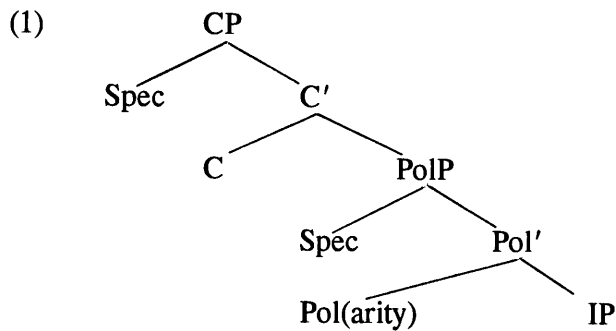
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### 1. THE ADVERB EFFECT

I have argued elsewhere (Culicover 1992a,b) that suspension of the *that-t* effect provides evidence for the existence of an empty category Pol(arity) that is distinct from C and external to IP, as in (1) on the next page. Subsequent investigation, reported on in this paper, suggests that this argument does not go through. In fact, the evidence calls into question the class of solutions to the *that-t* effect that crucially make use of ECP, particularly in regard to the role of the complementizer in permitting the trace of the subject to be properly governed.

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The familiar contrast that illustrates the *that-t* effect is given in (2)-(3).

- (2) a. I expected (that) you would win the race  
 b. which race did you expect (that) I would win
- (3) a.  $\text{who}_i$  did you expect  $t_i$  would win the race  
 b. \* $\text{who}_i$  did you expect that  $t_i$  would win the race

The examples in (4) show that the effect is suspended if there is a sentential adverbial between *that* and IP.<sup>1</sup>

- (4) a. Robin met the man { that  $\text{Op}_i$  /  $\text{who}_i$  } Leslie said that for all intents and purposes  $t_i$  was the mayor of the city.  
 b. This is the tree that  $\text{Op}_i$  I said that just yesterday  $t_i$  had resisted my shovel.  
 c. I asked what $_i$  Leslie said that in her opinion  $t_i$  had made Robin give a book to Lee.  
 d. Lee forgot which dishes $_i$  Leslie had said that under normal circumstances  $t_i$  should be put on the table.

Let's call this "the Adverb Effect."<sup>2</sup>

<sup>1</sup> The same effect occurs with PPs topicalized out of VP, but it is more difficult to control for the effects of crossing dependency and topic islands. The following examples appear to me to be fairly acceptable, with focal stress on the topic.

- (i) a. Robin met the man  $\text{who}_i$  Leslie said that [to KIM] $_j$   $t_i$  had given the money  $t_j$   
 b. I asked  $\text{who}_i$  you had claimed that [on this TABLE] $_j$   $t_i$  had put the books  $t_j$

<sup>2</sup> Note that the sentential adverbials in (4) in general do not give rise to topic islands (see (iii)-(iv)), which have been discussed by Lasnik and Saito (1992) and Rochemont (1989).

- (i) a. This is the tree {  $\text{Op}_i$  that /  $\text{which}_i$  } just yesterday I had tried to dig up  $t_i$  with my shovel.  
 b. I asked what $_i$  in your opinion Robin gave  $t_i$  to Lee.

## THE ADVERB EFFECT

First I will examine the Adverb Effect and consider what it suggests about ECP accounts of the *that-t* effect. Then I will explore extensions of the Adverb Effect and show that it has some interesting implications for the analysis of parasitic gaps.

The (questionable) argument for the empty functional category Pol(arity) that I alluded to above goes as follows. Suppose we assume that a subject trace is licensed by an empty complementizer, but not by an overt lexical complementizer. There have been a number of proposals in the literature for deriving this result. Let us assume for concreteness the proposal of Rizzi (1990), in which one possible instantiation of the empty complementizer is Agr, which agrees with the trace in [Spec,CP] by general Spec-head agreement and, by transitivity, with the subject trace as well, as shown in (5).<sup>3</sup>

(5) [CP t<sub>i</sub>' Agr<sub>i</sub> [IP t<sub>i</sub> ...]]

Rizzi stipulates that C, which is normally "inert for government", becomes a head governor for the subject trace by virtue of this coindexing. Hence the subject trace does not violate the ECP.

The suspension of the *that-t* effect in (4) may be taken to be evidence that between the sentential adverbial and the subject trace there is an empty category "Pol(arity)" that is distinct from the complementizer that functions as the head governor of the subject trace. This is what I argued in Culicover (1992a,b). However, such an analysis turns out to be not entirely unproblematic in terms of its theoretical consequences. There are unresolved questions about the status of the adverbial and the status of intermediate traces, which I will summarize. First, the adverbial is either the specifier of this empty Pol, or it is adjoined above PolP. The

- 
- c. Lee forgot which dishes<sub>i</sub> under normal circumstances you would put t<sub>i</sub> on the table.
  - (ii) a. I think that<sub>i</sub>, to Lee, Robin gave a book.
  - b. Lee said that<sub>i</sub>, on the table, she is going to put the yellow dishes.
  - c. Robin says that<sub>i</sub>, the birdseed, he is going to put in the shed.
  - (iii) a. \*What<sub>i</sub> did<sub>k</sub>, [to Lee]<sub>j</sub>, Robin t<sub>k</sub> give t<sub>i</sub> t<sub>j</sub>?
  - b. \*[Which dishes]<sub>i</sub> are<sub>k</sub>, [on the table]<sub>j</sub>, you t<sub>k</sub> going to put t<sub>i</sub> t<sub>j</sub>?
  - c. \*Where<sub>i</sub> are<sub>k</sub>, [the birdseed]<sub>j</sub>, you t<sub>k</sub> going to put t<sub>i</sub> t<sub>j</sub>?
  - (iv) a. \*I asked what<sub>i</sub>, [to Lee]<sub>j</sub>, Robin gave t<sub>i</sub> t<sub>j</sub>.
  - b. \*Lee forgot [which dishes]<sub>i</sub>, [on the table]<sub>j</sub>, you are going to put t<sub>i</sub> t<sub>j</sub>.
  - c. \*Robin knows where<sub>i</sub>, [the birdseed]<sub>j</sub>, you are going to put t<sub>i</sub> t<sub>j</sub>.

It is not clear whether this is related to the Adverb Effect.

<sup>3</sup> See Rochemont and Culicover (1990) for a similar account.

two options are schematized in (6).

- (6) a. ...<sub>[CP [Spec NP<sub>i</sub>]]</sub> that <sub>[PolP SAdv [[Pol e] [IP t<sub>i</sub> ... ]]]]</sub>  
 b. ...<sub>[CP [Spec NP<sub>i</sub>]]</sub> that <sub>[PolP SAdv [PolP [Spec t<sub>i</sub>'] [[Pol e<sub>i</sub>] [IP t<sub>i</sub> ... ]]]]</sub>

The first option is unsatisfactory since there is no apparent agreement relationship between SAdv and [Pol e]. If (6a) is the structure, it would follow that if any phrase whatsoever or if no phrase at all appeared in this position, empty Pol would license the empty subject. We would thus falsely predict that there are no *that-t* violations. We would in fact have to require that empty Pol can appear only if there is an overt Spec, which is an ad hoc stipulation. Furthermore, the licensing of the subject trace by the empty Pol would have to depend strictly on the fact that Pol is empty, since there is no way to derive the agreement between Pol and the subject trace on this account, by using Spec-head agreement. In this structure there is nothing in the specifier of Pol that agrees both with Pol and the subject trace.

The second option maintains agreement between the empty head and the subject trace. But it suffers from the problem that now the trace  $t_i'$  in [Spec,PolP] is not properly governed. If we accept the view of Lasnik and Saito (1984; 1992) that intermediate traces may delete in LF and that ECP applies at LF, this offending trace does not yield an ECP violation. But then neither does the offending trace  $t_i'$  in (7), which lacks an adjoined adverbial.

- (7) ...<sub>[CP [Spec NP<sub>i</sub>]]</sub> that <sub>[PolP [Spec t<sub>i</sub>'] [[Pol e<sub>i</sub>] [IP t<sub>i</sub> ... ]]]]</sub>

Again, we would falsely predict that there is never a *that-t* violation.

While technical solutions to these problems may well exist, there is an additional problem that suggests that the general approach is on the wrong track, regardless of its technical feasibility. Consider the following sentence.

- (8) Leslie is the person who I said that only then would run for President

This example appears to be comparable in grammaticality to one that contains a non-negative adverbial.

- (9) Leslie is the person who I said that at that time would run for President

Fronted *only then* typically causes Negative Inversion. Suppose therefore that the structure of (8) is as in (10).

- (10) ...who<sub>i</sub> [I said [<sub>CP</sub> that [<sub>PolP</sub> [only then] [<sub>Pol</sub> would<sub>j</sub>]]<sub>[IP t<sub>i</sub> t<sub>j</sub> run for President]]]]]</sub>

The main problem is that it is not clear how it is that  $t_i$  is properly governed. *Would<sub>j</sub>*

cannot head govern  $t_i$ , since the two are not coindexed. Similar configurations involving interrogatives are ill-formed, as Rizzi (1990) notes.

- (11) a. \* $\text{who}_i$  did $_j$  [ $_{IP}$   $t_i$   $t_j$  sleep] (from Koopman 1983)  
 b. \* $[\text{is}_j$  [ $_{IP}$   $t_i$   $t_j$  intelligent]] [every man in the room] $_i$

So we don't really want to reindex *would<sub>j</sub>* and  $t_j$  with  $i$  in (10).

It might be thought that perhaps the negative adverbial in this case does not actually trigger Negative Inversion. Note, however, that the negative adverbial takes sentential scope, since it licenses polarity items.

- (12) a. Leslie is the person who I said that at no time would run for any public office  
 b. Robin met the man who Leslie said that only then had seen anything moving  
 c. It is Leslie who I believe that only for one moment had given a damn about the budget

Topicalized negative phrases, i.e., those that don't trigger Negative Inversion, cannot license polarity items.

- (13) a. At no time would Leslie run for any public office  
 b. \*At no time(,) Leslie would run for any public office  
 (14) a. Only then did Leslie see anything moving  
 b. \*Only then(,) Leslie saw anything moving  
 (15) a. Not once had Leslie given a damn about the budget  
 b. \*Not once(,) Leslie had given a damn about the budget

So it appears that there really is inversion in (8).<sup>4</sup>

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<sup>4</sup> If there is inversion in (8), we might expect that in the absence of a modal, the sequence *Tense-<sub>NP</sub> t<sub>j</sub>-V...* would trigger *do*-support. Then (ia) should be grammatical and (ib) should be ungrammatical.

- (i) a. ??Leslie is the person who I said that only in that election did run for any public office  
 b. Leslie is the person who I said that only in that election ran for any public office

I speculate that the oddness of the first example is due to the fact that the sequence *did V* with unstressed *did* is marginal in PF, regardless of the presence of the empty category. The second example, while grammatical, has an analysis in which the adverb *only in that election* appears between Infl and VP, as in *Several people only in THAT election would run for public office*.

The grammaticality of (8) thus suggests that the suspension of the *that-t* effect when there is a sentential adverbial between *that* and the subject trace is not attributable to the presence of an empty functional category adjacent to the subject.<sup>5</sup> This in turn suggests that the *that-t* effect has nothing to do with whether or not a subject trace is licensed by an empty complementizer. In general, ECP approaches to the *that-t* effect depend on *that* somehow not allowing proper government of the subject trace. For example, on Rizzi's (1990) account, as we have seen, *that* does not agree with Spec and hence the subject trace is not properly head governed. The presence of SAdv would appear to be irrelevant. In Lasnik and Saito (1984), the presence of both *that* and a trace in COMP prevents the trace from c-commanding and thereby antecedent governing the subject trace.<sup>6</sup> Again, an intervening SAdv appears to be irrelevant to the relationship between the supposed proper governor and the empty subject.

Sentences of the sort that we have seen, that allow a subject trace to coexist with *that*, cast doubt on the correctness of all such accounts. If *that* blocks proper government of an empty category in the cases without a SAdv, then it should do so when there is an SAdv.<sup>7</sup> More precisely, regardless of whether the presence of *that* blocks antecedent government or head government, it is not clear how the intervening SAdv could prevent *that* from blocking antecedent government or head government.

Thus, the data show that the original Chomsky and Lasnik (1977) proposal for a *that-t* filter is empirically more adequate than standard ECP accounts. The filter does rule out *\*that-t* but not *that-SAdv-t*. If a filter, or some mechanism that makes it appear that there is a filter, is responsible for the ungrammaticality of *\*that-t*, then a subject trace can nevertheless always satisfy ECP. If the ECP must hold for the subject trace, either the ECP doesn't involve head government, or the subject trace is head governed.

What are the potential consequences? If head government is not part of ECP, then we have to worry anew about argument/adjunct differences in extraction, no small task. If head government is a part of ECP, and if the subject is head governed (e.g. by Infl or by C), there are then questions of what the head governor is and how to account for the Negative Inversion cases discussed above (see (8)). With each alternative, we are faced with a different set of complicated consequences that are

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<sup>5</sup> This negative conclusion is not an argument against the existence of Pol. I am suggesting that the Adverb Effect simply does not constitute evidence for the existence of Pol.

<sup>6</sup> A similar account is proposed by Kayne (1981).

<sup>7</sup> There is no question here of some dialect variation involving the status of the complementizer *that*, as suggested by Sobin (1987), since speakers such as myself who have the *that-t* effect also accept sentences in which it is suspended.

worth pursuing, but lack of space prevents me from pursuing them here.

Whether the Chomsky/Lasnik type of filter is the correct account awaits additional research, as does the question of how an empty subject is licensed.<sup>8</sup> In the space remaining, I want to consider a broader range of cases in which the *that-t* effect appears, showing that the Adverb Effect applies to complementizers other than *that* and to certain parasitic gaps as well as true gaps.

## 2. OTHER COMPLEMENTIZERS

There are other elements besides *that* which introduce a sentential complement, including *for*, *whether*, *if*, *like* and *as if*. It is well-known that the *that-t* effect holds for complementizers in general (Bresnan 1977). Let us consider whether all of the complementizers show the Adverb Effect, as well.

*For* does not show the Adverb Effect, presumably because it must be adjacent to the NP in order to assign Case, as shown by the ungrammaticality of *\*we were hoping for under all circumstances you to stay*. Hence we get:

- (16) a. we were hoping for you to stay  
 b. \*who<sub>i</sub> were you hoping for t<sub>i</sub> to stay  
 c. \*who<sub>i</sub> were you hoping for under any circumstances t<sub>i</sub> to stay

An empty subject produced by extraction cannot be adjacent to *whether* or *if*.

- (17) \*this is a person who<sub>i</sub> you might well wonder { whether | if } t<sub>i</sub> would dislike you

But a sentential adverbial improves acceptability.

- (18) this is a person who<sub>i</sub> you might well wonder { whether | if } under some circumstances t<sub>i</sub> would dislike you

At worst there is still a weak *wh*-island violation, due to the extraction over *whether/if*, but it is no worse than extraction from object position over *whether/if*.

- (19) this is a person who<sub>i</sub> you might well wonder { whether | if } under some circumstances you would dislike t<sub>i</sub>

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<sup>8</sup> See Pesetsky (1982) for arguments against the filter analysis of the *that-t* effect. In Culicover (1992c) I explore the hypothesis that the filter is actually due to a prosodic constraint on the distribution of stress peaks in the neighborhood of *wh*-trace.



Very much the same judgments hold for the movement of an empty operator, which we see in the cleft construction.

- (20) a. \*it is this person  $OP_i$  that you might well wonder { whether | if }  $t_i$  dislikes you  
 b. it is this person  $OP_i$  that you might well wonder { whether | if } for all intents and purposes  $t_i$  dislikes you  
 c. it is this person  $OP_i$  that you might well wonder { whether | if } you should pay attention to  $t_i$

Consider next the Stylistic inversion construction, illustrated in (21).

- (21) On the table was put the book with the answers

If the "subject" gap (that is, the gap to the left of the verb) results from the movement of the PP we get the same pattern as we get with the movement of a subject NP.

- (22) a. \*[on which table]<sub>i</sub> were you wondering { whether | if }  $t_i$  had been put the books that you had bought  
 b. [on which table]<sub>i</sub> were you wondering { whether | if } under certain circumstances  $t_i$  might have been put the books that you had bought

And similarly for the cleft construction, where the empty operator is linked to the PP in focus position.

- (23) a. \*it was on this table  $OP_i$  that I was wondering { whether | if }  $t_i$  had been sitting [the book with the answers]  
 b. it was on this table that I was wondering  $OP_i$  { whether | if } at some time or another  $t_i$  had been sitting [the book with the answers]

*Like* and *as if* occur in more restricted contexts, but display the same behavior. Extraction of a non-subject is possible, extraction of a subject is ungrammatical, and the Adverb Effect applies. Note the contrast between c and d in the following examples.

- (24) a. it seems like you lost your notebook  
 b. this is the notebook<sub>i</sub>  $OP_i$  that it seems like you lost  $t_i$   
 c. \*this is the person  $OP_i$  that it seems like  $t_i$  lost the notebook  
 d. this is the person  $OP_i$  that it seems like just a few minutes ago  $t_i$  lost the notebook
- (25) a. it seems as if you lost your notebook  
 b. this is the notebook<sub>i</sub>  $OP_i$  that it seems as if you lost  $t_i$   
 c. \*this is the person  $OP_i$  that it seems as if  $t_i$  lost the notebook

- d. this is the person  $OP_i$  that it seems as if just a few minutes ago  $t_i$  lost the notebook

The data thus confirm that not only the *that-t* effect generalizes to the full set of complementizers (whatever its ultimate source), but the Adverb Effect should as well.

### 3. PARASITIC GAPS

Another kind of gap occurs in the parasitic gap construction, illustrated in (26) and (27).

- (26) what<sub>i</sub> did you buy  $t_i$  after stating clearly that you would make  $pg_i$  yourself  
 (27) this is the very person who<sub>i</sub> you should tell  $t_i$  whether you might consult  $pg_i$  in the future

Because there is no extraction from the constituent that contains the parasitic gap, there is no CED violation in (26) and no *wh*-island violation in (27). The pattern is well known. In the recent GB literature, the parasitic gap in general is licensed by an empty operator in the clause (Chomsky 1986) or by direct linking to the external operator (Frampton 1990).<sup>9</sup> It turns out that some subject parasitic gaps show the Adverb Effect, while others do not. Those that do are not immediately dominated by an extraction barrier, while those that do not are, as we will see.

Note first that the parasitic gap is normally ungrammatical in subject position.

- (28) \*what<sub>i</sub> did you buy  $t_i$  after stating clearly that  $pg_i$  could easily be made at home  
 (29) \*this is the very person who<sub>i</sub> you should ask  $t_i$  whether  $pg_i$  might be consulting you in the future

And, as in the extraction cases, a sentential adverb seems to improve matters.

- (30) ?what<sub>i</sub> did you buy  $t_i$  after stating clearly that with very little difficulty  $pg_i$  could be made at home  
 (31) ?this is the very person who<sub>i</sub> you should ask  $t_i$  whether under some circumstances  $pg_i$  might be consulting you in the future

A more deeply embedded parasitic gap behaves in the same way.

- (32) a. what<sub>i</sub> did you buy  $t_i$  after stating clearly that it was obvious that you

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<sup>9</sup> In GPSG and related approaches parasitic gaps are treated as similar to across-the-board extraction from a coordinate structure. See Gazdar et al. (1985).

- could make  $pg_i$  yourself at home
- b. \* $what_i$  did you buy  $t_i$  after stating clearly that it was obvious that  $pg_i$  could easily be made at home
- c. ? $what_i$  did you buy  $t_i$  after stating clearly that it was obvious that with very little difficulty  $pg_i$  could be made at home
- (33) a. this is the very person  $who_i$  you should tell  $t_i$  whether you think that you will consult  $pg_i$  in the future
- b. \*this is the very person  $who_i$  you should tell  $t_i$  whether you think that  $pg_i$  should consult you in the future
- c. ?this is the very person  $who_i$  you should tell  $t_i$  whether you think that under some circumstances  $pg_i$  should consult you in the future

We may take these examples as showing that these parasitic gaps, like some true gaps, are generated by "movement" of a null empty operator (Chomsky 1986).<sup>10</sup>

Now let us turn to some cases where the Adverb Effect does not occur. An empty subject that results from extraction cannot be adjacent to a subordinating conjunction.

- (34) \*I met a person  $who_i$  I went and bought some jewelry just before  $t_i$  disappeared without a trace

There is both a CED violation and a classical ECP violation here, because of the extraction of a subject. The presence of an adverb does not appear to reduce the ungrammaticality of the subject extraction case even slightly.

- (35) \*I met a person  $who_i$  I went and bought some jewelry just before for all intents and purposes  $t_i$  disappeared without a trace

When there is no extraction site in the adjunct, but a parasitic gap, there is presumably no CED violation. But a subject gap is worse than a nonsubject gap, and as before a sentential adverb does not significantly improve grammaticality.

- (36) a.  $what_i$  did you pay for  $t_i$  just before the store tried to repossess  $pg_i$
- b. \* $what_i$  did you pay for  $t_i$  just before  $pg_i$  was repossessed by the store
- c. \* $what_i$  did you pay for  $t_i$  just before for all intents and purposes  $pg_i$  was repossessed by the store

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<sup>10</sup> Notice that the possibility of nominative parasitic gaps calls into question the view that there is a 'case compatibility' condition on the complex chain containing a parasitic gap and its antecedent. It also undermines the account of Frampton (1990), in which the parasitic gap must be "lexically identified". Subjects, on Frampton's analysis, are not lexically identified.

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These violations in CED configurations fall together with other Subjacency-type violations in their resistance to the Adverb Effect. In (37) we see that extraction from subject position of a relative clause is not improved by the presence of the adverb.

- (37) a. \*this is the man<sub>i</sub> that the theorem<sub>j</sub> that t<sub>i</sub> proved t<sub>j</sub> contains a serious error  
 b. \*this is the man<sub>i</sub> that the theorem<sub>j</sub> that for all intents and purposes t<sub>i</sub> proved t<sub>j</sub> contains a serious error

A similar result holds when the gap in the relative clause is a parasitic gap. (38) shows the grammaticality of parasitic gaps in this construction, while (39) shows the ungrammaticality of subject parasitic gaps in relative clauses.

- (38) beer is the only beverage which<sub>i</sub> everyone<sub>j</sub> that t<sub>j</sub> likes pg<sub>i</sub> praises t<sub>i</sub>  
 (39) \*beer is the only beverage which<sub>i</sub> everyone<sub>j</sub> that pg<sub>i</sub> makes t<sub>j</sub> drunk praises t<sub>i</sub>

And (40) shows that a sentential adverb does not improve grammaticality.

- (40) \*beer is the only beverage which<sub>i</sub> everyone<sub>j</sub> that under any circumstances pg<sub>i</sub> makes t<sub>j</sub> drunk praises t<sub>i</sub>

R. Levine (p.c.) has pointed out that in these relative clauses there is crossing dependency regardless of whether there is an adverb. This is definitely a factor. I noted above that the Adverb Effect holds in an embedded *wh*-question headed by *whether*, regardless of whether there is extraction (cf. (18)) or a parasitic gap (cf. (33)). But in *wh*-islands in which something has been fronted, the crossing dependency has a clear effect, which appears to overwhelm the Adverb Effect (as shown in the c examples).

- (41) a. ??who<sub>i</sub> did you ask t<sub>i</sub> [who<sub>j</sub> t<sub>j</sub> likes pg<sub>i</sub>]  
 b. \*who<sub>i</sub> did you ask t<sub>i</sub> [who<sub>j</sub> pg<sub>i</sub> likes t<sub>j</sub>]  
 c. \*who<sub>i</sub> did you ask t<sub>i</sub> [who<sub>j</sub> for a very good reason pg<sub>i</sub> likes t<sub>j</sub>]  
 (42) a. ??what<sub>i</sub> did you find out [what<sub>j</sub> t<sub>j</sub> said t<sub>i</sub>]  
 b. \*who<sub>i</sub> did you find out [what<sub>j</sub> t<sub>i</sub> said t<sub>j</sub>]  
 c. \*who<sub>i</sub> did you find out [what<sub>j</sub> for a very good reason t<sub>i</sub> said t<sub>j</sub>]

Because the complementizer position that contains *wh* or a null operator in the embedded S is adjacent to the subject position, there is no way to dissociate the effect of crossing dependency from the effect of simply having a subject trace adjacent to an overt complementizer.

Similar results hold for complex NPs (appositives) --

- (43) a. beer is the only beverage which<sub>i</sub> the fact that everyone likes pg<sub>i</sub> fails to make t<sub>i</sub> more expensive  
 b. \*beer is the only beverage which<sub>i</sub> the fact that pg<sub>i</sub> makes people sick fails to make t<sub>i</sub> less expensive  
 c. \*beer is the only beverage which<sub>i</sub> the fact that for all intents and purposes pg<sub>i</sub> makes people sick fails to make t<sub>i</sub> less expensive

-- and for sentential subjects.

- (44) a. Ed is the only politician who<sub>i</sub> that everyone dislikes pg<sub>i</sub> appears to bother t<sub>i</sub><sup>11</sup>  
 b. \*Ed is the only politician who<sub>i</sub> that pg<sub>i</sub> really dislikes people appears to bother t<sub>i</sub>  
 c. \*Ed is the only politician who<sub>i</sub> that for all intents and purposes pg<sub>i</sub> really dislikes people appears to bother t<sub>i</sub>

That is, a subject parasitic gap that is maximal in a Subjacency island is as ungrammatical as a trace in the same position.

#### 4. SUMMARY

In summary, there is a general constraint against the sequence C-t, where C is an overt complementizer or subordinating conjunction and not a relative/comparative marker. The Adverb Effect somehow improves the grammaticality of an empty subject by interposing material between the complementizer and the subject. There are two types of responses to the Adverb Effect. First, the Adverb Effect applies to empty subjects (true gaps or parasitic gaps) in domains from which extraction is in principle possible. These are the subjects of *that*-complements and the subjects of *whether*-complements. Second, the Adverb Effect is neutralized when the empty subject is maximal in a domain from which extraction is in principle impossible, such as CED configurations, relative clauses, appositive clauses, and sentential subjects.

The paradox implicit in these observations is the following. On the one hand it appears that extraction of subjects and parasitic gap licensing of subjects are subject to the same barriers, even if only the former involves movement across the extraction barrier. On the other hand, nonsubject parasitic gaps, and parasitic gap subjects of

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<sup>11</sup> The acceptability of this sentence is enhanced by putting a brief pause after *who* and heavy stress on *dislikes* and *bother*.

sentential complements, are licensed in configurations where extraction is impossible.<sup>12</sup> So, it appears that what blocks extraction of subjects blocks parasitic gap subjects, but what blocks extraction of nonsubjects and subjects of sentential complements does not block comparable parasitic gaps. The paradox lies in the fact that we are presumably dealing with the same mechanisms of extraction in all cases, the same mechanism for licensing parasitic gaps in all cases, and the same characterization of barriers in all cases. Something has to give here. I leave the problem for future investigation.

In conclusion, returning to the observations that launched this paper, I have shown that the presence of sentential adverbs suspends the *that-t* Effect, and more generally, the C-t Effect. This result calls into question classical ECP accounts of this effect, in which the complementizer more or less directly blocks proper government of the empty subject. The evidence suggests that the C-t effect should be thoroughly reconsidered and the data reevaluated, and with it the portion of the theory that incorporates the ECP. The interaction between the Adverb Effect and parasitic gaps suggests that the Adverb Effect may have some additional diagnostic properties that will be useful in understanding the nature of parasitic gaps, extraction, and barriers.

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<sup>12</sup>These generalizations hold particularly sharply if we exclude *wh*-islands from consideration because of the crossing dependency effect noted earlier, and assume that extraction from a *wh*-island is in principle possible (and ruled out for other reasons, e.g. Minimality).

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