

Skeptical Linguistic Essays

Chapter 1 A Paradox in English Syntax

Section 1 Introduction

1.1 Paradoxes

The notion of ‘paradox’ relevant to this essay is nicely defined in (1):

(1) Sainsbury (1988: 1)

“This is what I understand by a paradox: an apparently unacceptable conclusion derived by apparently acceptable reasoning from apparently acceptable premises. Appearances have to deceive, since the acceptable cannot lead by acceptable steps to the unacceptable. So, generally, we have a choice: Either the conclusion is not really unacceptable, or else the starting point, or the reasoning, has some nonobvious flaw.”

Early sections of the present study argue that common, perhaps even standard assumptions about English grammar yield a paradox in this sense when combined with certain observations about a puzzling class of sentences. It is ultimately claimed that one can resolve the paradox by adopting a particular set of grammatical assumptions; a partial development of these makes up Section 9.

1.2 Factual Background

A characteristic feature of one rather formal style of English is the existence of structures I refer to with considerable theoretical prejudice as *null expletive subject* (NEX) clauses. They are illustrated by the sentences in (2):

(2)a. Under the table was lying an elderly crocodile.

b. Toward the island advanced the huge enemy armada.

c. Aissen and Hankamer (1972: 502)

Under this verb is embedded the S containing the cyclic subject.

d. Aissen and Hankamer (1972: 502)

To these causes are attributed most of the financial catastrophes of the decade.

e. Aissen and Hankamer (1972: 502)

To the social director fell the task of finding accommodations for all the visiting ichthyologists.

f. Green (1985: 117)

To every VP with certain properties corresponds an S rule with related properties.

A rough atheoretical characterization of NEX clauses is as follows. They consist of a preverbal PP, henceforth, the *X-PP*, a verbal expression, possibly other elements and a postverbal DP expression which determines the finite verb agreement. Hereafter, I refer to this DP as the *P(otential)-subject*, since, in general, each NEX clause corresponds to a non-NEX clause where the P-subject is in standard subject position (and the X-PP possibly postverbal). NEX clauses were probably first analyzed in modern terms in Emonds (1970, 1976).

NEX clauses have rather curious properties linked to the notion subject just mentioned as follows. Most English (finite) clauses have an unambiguously identifiable element one can refer to as a *standard superficial subject* (hereafter S3). The S3, typically a DP, ¹ precedes the finite verb in non-subject/auxiliary inversion clauses, determines verb agreement, concords with a tag if one is present, corresponds to the raised element in a raising construction with verbs like seem, occurs postposed to the first auxiliary in subject/auxiliary inversion clauses, etc. It is plausible to suggest at least for English, that principle (3) holds:

(3) Every finite clause has one and only one S3. ²

NEX main clauses challenge (3) in that there is no clear candidate for S3 status. To this challenge, there are in effect several logical responses and various proposals actually found in the literature. One response would simply reject (3) and take NEXs to have no S3s. If though (3) is maintained, there are at least three subpositions with respect to NEXs, represented in (4):

(4)a. The S3 is an invisible expletive; Postal (1977); Lawler (1977), Coopmans (1989).

b. The S3 is the post-verbal DP which determines verb agreement, that is, the P-subject (e.g. the huge enemy armada in (2); see Bresnan (1976, 1977), Levine (1989), Kathol and Levine (1993).

c. The S3 is the X- PP

Although (4c) might, given widely accepted assumptions about the nature of S3s, a priori seem far-fetched, such a position was proposed in Stowell (1981: 269-276) and accepted in Pesetsky (1981/1982: 330). Moreover, in a number of works, Bresnan (1989, 1991, 1994, 1995) and Bresnan and Kanerva (1989, 1992) consider all of (4), present arguments against (4a) and conclude that (4c) is the correct analysis of NEX clauses. More precisely, this is concluded about the restricted subclass of NEX clauses dealt with, those where the fronted phrase is a locative or directional PP, which Bresnan references under the rubric *locative inversion*. As mentioned below, this terminology is hardly ideal as there is a wide range of otherwise structurally similar NEX clauses whose elements are not subsumed by even the broadest interpretation of 'locative'. Bresnan's conclusions were based inter alia on two important observations she has made about the interactions of NEXs with extraction constraints. These appear to show that the X-PPs in NEXs obey constraints on extracted subjects, that is, on extracted S3s. This evidence is strengthened below.

But the burden of the present essay is to argue that rather than justifying conclusion (4c), Bresnan's work in effect reveals a paradox in English syntax. This arises when one considers (i) certain common assumptions about English grammar; (ii) the strengthened evidence from extraction facts seemingly indicating that the X-PPs in NEX clauses are subjects and (iii) a variety of evidence, which Bresnan did *not* consider, that X-PPs are *not* subjects. As with other intellectual paradoxes, the recognition of this one is ultimately not a negative result but rather a genuine opportunity to understand something deeper about the subject matter. For if, as it turns out, given a background set of assumptions A, different factual assumptions suggest both that certain phrases in certain sentences have and do not have certain properties P (here, those defining subjecthood in a specific sense), at least one of A must be false. So I agree with Bresnan (1994) that NEX clauses tell us something important about the 'architecture of universal grammar', as well as about English grammar in particular, but for very different reasons. There is little overlap between the conclusions I draw and those induced in Bresnan's recent work. Where the latter concludes that NEX cases support the version of the Lexical-Functional Grammar (LFG) framework she advocates, I will appeal to a quite different set of assumptions.

As already mentioned, the class of NEX clauses on which Bresnan focuses are those commonly and not unnaturally called locative inversion cases. 'Locative' in this sense is characterized by Bresnan (1994: 75) as subsuming "a broad range of spatial locations, paths, or directions, and their extensions to some temporal and abstract locative domains." This seems to me an inadequate and rather arbitrary way to slice up the class of NEX clauses. Even taking into account the vague and unclarified 'extensions' and 'abstract' locative domains, this kind of description does not give a real sense of the richness of the class of PPs which define NEX structures.³ That characterization seems, for instance, to have no obvious application to many relatively banal NEX examples:

(5)a. Lawler (1977: 502)

To the states is entrusted the power to regulate education (by the Constitution).

b. For that perverted cause were slaughtered thousands of innocents.

c. From condition (i) can be deduced the fact that every verb contains two vowels.

d. During the reign of Queen Lulu II were built many fabulous monuments.

e. With this pen seems to have been written the first verse of that famous sonnet.

f. Against that proposal can be objected the fact that no one is entirely logical.

g. Throughout that period were undertaken some impressive feats of irrigation.

h. To those questions correspond the following answers.

i. On this election may well depend the future of our entire planet.

Here, at least examples (5a, b, c, e, f, h,) do not seem to be subsumed by Bresnan's characterization. Nonetheless, the basic properties defining what appears to me to just be the locative inversion subpart of the NEX construction are equally found in structures not involving locatives, like those of (5); these properties include, as will be shown, the extraction facts which loom so large in Bresnan's conclusion that the X-PPs of NEX clauses are (functional) subjects. It is not clear that there is any English-internal justification for picking out locative inversion cases as a separate construction; in any event, I do not do so here.

Section 2 Subject Properties of X-PPs

2.1 Remarks

Although Bresnan (1976, 1977) assumed (4b),⁴ her recent works adopt assumption (4c), as specifically interpreted internal to the LFG framework.

Under this interpretation, the X-PPs in NEX clauses are subjects at the (grammatical) function level (functional structure) but not phrase structure subjects at the surface level, since in effect they have been extracted. I certainly agree with Bresnan as well as other work that the X-PPs are extracted. In cases like (2), the extraction can presumably be identified with PP topicalization. But, although the bulk of work on NEX clauses seems limited to PP topicalization cases, there are otherwise parallel clauses manifesting other types of extraction, highlighted in (6): ⁵

(6)a. Aissen and Hankamer (1972: 502)

They are planning to destroy the old church, *under which* are buried six martyrs.

b. Aissen and Hankamer (1972: 503)

These are the causes *to which* are attributed most of the financial catastrophes of the decade.

c. *On what wall* should be hung the portrait of Generalissimo Francisco Franco?

d. *During what period* were first developed effective pork-preservation methods?

e. It was *there* that were first developed effective pork-preservation methods.

f. *No matter where* he thinks were first developed pork-preservation methods, ...

That X-PPs are extracted, a point on which Bresnan and I are in total agreement, thoroughly undermines any argument for the subjecthood of X-PPs based on subject raising, that is, based on facts like (7):

(7)a. On the wall were standing two large blackbirds.

b. On the wall seemed to be standing two large blackbirds.

c. On the wall I believe to have been standing two large blackbirds.

d. On the wall are believed to have been standing two large blackbirds.

e. *I believed on the wall to have been standing two large blackbirds.

f. *It is impossible for on the wall to have been standing two large blackbirds.

For, as partially noted in Lawler (1977: 234-235), this array of facts is what would be expected under view (4); in particular, in each grammatical case, the X-PP can be analyzed as being in an ordinary extraction position. Notably, (6e, f), where this is not the case, are ungrammatical, which can be attributed to the well-known incompatibility of infinitival clauses with domain internal extraction. Given these long known facts, the claim of Bresnan (1994: 96) that

“inverted locative phrases undergo subject raising (Postal 1977)” is unfounded since such an assertion cannot be supported merely on the basis of data like that in (6) and Bresnan provides no other grounds. While the facts in (6) are *consistent* with the view that their X-PPs are subjects, they are no less consistent with the view that an invisible expletive is the raised subject. Hence such facts play no known role in differentiating the viability of views (4a) and (4c). Arguments like that of Pesetsky (1981/1982: 330) simply do not go through: “As Joan Bresnan and Donca Steriade have pointed out to me, the idea that these PP’s and adverbials move to subject position is supported by the fact, noted by Postal (1977) that these elements can undergo Subject-to-Subject raising.”⁶

If, however, raising facts like (6) contribute nothing to arguing for the subjecthood of X-PPs in NEX cases, Bresnan has developed two rather striking and unexpected types of argument which seemingly do.

2.2 The Anticomplementizer Effect Argument

One goes back to the observation in Bresnan (1977: 186) that, as Bresnan (1994: 97) states it: “the preposed locatives in locative inversions show the constraints on subject extraction adjacent to complementizers”:

- (8)a. It is in these villages that we all believe ___ can be found the best examples of this cuisine.
- b. *It is in these villages that we all believe that ___ can be found the best examples of this cuisine.

Thus, the X-PPs in NEX structures seem to manifest the so-called that-trace effect, otherwise linked only to subject extraction. So *(8b) behaves like the regular subject extraction case *(9a) and not like the regular adjunct extraction case (9b):

- (9)a. *It is these villages that we all believe that ___ contain the best examples of this cuisine.
- b. It is in these villages that we all believe (that) the best examples of this cuisine can be found.

I refer to facts like those in (9a) as the *Anticomplementizer Effect*. Bresnan's widely neglected discovery that the X-PPs in locative inversion NEX clauses manifest the Anticomplementizer effect is a striking argument for the subjecthood of those PP's, given the not heretofore seriously challenged (but see below) assumption that in all other English cases the extracted elements manifesting the Anticomplementizer effect are S3s. Before continuing, it is worth observing that the Anticomplementizer Effect holds as well for NEX clauses which do not fall under the locative inversion rubric:

- (10)a. To these causes I believe (*that) are attributed most of the financial catastrophes of the decade.
- b. To the social director I believe (*that) fell the task of finding accommodations for all the visiting ichthyologists.
- c. During the reign of Queen Lulu II I believe (*that) were built many fabulous monuments.
- d. On this election I believe (*that) may well depend the future of our entire planet.

2.3 The Parallelism Constraint Argument

The Anticomplementizer Effect argument alone is a serious basis for Bresnan's adoption of conclusion (4)c). And it takes on greater force in combination with another rather parallel argument she has developed. This involves what she calls the *Parallelism Constraint* on across-the-board (ATB) extraction from coordinate constituents. This constraint (see Gazdar, 1981; Falk, 1983; Woolford, 1987) is illustrated by Bresnan (1994: 98) with data like:

- (11)a. She's someone that ___ loves cooking and ___ hates jogging.
- b. She's someone that cooking amuses ___ and jogging bores ___.
- c. *She's someone that cooking amuses ___ and ___ hates jogging.
- d. She's someone that cooking amuses ___ and I expect ___ will hate jogging.

According to Bresnan, the generalization is that “subject gaps at the top level of one coordinate constituent cannot occur with any other kind of gap in the other coordinate constituent”. This generalization distinguishes (11a), in which both the gaps correspond to subjects, and (11b), in which they both correspond to

objects, from the bad (11c), in which a subject gap is mixed with a non-subject gap. (11d) is then nonetheless well-formed, because the subject gap is not at the highest level of the conjunct containing it. ⁷

Bresnan then goes on to note insightfully that the X-PPs in locative inversion cases obey the Parallelism Constraint, citing such data as (12); Bresnan (1994: 100):

(12)a. That's the old graveyard, in which ___ is buried a pirate and ___ is likely to be buried a treasure.

b. That's the old graveyard in which workers are digging ___ and a treasure is likely to be buried ___.

c. *That's the old graveyard, in which workers are digging ___ and ___ is likely to be buried a treasure.

d. That's the old graveyard, in which workers are digging ___ and they say ___ is buried a treasure.

As Bresnan observes, the pattern in (12) matches that in (10), which would follow from the Parallelism Constraint if the X-PPs are subjects, as (4c) claims. ⁸

As with the Anticomplementizer Effect argument, the properties Bresnan has documented are not limited to the locative inversion subset of NEX clauses:

(13)a. That is the period during which were built many large monuments ___ and were proved to have been fought several fierce battles.

b. That is the period during which many large monuments were built and several fierce battles were proved to have been fought.

c. *That is the period during which many large monuments were built and were proved to have been fought several fierce battles.

d. That is the period during which many large monuments were built and they say were proved to have been fought several fierce battles.

One might accept, though with great reluctance, that either the Anticomplementizer Effect argument facts or the Parallelism Constraint facts for NEX cases are some kind of fortuitous accident. But that both constraints hold for

NEX cases as well as standard subject cases renders recourse to such a position at the least highly implausible.

2.4 The Complementizer Effect Argument

Moreover, there is in effect a third argument from extraction facts parallel to Bresnan's which also seems to support the claim that X-PPs are subjects. This is based on complementizer facts found *inter alia* in relative clauses, including those occurring in cleft structures. The generalization is that when a subject is extracted *in the absence of a relative pronoun*, the complementizer that is obligatory, but not so when non-subjects are extracted. Since this is something of the opposite of the situation described by the Anticomplementizer Effect, call it the *Complementizer Effect*.

(14)a. They were discussing the spaceship that/☞ the scientists built.

b. They were discussing the spaceship that/*☞ attacked the town.

Clefts are then crucial because they permit the extraction of PPs. Notably then, the Complementizer Effect is found when the a clefted constituent is the X-PP of a NEX structure, although not when it is an arbitrary PP:

(15)a. It was those towns that/☞ he studied.

b. It was those towns that/*☞ were studied.

c. It was those towns that/☞ she talked about.

d. It was in those towns that/☞ she learned the best techniques for drying fruit.

e. It was in those towns that/*☞ were learned the best techniques for drying fruit.

2.5 The Adverb Effect

The correctness of Bresnan's insight that the extracted PPs of NEX clauses obey the Anticomplementizer Effect is corroborated by what work of Culicover (1991, 1993a, 1993b), refers to as the *Adverb Effect*. Roughly, Culicover notes that in the presence of certain fronted adverbials, the Anticomplementizer Effect is not found. Significantly for present purposes, Culicover (1993: 104) notes that the same nullification of the Anticomplementizer Effect by a fronted adverbial occurs in NEX cases: ⁹

(16)a. Standard Anticomplementizer Effect

*Robin met the man who₁ Leslie said that t₁ was the mayor of the city.

b. Adverb Effect (Culicover, 1993b: 98)

Robin met the man who₁ Leslie said that for all intents and purposes t₁ was the mayor of the city.

c. Standard Anticomplementizer Effect in NEX Case (Culicover, 1993b: 104)

*[On which table]₁ were you wondering whether t₁ had been put the books that you had bought

d. Adverb Effect in NEX Case (Culicover, 1993b: 104)

[On which table]₁ were you wondering whether under certain circumstances t₁ might have been put the books that you had bought

These parallelisms further strengthen Bresnan's original observation and indicate beyond much doubt that X-PP extraction in NEX cases is governed by the Anticomplementizer Effect.

2.6 Summary

It appears then that the X-PPs of NEX clauses obey the three extraction constraints, the Anticomplementizer Effect, the Parallelism Constraint and the Complementizer Effect. This is a substantial basis for concluding that (4c) is correct and provides serious motivation for Bresnan's recent adoption of that position.

Section 3 Non-Subject Properties of X-PPs

3.0 Remarks

However, while a body of real evidence arguing for the subject status of the X-PPs of NEX clauses has been assembled, this is by no means the end of the matter. For except for consideration of the presence of a P and the failure to determine finite verb agreement, two very *non-subject-like* properties of these putative PP subjects, Bresnan's work attempting to justify (4c) has been largely inattentive to a number of other discernable ways in which the putative PP subjects *fail* to behave like subjects (S3s). This is true, I believe, despite her remark (1994: 97, n16) indicating the change of position represented by Bresnan (1994): "Since

inverted locatives show the same effect as subjects, but differ in some other respects from subjects, Bresnan 1977 concludes that the extraction constraint cannot reflect syntactic subject status.” When, however, a collection of such properties is attested, it becomes apparent that an immediate conclusion from the materials of Section 2 that X-PPs are subjects in the same sense as standard S3s is premature at best. Let us then consider non-subject features of the putative subjects.

3.1 Failure to Determine Finite Verb Agreement.

Failure to determine finite verb agreement renders the forms anomalous under a subject analysis, since there seem to be no other attested S3s with this property.

3.2 PP Subjects

The presence of a P, or equivalently, the fact that the putative subjects are PPs is also an anomaly, since again no other attested S3s seem to have this property either. I agree with Bresnan (1994: 110-111) that examples like (17) involving initial PPs and predicate nominals are consistent with this claim:

- (17)a. Under the table is a good place to put the box.
- b. Under the table seems to be a good place to put the box.
- c. He believes under the table to be a good place to put the box.
- d. Is under the table a good place to put the box?

For, as (17d) shows, these apparent PP subjects, unlike the X-PPs of NEX cases, can appear in post-auxiliary position and also in clear nonextracted positions like that of (17c). I agree with Bresnan's suggestion that cases like (17) most likely involve some form of invisible DP head and noun, so that (17a) would have a subject DP of schematically the form [a place under the table].¹⁰

Beyond the support for this view given in Bresnan (1994: 110-111], consider:

- (18)a. [Under the table]₁ looks/seems like it₁ is a good place to put the box.
- b. *[Under the table]₁ looks/seems like it₁/there₁/∅₁ was placed the missing box.

That is, the phrase in the construction of (17) can, like an uncontroversial S3, antecede a resumptive pronoun in the look/seem + like construction, returned to briefly in Chapter 3, but the X-PP of a NEX case cannot.

3.3 Standard Floating Quantifiers

The proper type of S3 can, of course, link to standard floating quantifiers (SFQs), all, both, each, found in VP-internal positions, an ability which is unaffected when the subject is extracted. But X-PPs can never link to SFQs: ¹¹

- (19)a. Those women have all/both/each filed a complaint.
b. Those women, I am sure ___ have all/both/each filed a complaint.
c. To those women were (*all/*both/*each) proposed a distinct alternative.
d. Under those chairs I believe have (*both) been found that kind of dust.
e. During their reigns were (*each) annexed a wealth-producing adjacent territory.

In further support of the contrast between X-PPs and PP subjects like those in (17), the latter can link to SFQs:

- (20)a. Under the table and under the bed would both be good places to store our ski equipment.
b. Under the table and under the bed were (*both) stored our ski equipment.

This further attacks the subjecthood of X-PPs.

3.4 Non-standard Floating Quantifiers

By non-standard floating quantifiers (NFQs) I refer to those instances of each which are semantically linked to one NP but which occur postposed (possibly cliticized) to another, as in:

- (21) He sent those girls 3 photos each.

NFQs can, of course, link to S3s, even when these are extracted:

- (22)a. Those girls, I am sure ___ sent him 3 photos each.
 b. It was those girls who I am sure ___ sent him 3 photos each.
 c. It was those girls who I am sure ___ were sent 3 photos each.

As (22c) indicates), S3s which would be regarded as 'derived' in transformational terms can also link to NFQs.

Notably though, NFQs never link to X-PPs: ¹²

- (23)a. Under those tables were sitting two frogs (*each).
 b. To the two officers fell 3 complicated tasks (*each).
 c. At those tanks were fired three rockets (*each).

Compare the following contrast between an uncontroversial S3 and an X-PP based on lexically and semantically identical DPs with the same verb:

- (24)a. Those candidates (he learned) had been sent three questionnaires (each).
 b. To those candidates (he learned) had been sent three questionnaires (*each).

3.5 Floating Emphatic Reflexives

Standard S3s can link to floating emphatic reflexives (FERs), a possibility which is also unaffected when the subject is extracted:

- (25)a. Those women have themselves filed complaints.
 b. Those women, he believes ___ will soon themselves file complaints.

But X-PPs never link to FERs, contrasting again with the cases of (17):

- (26)a. To those women were (*themselves) given the opportunity to resign.
 b. Under that sofa may (*itself) have been lying two snakes.
 c. Under the table may (itself) have been a good place to hide a snake.

3.6 Controllers

S3s can, of course, function as the antecedents for control, that is, can be par excellence controllers for e.g. subjects of nonfinite adjuncts:

(27)a. [Those women]₁ were given the opportunity to file complaints without Ø₁ having to reveal their identities.

b. [The two men]₁ stood near Jane and Clarissa after ∅₁ entering the room.

But this is in general not possible for X-PPs:

(28)a. *To [those women]₁ was given the opportunity to file complaints without Ø₁ having to reveal their identities.

b. *Near [Jane and Clarissa]₁ stood the two men after ∅₁ entering the room.

c. *At the fortress₁ were fired seven rockets while Ø₁ being attacked by tanks.

d. [The chimp]₁ was handed a banana without Ø₁ being handed a peach.

e. *[To the chimp]₁ was handed a banana without Ø₁ being handed a peach.

In this respect, X-PPs again contrast with the sort of true PP S3s of cases like (17), since, as noted in Hornstein (2001: 78), the latter can be controllers:

(29) [In the bathroom]₁ is a great place to hide without Ø₁ really being a good place to live.

3.7 Reflexive/Reciprocal X-PPs

English S3s cannot be reflexives or reciprocals bound by other elements of their clause. Most theories of reflexives are designed to yield this as a consequence; see e.g. Chomsky (1981), Pollard and Sag (1992, 1994). Call this the Reflexive/Reciprocal S3 Constraint. This constraint is unaffected by extraction of the offending form: ¹³

(30)a. *Himself₁ discussed Mike₁ with the other students.

b. *It was himself₁ that ___ discussed Mike₁ with the other students.

c. *Himself₁, they said ___ discussed Mike₁ with the other students.

Consider then:

- (31)a. *To Mike_i, himself_i should never be described.
- b. ?To himself_i, Mike_i should never be described.
- c. ??To himself_i is said to have been unexpectedly described the only guy_i who thought he was handsome.

The point here is no doubt subtle. While (31c) is hardly acceptable, its quality seems much closer to the less than perfect non-S3 case (31b) than to the totally impossible Reflexive/Reciprocal S3 Constraint violation (31a).

A less fuzzy paradigm is seen in:

- (32)a. Those tapes seem to have been bought by Ed_i for himself_i.
- b. ?For himself_i three of the tapes in question seem to have been bought by Ed_i.
- c. For himself_i seem to have been bought by Ed_i three of the tapes in question.

For me, notably, (32c), which would be a Reflexive/Reciprocal S3 Constraint violation under the proposal that X-PPs are subjects, is, if anything, *better* than (32b).

The reciprocal facts are also relatively clear:

- (33)a. Those guys_i bought such things for each other_i.
- b. For each other_i, those guys_i would never buy such things.
- c. ?For each other_i, such things would never be bought by those guys_i.
- d. ?For each other_i, would never have been bought by those guys_i the things in question.
- e. *Each other_i would never buy such things for those guys_i.

Here (33d) does not seem appreciably worse than (33c) and so it lacks the utter impossibility of a Reflexive/Reciprocal S3 Constraint violation such as *(30a) or *(31a) or *(33e). See also:

- (34)a. Those girls_i would never show such things to each other_i.
- b. *Each other_i would never show such things to those girls_i.
- c. *Each other_i would never be shown such things by those girls_i.
- d. ?Those girls_i would never be shown such things by each other_i.

e. ?To each other₁ such things would never be shown by those girls₁.

f. ?To each other₁ would never be shown by those girls₁ the sort of things in question.

The bottom line is that none of (31c), (33c), (33d) or (34f) is anything like as bad as a standard Reflexive/Reciprocal S3 Constraint violation.

3.8 Reflexives/Reciprocals Anteceded by X-PPs

Consider now something of the reverse of the situation in Section 3.7, namely, where reflexives or reciprocals are anteceded by X-PPs of NEX clauses. Since hypothesis (4c) claims X-PPs are S3s and S3s are the best possible reflexive or reciprocal antecedents, at first glance, the ungrammaticalities in (35) seem to count against the position:

(35)a. Sally and Louise were described to themselves/each other.

b. To Sally and Louise were described the two doctors/*themselves/*each other.

However, this is not obvious since a defender of (4c) might attribute these to the independent fact that P-subjects in NEX clauses cannot be definite pronouns. So the bad cases of (35b) would be so for e.g. the same reasons as:

(36) *To Sally and Louise were described you/them/us.

However, even if this move successfully defends (4c) against cases like (35b), it does not work in general. For parallel reflexive/reciprocal facts involve conjoined DPs and there exists no ban on a P-subject as a conjoined DP one of whose conjuncts is a pronoun. Thus facts like (37) really do argue against the S3-hood of X-PPs:

(37)a. Sally and Louise were described to Mike and themselves/each other.

b. Sally and Louise were described to themselves/each other and Mike.

c. To Sally and Louise were described Mike and us/you/them.

d. *To Sally and Louise were described Mike and themselves/each other.

e. *To Sally and Louise were described themselves/each other and Mike.

Observe that the ill-formed (37e) is parallel to (38c):

- (38)a. Mary talked about Sally/*himself to Fred.
- b. *Mary talked about Sally and himself to Fred.
- c. *To Fred, Mary talked about (Sally and) himself.

3.9 Unembedded Subject Topicalization

Under position (4c) advocated in Bresnan (1994), an example like (39) involves a topicalized PP subject:

- (39) Above the ranch was hovering a standard type of flying saucer.

However, while standard S3s are capable of topicalization, as in (40b), there is no reason to believe that in (40a) the first NP can, still less must, be analyzed as topicalized:

- (40)a. A standard type of flying saucer was hovering above the ranch.
- b. That type of flying saucer, they learned was hovering above the ranch.

That is, there seems to be a gap in topicalization paradigms corresponding to an S3 of a main clause. Moreover, the intuitive view that cases like (40a) do not involve any kind of extraction is supported by a telling argument developed in Lasnik and Saito (1992: 110-111) on the basis of certain reflexivization facts. These authors argue specifically that while 'long' topicalization of a subject is possible, e.g. as in (40b), 'short' topicalization of a subject is impossible. Their strongest argument for this conclusion depends on paradigms like (41).

- (41)a. *John₁ thinks that Mary likes himself₁.
- b. John₁ thinks that himself₁, Mary likes.
- c. *John₁ thinks that himself₁ likes Mary.
- d. *John₁ thinks that himself₁, likes Mary.

The argument runs as follows. Topicalization 'rescues' certain otherwise impossible reflexives, as in (41b). But such examples involve *object* topicalization. The parallel subject cases are illustrated by (41c, d).

As Lasnik and Saito observe, if 'short' topicalization of subjects were possible (necessary), then the principles which allow (41b) should also allow (41d). Since the latter are barred, the hypothesis that 'short' subject topicalization exists should be rejected. Given that, the fact that (4c) requires obligatory topicalization of its putative subject PPs shows that in still another respect the putative subjects of that analysis are anomalous.

3.10 'Extrapolated' Phrases

3.10.1 'Extrapolated' Relative Clauses

A property of uncontroversial English S3s is that they permit 'extraposition' of relative clauses, however one analyzes that theoretically. This phenomenon is entirely compatible with extraction of the relevant S3. But the X-PPs of NEX clauses, putative S3s under hypothesis (4c), never permit this:

(42)a. [What woman]₁ did they claim was t₁ served beer (who₁ had ordered wine)?

b. [To what woman]₁ did they think t₁ was served beer (*who₁ had ordered wine)?

c. [What bridge]₁ t₁ collapsed (which had cost over a billion dollars to build)?

d. [Under what bridge]₁ did they think t₁ lived a troll (quite happily) (*which had cost over a billion dollars to build)?

This also counts against the view that X-PPs are subjects in the sense of S3s.

3.10.2 'Extrapolated' Exceptive Phrases

Parallel to relative clause 'extraposition', uncontroversial English S3s permit 'extraposition' of 'exceptive' phrases, regardless of whether the S3 is extracted. But again, this is impossible with the X-PPs of NEX clauses:

(43)a. [Who else except me]₁ are you sure t₁ was sent candy?

b. [Who else]₁ are you sure t₁ was sent candy (except me)?

c. [To who(m) else]₁ are you sure t₁ was sent candy (*except me)?

3.10.3 Summary

I hope to have shown then that there is a range of evidence which clearly counts against the view that X-PPs are S3s.

Section 4 The Paradox: X-PPs As Both Subjects and Non-Subjects

Within the perspective developed by Bresnan (1989, 1991, 1994, 1995), the extraction arguments of Section 2 show that the X-PPs of NEX cases are subjects. The limited non-subject behavior of X-PPs which she deals with can then be treated as minor or peripheral features to be explained in various ways. Thus Bresnan (1994: 117-118) attributes the failure of X-PPs to manifest the normal S3 determination of finite verbal agreement to the absence of certain syntactic features on PP.

Whatever plausibility that general strategy had given the limited range of non-subject properties of X-PPs mentioned by Bresnan, it has essentially none given the systematic failure of X-PPs to manifest the numerous subject (S3) properties catalogued in the previous section. It is not just a question of finding some alternative accounts for the lack of these S3 properties. Even (highly implausible) success in that venture would not obscure the fact that the supposed X-PP subjects of analysis (4c) simply do not behave like uncontroversial S3s in many clear ways. This collection of facts forms a paradox when combined with the extraction evidence assembled by Bresnan and strengthened in the previous section to the effect that X-PPs are subjects.

Reversing Bresnan's logic also leads to paradox. For assuming that the evidence of Section 3 indicates that X-PPs are not subjects clashes with the extraction evidence, which then seemingly becomes a web of unexplained anomalous correlations.

The paradox then is that there appears to be no acceptable conclusion as to the subject status of the X-PPs of NEX clauses. Since, as indicated in (1), this is a theoretically intolerable situation, it must be due not merely to the sort of

factual observations underlying Sections 2 and 3 but to some false assumption(s) which have colored their interpretation. It must be assumed that if one can find and reject these incorrect premises, a consistent treatment of all the facts will emerge. Before focussing directly on that step, I consider further data which greatly strengthens the view that X-PPs are *not* S3s, and thus suggests that the proper area to search for the false and paradox-inducing assumptions lies in the previously assumed interpretation of the extraction patterns of Section 2.

Section 5 Null Expletive Analyses of NEX Clauses

5.1 Criticisms of Null Expletive Analyses

Postal (1977) proposed that the S3 of NEX clauses was an invisible expletive NP, specifically, an invisible variant of presentational there; that is, a version of (4a) was advocated. Although Bresnan herself notes (1994: 99) that an expletive subject analysis explains various facts that are problematic for her own X-PP as subject treatment, facts including agreement determination, she (1994: 98-103) criticizes expletive analyses and ultimately concludes that they are inferior to her alternative. One can divide her criticisms into two categories. The first simply stresses that (previous) expletive subject analyses offer no basis for the facts of Section 2, that is, in general, for the fact that extracted X-PPs obey extraction constraints otherwise apparently exclusively linked to subjects. This category of criticism is surely sound as far as it goes; no extant *expletive* analysis has offered any basis for the fact that X-PPs obey the extraction constraints otherwise linked to subject extraction.

The second category consists of all Bresnan's other criticisms and these are, I will argue, largely without force. Consideration of them ultimately strengthens the case made in Section 3 that X-PPs are not subjects.

5.2 Lack of Expletive 'Sources'

Bresnan (1994: 99) claims that an obvious problem for the expletive subject view is that certain types of locative inversion NEX cases, particularly those involving directionals, cannot occur with overt expletive subjects. At issue are contrasts like:

(44) Bresnan (1994: 99; (76))

- a. Into the room (*there) ran Mother.
- b. Out of it (*there) steps Archie Campbell.
- c. About a half an hour later in (*there) walk these two guys.
- d. Home (*there) came John.

Similar data were noted earlier by Green (1985: 125-126). ¹⁴

Bresnan (1994: 100) concludes from these data that many NEX clauses “lack a plausible source”. However, the term 'source' here is neither defined nor explicated. This term has (or had) a standard usage in transformational work. But Bresnan herself has long since abandoned such frameworks. Moreover, even internal to those ideas, at least as widely interpreted, contrasts like those in (44) would hardly impose the view that the shorter versions could not be related to structures containing invisible variants of the parenthesized elements. For instance, while it may be false that (45a) has a 'source' in which the fronted phrase is in postverbal position, surely (45b) does not suffice to show that:

- (45)a. No matter what Ed does turns out badly.
- b. *Ed does < (no matter) what > turns out badly.

In short, Bresnan has failed to spell out the logic of the supposed criticism of the expletive analysis from facts like (44) and her appeal to a vague term like 'source' makes it seem like there is some straightforward basis for the conclusion, when there is not.

An advocate of the expletive analysis is free to say about (44) that nothing more is at issue than the conditions under which the expletive must (as opposed to can) be invisible. Bresnan herself (1994: 99) notes that many locative inversion cases have alternates containing a visible there. An even stronger connection was noted much earlier:

(46) Green (1985: 121-122)

“For the most part, V-inversions correspond to there-constructions with or without an initial non-subject phrase. That is, for almost every inversion sentence of the form of (16a), there is a there-sentence of the form (16b) or (16c), or both, where C is in (A, P, V):

16a. CP ... V NP W

16b. CP there ... V NP W

16c. There ... V NP CP W”

I return to such correlations below. Thus an overall grammar of English must specify the conditions of alternation in some way. Unless Bresnan can argue that the expletive hypothesis about NEX clauses complicates this task or renders it impossible, which she has not attempted, the conclusion that (44) infirms a null expletive analysis borders on the non-sequitur.

A similar remark holds for the point which Bresnan recalls from Aissen (1975) to the effect that the definiteness constraint on the P-subject occurring with expletive there is not really found in NEX cases:

(47)a. *In the closet there still sat Fido.

b. In the closet still sat Fido.

c. *Suddenly there ran out of the woods Bob and Louise.

d. Out of the woods suddenly ran Bob and Louise.

But again there is no argument for the conclusion that contrasts like (47) are problematic for the null expletive view of NEX clauses (‘show that (47b, d) lack sources’ in Bresnan's terms). For the advocate of such an analysis can say that the definiteness constraint, highly mysterious and poorly understood despite a great deal of work (see e.g. Safir, 1985); Reuland and ter Meulen, 1987), is stated in such a way as to be sensitive in part to the difference between visible and invisible expletives, more plausibly perhaps, to other structural factors which determine that. Note too that the sensitivity is partial, in that there are many fine there cases with definite DPs; see e.g. Rando and Napoli (1978) and examples like:

(48)a. Into that cave (there) just crawled the largest snake I have ever seen.

b. At that time (there) were said to have been rounded up the entire membership of the communist party.

c. Under those conditions (there) will certainly still remain the problem of repatriating the refugees.

5.3 Typological Implausibility

5.3.1 The Logic of the Case

Another in principle very weak sort of objection to the null expletive hypothesis which Bresnan makes is to claim that such an analysis is *typologically implausible*. This is based on facts about other languages which allow null subjects in a range of positions where English does not. The point involves the claim that “No other properties of English point to the presence of such null 'pro' subjects.” (1994: 102) Even if this assertion were true, the argument against a null expletive analysis would be weak. An advocate of such could simply claim that not enough is known about NL grammar to ground any principle which would exclude an NL with the following two properties: (i) it has no finite clauses with null subjects which are not parallel to NEX clauses. (ii) it has clauses parallel to NEX clauses which have null expletive subjects. In the absence of such principles, Bresnan's rejection of the null expletive analysis on typological grounds has little weight.

5.3.2 The Facts of the Case

Moreover, a much stronger defense against the typological criticism is available since the assumption that English has no null subject finite clauses outside the realm of NEX clauses, though no doubt accepted by others besides Bresnan, is arguably false. I suggest that there are several types of such clauses and, ironically, Bresnan's thesis (1972: 136) already discussed one of them.

Let us examine first what are called *as-Parentheticals* (A-Parentheticals) in Postal (1994a). These are illustrated in (49):

- (49)a. Lasers can, as he has long felt, cut through stone walls.
b. Lasers can, as he feared, cut through animate tissue.
c. Lasers can not, as it first appeared, cut through stone walls.

The instances of as in these forms roughly correspond to the that clauses of independent clauses. Note, for instance, that as in (49c), A-Parentheticals are formed from expressions which occur essentially only with that clauses.

- (50)a. It appeared that lasers could cut through that wall.

- b. *It appeared a vision/something/many colors/those possibilities.

Consider then cases like:

- (51)a. Lasers can, as is obvious, cut through stone walls.
b. Lasers can, as was proved by Mike, cut through stone walls.

With adjectival and passive predicates, A-Parentheticals occur without an obvious candidate for S₃ status. Let us for convenience refer to these cases as *M(ysterious)-A-Parentheticals*. There are at least three reasonably straightforward proposals about their structures:

- (52)a. The as in M-A-Parentheticals is an extracted S₃.
b. The as in M-A-Parentheticals is an extracted non-S₃ and there is a null (expletive) S₃.
c. The as in M-A-Parentheticals is indifferently an extracted S₃ or non-S₃.

Incidentally, nothing relevant here is changed if (as in Potts, 2002), instead of regarding as an extractee, it is taken to be some grammatical element, e.g. a P, cooccurring with an invisible extracted phrase. I suspect that the common view would be (52a); see Kayne (1984: 67), Tellier (1988: 134-5). This is pretty much the obligatory choice for anyone adopting Bresnan's (1994) position, since either (52b, c) recognizes that English has at least some null subject finite clauses. But there is evidence that (52b) is correct and that cases like (51a, b) involve *invisible extraposition expletives* of the type which otherwise show up as it, as in (49c) and (53b):

- (53)a. It seemed to everyone that lasers could cut through stone walls.
b. Lasers can not, as it had previously seemed to everyone, cut through stone walls.

In (53b), the as clearly corresponds to a non-subject, given that the that clause complement of a verb like seem can never appear as its subject:

- (54) *That lasers can cut through stone walls had seemed to everyone.

Thus a manifest property of English syntax is:

- (55) A-Parentheticals *can* be formed from non-subjects.

Important evidence bearing on the status of (55) derives from a class of complement-taking verbs discussed in Chomsky (1981: 122), Williams (1981), Marantz (1984: 133) and

Postal (1986: 96-99; 1998: Chapter 4, n12); see Chapter 8, Section 8. These verbs do not permit their complements to appear as their subjects (in passives). Members of this class include feel, hold, say, suppose and think:

- (56)a. Everyone intelligent feels/holds/says/supposes/thinks that gold is rare.
- b. *That gold is rare is felt/held/said/supposed/thought by everyone intelligent.
- c. It is felt/held/said/supposed/thought by everyone intelligent that gold is rare.

Nonetheless, these verbs permit passive M-A-Parentheticals just like complement-taking verbs such as believe, which are not subject to the constraint blocking (56b):

- (57) Gold is not, as is deeply felt/widely held/sometimes said/usually supposed/generally thought, extremely rare.

The existence of M-A-Parentheticals like (57) combines with the facts in (56) to support much more than (55). Such cases argue that the as in passive M-A-parentheticals does *not* correspond to structures like (56b), that is, those with passive that clause subjects, but rather to those like (56c), that is, those with (extraposition) expletive subjects (S3s). If so, (52a) is wrong and (52b) arguably the correct position.

The point is strengthened because the verbs in (56) also do not permit object raising versions of transitive clauses with complement objects. Nonetheless, M-A-parentheticals corresponding to those are possible:

- (58)a. That Herb is a complete hypocrite is easy to believe/*feel/*hold/*say/*suppose/*think.
- b. Herb was not, as was (nonetheless) easy to believe/?feel/hold/say/suppose/think, a complete hypocrite.
- c. It is easy to believe/feel/hold/say/suppose/think that Herb is a complete hypocrite.

These data also argue that gaps in M-A-parentheticals like those of (58b) correspond to non-subjects, here to structures like those of (58c).

Further support for this view emerges as follows. The facts of (56)-(58) are consistent with a much stronger position than (55), namely:

- (59) A-Parentheticals can *only* be formed from non-subjects.

I suggest that (59) is true, which excludes analysis (52a) independently of facts like (56)-(58). One sort of evidence for (59) could take the form of complement-taking verbs which do not, in

simple clauses, permit their complements to be non-subjects but do permit them as subjects. According to (59), such verbs could not permit (any) A-Parentheticals, in particular, no passive M-A-Parentheticals. As observed in Grimshaw (1982) and discussed in Dowty and Jacobson (1988: 103), Hukari and Levine (1991: 116-117), Jacobson (1992) and Postal (1998: 108-114), such a class of verbs (see Chapter 8, Section 8) is represented by capture, express and reflect:

(60)a. *This theory captures/expresses/reflects that languages have verbs.

b. *It is captured/expressed/reflected by this theory that languages have verbs.

c. That languages have verbs is captured/expressed/reflected by this theory.

Given these facts, (59) predicts, correctly, that these verbs preclude A-Parentheticals: ¹⁵

(61)a. *Languages do (not) have, as this theory captures/expresses/reflects, the sort of verb in question.

b. *Languages do (not) have, as is captured/expressed/reflected by this theory, the sort of verb in question.¹⁶

Further evidence with the same essential logic derives from data like (62):

(62)a. That she is greedy strikes me as the problem.

b. *It strikes me as the problem that she is greedy.

c. *She is greedy, as strikes me as the problem.

That is, (62a) indicates that a subject that clause is possible, while (62b) shows that extraposition of the subject is not. Hence the complement can only appear as subject. And (62c) documents that a corresponding M-A-Parenthetical is impossible, as (59) determines.

Principle (59) receives independent support from the fact that it can be taken as a special case of a more general principle covering not only A-Parentheticals but also those called *N(ull)-Parentheticals* in Postal (1994a). These are illustrated in (63):

(63)a. Jerome is, I believe, quite intelligent.

b. Jerome is, it is believed, quite intelligent.

c. Jerome is, it is obvious, quite intelligent.

The relevant point is that the gap in an N-Parenthetical can never correspond to a subject:

(64)a. *Jerome is, is believed, quite intelligent.

b. *Jerome is, is obvious, quite intelligent.

c. *Jerome is, appears to me, quite intelligent.

Some principle must thus guarantee this characteristic, and a priori (65a) is preferable to the less general (65b):

(65)a. English parentheticals can only be formed from non-subjects.

b. English N-Parentheticals can only be formed from non-subjects.

But (65a) trivially entails (59), which is then arguably just a special case of a broad generalization about English parenthetical formation.

So far then, triple evidence has been amassed for the view that passive M-A-Parentheticals involve an invisible subject which corresponds to the extraposition expletive and not to the that clause or as, in other words, that in these cases, as does not represent an extracted subject. First, in (57) and (58), M-A-Parentheticals are good, although the verbs in question bar subject that clauses, while allowing extraposed ones. Second, in (61) and (62), M-A-Parentheticals are bad, although the verbs in question allow subject that clauses, while banning non-subject ones, including extraposed ones. Thus the formation of A-Parentheticals patterns with extraposed that clauses, not with subject that clauses. Third, it is independently supported by the facts of N-Parentheticals that English parentheticals cannot involve subject extraction. The view consistent with this evidence is (52b), while (52a) is inconsistent with it.

Despite the evidence just referred to, a defender of Bresnan's position that there are no null (expletive) subject clauses in English might still try to maintain (52a) in some way. However, beyond what has been argued so far, this is in effect *impossible* internal to Bresnan's overall set of assumptions about NEX clauses, given the facts illustrated in (66):

(66)a. Such pistols are, as was obvious and Frank just demonstrated, quite deadly.

b. Such pistols are, as Frank just demonstrated and was obvious anyway, quite deadly

c. Such pistols are, as has long been suspected and Frank just demonstrated, quite deadly.

I find all of these perfect. But, according to (52a), the first conjuncts of (66a, c) each involve an extracted subject while the second involves an extracted non-subject, both at the highest level of coordination. That analysis *violates* the Parallelism Constraint, one of Bresnan's basic arguments for the X-PP as subject view of NEX structures, discussed in Section 2.3. Example (66c) shows that the order of conjuncts is irrelevant. On the contrary, under the null (extraposition) expletive analysis of (66) advocated here, consistency with the Parallelism Constraint is *maintained*, as extraction from both conjuncts involves non-subjects in all cases.

The evidence in (66) is strengthened by a contrast between these as facts and partly parallel facts involving sentential which, often contrasted with as in other ways; see Ross (1984), Rizzi (1990: 15), Postal (1994a) and Potts (2002):

(67)a. *He said cyanide pistols are quite deadly, which is obvious and I have always believed.

b. *He said cyanide pistols are quite deadly, which I have always believed and is obvious.

c. *He said cyanide pistols are quite deadly, which was long suspected and Frank just proved.

d. *He said cyanide pistols are quite deadly, which Frank just proved and was long suspected.

The (66)/*(67) contrast will follow from the assumption that the former correspond to constituents extracted from extraposed positions, while the latter require extraction from standard DP positions. It is easily seen that, independently, sentential which cannot be formed from an extraposed position:

(68)a. *That he was sick seemed to everyone.

b. It seemed to everyone that he was sick.

c. *He was sick, which it had seemed to everyone.

Overall then, an additional argument for (52b) and against (52a) hence against the claim that English does not allow null expletive clauses is that such a view is incompatible with the Parallelism Constraint.

The status of a view of M-A-Parentheticals involving (52a) and consistent with Bresnan's overall assumptions about English clause structure in general and NEX cases in particular is even worse than so far indicated, as shown by:

- (69)a. Ted was cheated, as I assumed (*that) was obvious.
b. Ted was cheated, as I thought (*that) had been proved by Michelle.

Examples (69a, b) show that the very M-A-Parentheticals which the distributional evidence from verb/that clause restrictions shows involve constituents extracted from extraposed positions not from subject positions and which would violate the Parallelism Constraint if they did involve extracted subjects, *nonetheless obey the Anticomplementizer Constraint*. Although not directly about NEX cases, this fact is, I take it, ultimately devastating for Bresnan's approach to NEX cases. For it indicates that a primary assumption underlying her conclusion that X-PPs are subjects, the view that both the Anticomplementizer Constraint and the Parallelism Constraint are defined on subjects (S3s), is just false. The interaction between A-Parentheticals and these constraints combined with the multiple grounds for denying that M-A-Parentheticals involve subject extraction shows this cannot be the case.

5.3.3 Comparative Cases

The evidence cited so far in Section 5 involving A-Parentheticals can essentially be duplicated with comparative structures. Key data is already found in Bresnan (1972: 136), which supplied the following paradigms, crediting in part William Leben:

- (70)a. More is known than it seems.
b. *More is known than ___ seems.
c. *More is known than it is necessary.
d. More is known than ___ is necessary.
e. More is known than ___ seems to be necessary.

A key point for present purposes is that these patterns match significantly those of A-parentheticals:

- (71)a. He knew that, as it seemed.
- b. *He knew that, as seemed.
- c. *He did that, as it was necessary.
- d. He did that, as was necessary.
- e. He did that, as seemed to be necessary.

Examples like (71a) show that with comparatives, English grammar permits the nonappearance of any remnant of a that clause complement. As with A-Parentheticals, the question then arises whether this phenomenon of complement vanishing is possible corresponding to subject complements.

Evidence to the negative is that A-Parenthetical/comparative parallels extend to the unique classes of verbs which support the claims that A-Parentheticals preclude subject extraction, that is, which support the claim that M-A-Parentheticals involve null expletive subjects:

- (72)a. More is known than (*it) is generally felt/held/said/supposed/thought.
- b. More is known than is explained/*captured/*expressed/*reflected by this theory.

All these facts support the view that like both types of parentheticals, vanished complement comparatives cannot correspond to subject complements. In short, there is every reason to think that comparative examples like (71d), which parallel M-A-Parentheticals, do not involve subject extraction but rather null expletive subjects. And like A-Parentheticals, these cases then show that the Anticomplementizer Effect is not uniquely linked to subject extraction, since such effects manifest in comparative cases of this kind:

- (73)a. More is known than he believes (*that) is necessary.
- b. More is known than he said (*that) had been reported.

5.4 Further Evidence for a Null Expletive Analysis of X-A-Parentheticals

5.4.1 Remarks

Beyond the arguments in Section 5.3, a number of other rather clear grounds clash with the view that M-A-Parentheticals involve extracted S3s. These also show, rather, that the as in such cases corresponds to an extraposed clause and that the S3 is an invisible extraposition expletive.

5.4.2 Number Agreement

Conjoined subject that clauses can determine plural verb agreement, which is impossible with the extraposition expletive:

- .
- (74)a. That the company is bankrupt and that he is responsible are/is obvious
b. It is/*are obvious that the company is bankrupt and that he is responsible.

The M-A-Parenthetical facts parallel the extraposition cases and contrast with the subject ones:

- (75) The company is bankrupt and he is responsible, as is/*are (both) obvious.

5.4.3 Standard Floating Quantifiers

Conjoined subject that clauses can link to SFQs; extraposed clauses cannot:

- (76)a. That the company is bankrupt and that he is responsible are both obvious
b. *It is/are both obvious that the company is bankrupt and that he is responsible.

Again, the facts for M-A-Parentheticals match those of the extraposed cases:

- (77) *The company is bankrupt and he is responsible, as is/are both obvious.

5.4.4 Floating Emphatic Reflexives

Subject that clauses can link to FERs; extraposed clauses cannot:

(78)a. That the company is bankrupt and that he is responsible are themselves obvious

b. *It is/are itself/themselves obvious that the company is bankrupt and that he is responsible.

Once more, M-A-Parentheticals match extraposed structures:

(79) *The company is bankrupt and he is responsible, as is/are itself/themselves obvious.

5.4.5 Summary

The facts of plural agreement, SFQs and FERs further confirm the conclusion that M-A-Parentheticals do not involve extracted S3s but rather represent instances of an extracted constituent corresponding to an extraposed clause, with a null extraposition expletive functioning as S3. ¹⁷

5.5 Results

The implications of this brief look at A-Parentheticals and subjectless comparatives appear to be very strong. First, English arguably has null expletive clauses independently of the analysis of NEX structures. So any attempt to exclude a null expletive analysis on grounds of plausibility, 'typological' or otherwise collapses. More strongly still, the assumption that the Anticomplementizer Constraint and the Parallelism Constraint are both defined on subjects (S3s), which is absolutely central to Bresnan's conclusion that the X-PPs of NEX structures are subjects, is independently untenable for English and thus cannot be appealed to in the analysis of NEX cases.

Section 6 The NEX Clause Paradox Partially Resolved

The conclusions of Section 5 suggest, I believe, a resolution of the paradox involving the subject status of X-PPs in NEX clauses. One term of the paradox

arose principally from Bresnan's striking apparent demonstration that extracted X-PPs apparently alone among extracted elements which are not *obviously* subjects behave like extracted subjects. This led Bresnan to the conclusion that X-PPs are subjects. The other term arises from the fact, argued in Section 3, that in a wide variety of other ways, X-PPs behave like non-subjects.

A solution has become visible based on the conclusion that the extraction evidence does not show that X-PPs are subjects because it is not true that the Anticomplementizer Effect and the Parallelism Constraint are both defined on subjects (S3s). Rather, the A-Paranthetical facts show clearly that the former is *not* defined (exclusively) over S3 extraction. This evidence leaves it open how the latter is defined. But overall, the new situation now makes it reasonable to see the problem in terms entirely different from Bresnan's. The question is not whether X-PPs are subjects, they clearly are not. The question is how the extraction constraints are to be stated in such a way that subjects and X-PPs but not other arbitrary constituents are subject to them. This formulation is not even quite correct. As Section 5 indicated, it is also necessary to subsume non-subject extraction of certain as and comparative cases under the Anticomplementizer Effect. I return to the formulation of the extraction constraints in Section 9. First, I consider additional facts about NEX cases which both contribute further to undermining Bresnan's assumptions and further support the view that these involve null expletive subjects.

Section 7 Further Evidence for Invisible Expletives in NEX Clauses

7.1 Remarks

Further grounds for analyzing NEX clauses as having null expletive subjects can take the form of direct evidence for the presence of invisible expletives. This will involve chiefly respects in which NEX clauses share properties with clauses containing *visible* expletive there. A good way to begin is by consideration of some further arguments of Bresnan (1994) *against* the presence of null expletives, which I will argue do not show anything of relevance.

7.2 Two Arguments from Hoekstra and Mulder

Section 5 already considered Bresnan's definiteness and 'typological plausibility' arguments. Bresnan (1994: 102) considers two further arguments against null expletives, due in effect to Hoekstra and Mulder (1990). The first is based on examples like (80):

- (80)a. We all witnessed how down the hill came rolling a huge baby carriage.
- b. We suddenly saw how into the pond jumped thousands of frogs.

These are supposed to show that it is not possible to capture the fact that NEX clauses manifest the Anticomplementizer Effect by claiming that the null expletive subject is “licensed only by a locative PP in the same position as WH-extracted phrases.” I do not really follow how this argument yields an objection to null expletives; it is supposed to depend on the idea that cases like (80) show that the position of extracted WH-phrases (SPEC, CP) is already filled, by the how.

But I believe examples like (80) are irrelevant, since the best analysis of this type of how is probably that it is a restricted complementizer, thus parallel to that, and not to a WH-phrase. It is surely not a question form of a manner adverbial. Observe such contrasts as:

- (81)a. They may wonder how else we could proceed.
- b. Did they witness how (*else) down the hill came rolling a baby carriage.

- (82)a. They may ask how on earth a bright light could have shone into the room.
- b. They did not testify how (*on earth) into the room suddenly shone a bright light.

In any event, I see no clear way in which these facts bear on the posit of a null expletive in NEX clauses.

The second argument is more straightforward.

(83) Bresnan (1994: 102):

“questioning the inverted locative fails to trigger auxiliary inversion (I-to-C movement), which is obligatory where there is a subject and impossible where the subject itself has been extracted.”

That is, a paradigm like (84) parallels a standard subject one like (85), where both contain unstressed auxiliaries:

- (84)a. On which wall hung a portrait of the artist?
b. *On which wall did hang a portrait of the artist?

- (85)a. Which wall contained a portrait of the artist?
b. *Which wall did contain a portrait of the artist?

That the locative behaves like an extracted S₃ argues that it is such, incompatible with the view that there is a null expletive subject.

While this argument from unstressed auxiliaries is sound as far as it goes, it doesn't go far enough. For consider question S₃ extraction when the auxiliary do is stressed:

- (86) Which wall (must we conclude) DID contain a portrait of the artist?

In this case, a (stressed) auxiliary is possible in the presence of an extracted subject. If then the X-PP of a NEX clause were an S₃, one would expect it to be compatible in the question case with a stressed auxiliary do. But this is impossible:

- (87)a. On which wall HUNG a portrait of the artist?
b. *On which wall (must we conclude) DID hang a portrait of the artist?

In short, the two auxiliary arguments seem to cancel each other out. While the X-PP resembles an S₃ in weak auxiliary behavior, its strong auxiliary behavior resembles that of a non-S₃. No conclusion about the subject status of X-PPs can thus so far be drawn from auxiliary presence or absence data.

7.3 Presentational There Properties Reflected in NEX Clauses

7.3.1 Setting

My position is that NEX clauses are a variety of presentational there structure in which, for reasons returned to in Section 9, the expletive is invisible. Evidence for this view involves properties which NEX clauses share with presentational there structures. The recognition of such sharing is hardly new; recall Green (1985). And Coopmans (1989: 743) states: “Many of the restrictions on stylistic inversion in the context of preposed adverbial PPs also hold for the inversion in the presentational there construction...”.

7.3.2 P-Subject Properties

As Bresnan (1994: 99, 107) herself notes, the post-verbal NPs of presentational there clauses determine verb agreement, so a null expletive account of NEX clauses reduces the agreement properties of these, really anomalous under Bresnan's account, to the independently needed principles operative in presentational-there structures.

(88) On the rock (there) *was/were sitting two giant frogs.

Second, the post-verbal NPs of presentational-there clauses cannot be definite anaphoric pronouns (see Bresnan, 1994: 86 for recognition of the restriction in NEX cases), isolated indefinite pronouns like someone, or single word wh pronouns.¹⁸ NEX structures share all these features:

(89)a. *On the rock (there) was sitting him/someone.

b. *Who said that on the rock (there) was sitting who?

Third, consider tags in yes/no questions. As Bresnan (1991) observes, in tag questions, a declarative-like clause is followed by a tag consisting of an auxiliary verb and a pronoun agreeing with the S₃ of the declarative constituent.

(90)a. Guns are dangerous aren't they/*it/*you?

b. Selma will cry won't she/*they/*us?

Bresnan then cites an observation from Bowers (1976: 237) which the latter took to argue against the S3 status of the P-subject of NEX clauses. This is the grammaticality of tag question variants of NEX cases like (91), in which the tag pronoun is there.

- (91)a. In the garden is a beautiful statue, isn't there?
b. In the garden stood/lay a beautiful statue, didn't there?

Bresnan (1991) asserts that “the hypothesis that the inverted locative is the topicalized subject would explain this situation”. She is thus claiming that the choice of the tag pronoun there supports hypothesis (4c). But these facts of course fail to support (4c) over the view that NEX clauses involve an invisible expletive otherwise identical to there. Moreover, when one considers *non-locative* NEX cases, Bresnan's claim breaks down in that there are topicalized phrases in such cases which would not determine there in anaphoric contexts and yet whose best tag must contain there:

- (92)a. That task fell to Gloria_i but it shouldn't have fallen to her_i/*there_i.
b. To Gloria will fall a number of unpleasant tasks won't *her/?there?
c. They built a number of warships [at that time]_i but they didn't deploy them then_i/*there_i
d. At that time were built a number of warships weren't *then/there?
e. The following answer corresponds to [that question]_i but he didn't ask it_i/*there_i.
f. To that question might correspond an interesting answer, mightn't *it/?there?

Facts like those in (92) argue that the matching between the tag pronoun and the NEX clause involves an expletive there and not the topicalized PP. If so, the tag facts do not, contrary to Bresnan's claim, support position (4c) but actually contribute to undermining it. ¹⁹

7.3.3 Context Parallels

7.3.3.1 Predicate Nominals

Presentational there clauses and NEX clauses are subject to much the same sort of overall global constraints on the predicate classes which permit them. First, neither type of structure can be formed with intransitive predicates taking *predicate nominals*:²⁰

(93)a. Many women are lawyers in New Zealand.

b. *In New Zealand (there) are lawyers many women.

(94)a. Certain unfortunate individuals turn into werewolves after sundown.

b. *After sundown (there) turn into werewolves certain unfortunate individuals.

7.3.3.2 Adjectival Predicates

Second, neither presentational there clauses nor NEX clauses can be based on adjectival predicates:²¹

(95)a. That sort of heroine addict is prone to accidents on the highways.

b. *On the highways (there) is prone to accidents that sort of heroine addict.

(96)a. The majority of young people are hesitant about that in Mexico.

b. *In Mexico (there) are hesitant about that the majority of young people.

A corollary of the ban on adjectival NEX clauses is that there are no NEX versions of adjectival passives, a type of structure discussed in e.g. Siegel (1973), Wasow (1977), Williams (1981), Bresnan (1982a), Dryer (1985), and Levin and Rappaport (1986):²²

(97)a. Regular Passive: Several boxes were loaded with cookies.

b. Adjectival Passive: Several boxes remained loaded with cookies.

c. In that room (there) were loaded with cookies several large, square metal boxes.

d. *In that room (there) remained loaded with cookies several large, square metal boxes.

- (98)a. Regular Passive: Several bottles of wine were being tasted in that kitchen.
- b. Adjectival Passive: In that kitchen several bottles of wine went untasted.
- c. In that kitchen (there) were being tasted several bottles of rare wine.
- d. *In that kitchen (there) went untasted several bottles of rare wine.

7.3.3.3 Complement Contexts

A significant fact about NEX structures noted in Bresnan (1995) is that in no case can the P-subject be a complement clause, that is, a non-WH infinitive or that clause: ²³

(99) Bresnan (1995)

- a. (The warning) that enemies were coming was written on the roof.
- b. On the roof was written the warning that enemies were coming.
- c. *On the roof was written that enemies were coming.

(100)a. The task of calling Sam fell to Mary.

- b. It fell to Mary to call Sam.
- c. To Mary fell the task of calling Sam.
- d. *To Mary fell to call Sam.

(101)a. From that testimony can be deduced the fact that he is a thief.

- b. *From that testimony can be deduced that he is a thief.

(102)a. At that conference was suggested a new line of research.

- b. *At that conference was suggested that we abandon the project.

Notably though, identical restrictions hold for clauses with explicit presentational there:

(103)a. On the roof there was written the warning that enemies were coming.

- b. *On the roof there was written that enemies were coming.

(104)a. To Mary there fell the task of calling Sam.

- b. *To Mary there fell to call Sam.

(105)a. From that testimony there can be deduced the fact that he is a thief.

b. *From that testimony there can be deduced that he is a thief.

(106)a. Only at that conference was there suggested a new line of research.

b. *Only at that conference was there suggested that we abandon the project.

One might state these facts as simply indicating uniformly that the extraposition expletive is it not there.

7.3.3.4 Prevent Contexts

Third, despite earlier examples like (7c), in which NEX structures can be formed on raising to object structures, there are various partly parallel environments where both there and NEX clauses are impossible.

(107)a. Ellen prevented there from being a riot.

b. *There was prevented from being a riot.

The generalization of relevance about this environment is that expletive there is unpassivizable in it. Most other NPs, even expletive ones, are not: ²⁴

(108)a. Students were prevented from rioting.

b. It was prevented from raining (by Zeus).

c. It must be prevented from becoming obvious that we are spies.

Notably then, presentational there and NEX clauses both seem to share this constraint.

(109)a. *Ellen prevented there from dashing into the meeting three angry students.

b. *Into the meeting (*there) were prevented from dashing three angry students.

Of course, the generalization specified does not account for *(109a)...there may be a more general constraint banning even unpassivized expletive there of the

presentational type. If so, NEX clauses share this constraint as well, as (110) indicates:

(110) *Into the room he prevented from dashing three angry students.

Compare:

(111)a. Into the meeting she believed (there) to have dashed three angry students.

b. Into the meeting (there) were believed to have dashed three angry students.

7.3.3.5 Count/Depend/Rely On Contexts

Next consider the environment in (112):

(112)a. You can count/depend/rely on her to tell the truth.

b. You can count/depend/rely on it to rain during the picnic.

c. You can count/depend/rely on it to be unclear whether he is guilty.

d. *You can count/depend/rely on there to be a riot.

e. *You can count/depend/rely on there to have arrived some penguins by that time.

The generalization appears to be that, with these verbs, the object of on with a following infinitive cannot, for the most part, be expletive there, although other expletives are permitted. Limitations on this constraint are discussed in Chapter 2. The relevant constraint extends to pseudopassives of such cases:

(113)a. It can be counted/depended/relied on to rain/to be obvious that he is guilty.

b. *There can be counted/depended/relied on to be a riot/to have arrived some penguins by that time.

Strikingly, both active and passive versions of NEX structures obey the constraint as well:

- (114a. *On the bench you can count/depend/rely on to be sitting two penguins.
b. *By that time can be counted/depended/relied on to have arrived some penguins.

7.3.3.6 Perception Verb Contexts

Next, consider perception verb contexts like:

- (115)a. I sometimes heard/saw/watched her being hassled in Jane's class.
b. In Jane's class, I sometimes heard/saw/watched her being hassled.

Notably, it is not possible to form NEX structures on this model:

- (116) *In Jane's class, I sometimes heard/saw/watched being hassled the kid you are talking about.

This parallels:

- (117) *In Jane's class, I sometimes heard/saw/watched there being hassled the kid you are talking about.

Actually, the claim about NEX structures and perception verbs is too general. There are cases where the two can combine. But, notably, in those cases, the variant with there is also found:

- (118)a. In Portugal, I saw a new religion arise.
b. In Portugal, I saw (there) arise a new religion.
c. In Portugal, I saw (there) develop a great revulsion toward foreigners.

So again the distribution of NEX clauses closely matches that of there structures.

7.3.3.6 A Resumptive Pronoun Environment

Another environment linking NEX clauses to presentational there ones was touched on in Section 3; see (17):

- (119)a. It looks/sounds like it is impossible to do that.
- b. It looks/sounds like it will rain.
- c. There looks/sounds like there is going to be a riot.
- d. There looked/sounded like there were two cats fighting in the yard.
- e. *There looks like there fell to Ruth the task of cleaning the pots.
- f. *There sounds like there were fighting two wild boars.

Here the constraint appears to bar the expletive there of (only) presentational there structures, including that of P-there structures. But NEX forms are also barred:

- (120)a. *To Ruth looks/sounds like (there) fell the task of cleaning the pots.
- b. *In the woods sounds like (there) are fighting two wild boars.

7.3.3.7 Middles

Another link between NEX clauses and there structures is that both are incompatible with middle formation, which contrast in this respect with participial passives: ²⁵

- (121)a. In this institution, inmates bore easily.
- b. *In this institution (there) bore easily many inmates.
- (122)a. At home, many such new products prepare quite rapidly.
- b. At home, many such new products can be prepared quite rapidly.
- c. *At home, (there) prepare quite rapidly many such new products.
- d. At home, (there) can now be prepared rapidly many such new products.
- (123)a. In that state, all multiple murderers used to hang.
- b. In that state, all multiple murderers used to be hung.
- c. *In that state, (there) used to hang all multiple murderers.
- d. In that state, (there) used to be hung many multiple murderers each year.

7.3.3.8 Get Passives

English participial passives appear in at least two forms, with main verb be or get:

(124)a. In that field dozens of partisans were/got executed.

b. In that way several new recruits were/got trained.

But neither presentational there nor NEX structures are possible with the get varieties:

(125)a. In that field (there) were/*got executed dozens of partisans.

b. In that way (there) were/*got quickly trained a number of new recruits.

7.3.3.9 Other Passives Incompatible with NEX Structures

Bresnan (1994: 79-80) observes insightfully that although passives are a very productive source of well-formed NEX cases, not all passives permit NEX variants. In particular, she claims that pseudopassives (prepositional passives) never allow this:

(126) Bresnan (1994: 79)

a. We fought for these rights in these very halls.

b. These rights were fought for in these very halls.

c. *In these halls were fought for these rights.

d. In these halls were fought tremendous battles for equal rights.

While I am not entirely sure that Bresnan's claim holds for the full class of NEX passives, I believe that whenever a NEX variant of a pseudopassive is barred, a parallel constraint holds when an explicit there is present:

(127)a. In the hall, some touchy issues about women's rights were being considered/discussed/debated/argued about/talked about/fought about (by the delegates).

b. In the hall, (there) were being considered/discussed/debated/*argued about/*talked about/*fought about in a raucous way some touchy issues about women's rights.

See also:

(128)a. In that hospital, many victims of the explosion are being treated/taken care of/worked on/looked after by only three doctors.

b. In that hospital, (there) are being treated/*taken care of/*worked on/*looked after many of the victims of the explosion.

Next, consider passives based on double object verb constructions. Postal (1986) characterized the three types of passive possible with certain double object verbs as in:

(129)a. Marsha gave Louise the books.

b. Marsha gave the books to Louise.

c. *Primary Passive* The books were given to Louise.

d. *Secondary Passive* Louise was given the books.

e. *Tertiary Passive* The books were given her/Louise.

While many current speakers do not accept any tertiary passives, many, including the present writer, do; see Chapter 8. Bresnan (1994: 79, note 9) observes in effect that NEX structures cannot be formed on secondary passives, which she ultimately attributes to a putative basic constraint on NEX structures that the 'shifted' element (my P-subject) must be a *thematic* direct object. ²⁶

(130)a. In that hall were given to Louise insightful books on wart prevention.

b. *In that hall were given them yesterday several recent graduates.

Bresnan did not observe though that even for speakers *accepting* tertiary passives, there are no NEX variants of the latter, even though these would meet all of the conditions on the formation of such she adduces. Notably then, parallel constraints hold for presentational there structures:

(131)a. In that hall (there) were given to Louise insightful books on wart prevention.

b. *In that hall (there) were given Louise/her insightful books on wart prevention.

Some might argue that cases like (130b) violate the constraint that NEX structures are not possible in the presence of a direct object. However, it can be argued, I believe, that e.g. Louise in (130b) is an indirect object not a direct object, so that no violation of a direct object constraint could exist.

There are other cases, typically nonagentive, where passives do not permit NEX variants, for currently obscure reasons. These also seem to systematically preclude variants with explicit there. Compare:

(132)a. At that time (there) were reached/*hated certain conclusions.

b. During the period in question (there) were discovered/*forgotten several important theorems.

7.3.3.10 Multiple Raising

It has been known since Cantrall (1969: 124) (see Postal, 1974: 198-204; Dresher and Horstein, 1979, Aoun, 1985: 81-83) that there are constraints on multiple raisings of certain types of DPs, including expletive there. Compare:

(133)a. Jerome continues to seem to support the director.

b. It continues to seem to be impossible to find her.

c. *There continue to seem to be riots in Bananastan.

(134)a. The captain appeared to start to be interested in Greta.

b. It appeared to start to be possible to treat that disease.

c. *There appeared to start to be riots in Bananastan.

(135)a. Clara is believed to continue to undergo therapy.

b. It is believed to continue to be impossible to square a circle.

c. *There are believed to continue to be riots in Bananastan.

Where earlier evidence seems to have always involved existential there, such constraints also hold for presentational -there:

- (136)a. Into that cave there crawled strange-looking frogs.
- b. Into that cave there continue to crawl strange-looking frogs.
- c. *Into that cave there continue to seem to crawl strange-looking frogs.
- d. *Into that cave there are believed to continue to crawl strange-looking frogs.

Once again, the constraint on presentational there is mirrored in constraints on NEX structures, which also resist multiple raising:

- (137)a. Into that cave crawled strange-looking frogs.
- b. Into that cave continue to crawl strange-looking frogs.
- c. *Into that cave continue to seem to crawl strange-looking frogs.
- d. *Into that cave are believed to continue to crawl strange-looking frogs.

7.3.3.11 Particle Order

In transitive structures, a typical particle can appear either before or after a direct object:

- (138)a. Henry figured out the answer.
- b. Henry figured the answer out.
- c. Henry finished off the vodka.
- d. Henry finished the vodka off.

However, in presentational there structures, the P-subject must always follow a particle. Consider first intransitive cases:

- (139)a. In the senate, there will come about a reasonable compromise.
- b. *In the senate, there will come a reasonable compromise about.
- c. In that house, there grew up a future president.
- d. *In that house, there grew a future president up.

Note that the violations here cannot be attributed to some heaviness constraint, as objects identical to those in (139) can precede particles in direct object structures:

(140) Henry picked a future president up (at his house).

Even more strikingly, P-subject particle order is impossible in passives, even when that order is fine in the corresponding actives with the same lexical/semantic items:

- (141)a. To Henry they handed over the key documents.
b. To Henry they handed the key documents over.
c. To Henry there were just handed over the key documents.
d. *To Henry there were just handed the key documents over.

- (142)a. She cut out several figures from that picture.
b. She cut several figures out from that picture.
c. From that picture there had been cut out several figures.
d. *From that picture there had been cut several figures out.

The generalization barring P-subject + particle order holds as well for NEX clauses. That is, the patterns of well-formedness/ill-formedness in (139)-(142) are preserved when the expletive there is suppressed from each example containing it.

7.3.3.12 Environments from Levin (1993)

In her exceptionally extensive study of English verb classes, Levin (1993) provides significant information about verb classes which occur with what she calls 'There Insertion' and what she calls 'Locative Inversion'. As far as I can determine, every class Levin lists which permits one of these, permits the other, and every class she lists which precludes one, precludes the other. These are:

- (143)a. Page 237 verbs of substance emission (e.g. drip) allow both.
b. Pages 245-6 other alternating verbs of change of state (e.g. defrost) preclude both.

- c. Pages 247-8 verbs of calibratable changes of state (e.g. fluctuate) preclude both.
- d. Page 248 lodge verbs (e.g. dwell) preclude both.
- e. Pages 249-50 verbs of existence (e.g. remain) allow both.
- f. Pages 250-1 verbs of entity-specific modes of being (e.g. froth) allow both.
- g. Pages 251-2 verbs of being involving motion (e.g. vibrate) allow both.
- h. Page 252 verbs of sound existence (e.g. resonate) allow both.
- i. Pages 253-4 swarm verbs (e.g. swarm) allow both.
- j. Pages 255-6 verbs of spatial configuration (e.g. perch) allow both.
- k. Page 256 meander verbs (e.g. stretch) allow both.
- l. Page 258 appear verbs (e.g. materialize) allow both.
- m. Page 259 reflexive verbs of appearance (e.g. present (itself)) preclude both.
- n. Page 260 verbs of disappearance (e.g. vanish) (according to Levin) only weakly allow both.
- o. Pages 260-1 verbs of occurrence (e.g. happen) allow both.
- p. Page 262 verbs of assuming a position (e.g. crouch) preclude both.
- q. Pages 265-6 run verbs (e.g. jog) allow both.

I do not wish to give the impression that Levin's data reveals a *perfect* correlation between verbs permitting a there construction and those permitting a corresponding NEX structure. The correlations cited in (143) do not support such a strong conclusion because they are stated in terms of verb classes and her account does not indicate whether both are possible or impossible for each verb of the various classes. In certain cases, she specifically indicates that constructions are possible only for some members of a class. Nonetheless, the data in (143) is still quite strong support for a systematic connection between there and NEX structures of the sort which only (4a) among the analyses here at issue recognizes.

This point is supported further by the fact that in certain cases, I disagree with Levin's categorizations. For instance, on page 246 she claims that the change of state verb dry is not possible in either there or NEX forms. I disagree, but the key point is that I find both types possible:

(144) On the line (there) were drying some of the most beautiful shirts I ever saw.

Overall then, I believe Levin's data provides excellent support for the claim that NEX clauses are a variant of there structures.

7.3.3.13 Some Randomly Chosen Environments

Various other difficult to classify environments also reveal, I believe, a fundamental connection between NEX structures and P-there ones. So, for example, contrast the two verbs fall and occur, both of which take human to phrases. The former permits a presentational there structure and, correspondingly, a NEX clause. The latter permits neither:

- (145)a. To Jenny (there) fell the task of contacting the parents.
b. *To Jenny (there) occurred the idea of contacting the parents.

A similar set of correlated contrasts exists for go versus appeal:

- (146)a. To Jenny (there) will go the poetry prize.
b. *To Jenny (there) will appeal the handsome waiter.

See also happen and matter, which preclude both presentational there and NEX structures, and flow, which allows both:

- (147)a. *To Jenny (there) happened all sorts of terrible things.
b. *To Jenny (there) matter many things which seem unimportant.
c. To Jenny (there) flowed all of the profits from that venture.

Further, Napoli (1993: 75) gives the following presentational there data involving intransitive verbs:

- (148)a. There strode into town the ugliest gunslinger alive.
b. There went up a cry of protest.
c. There appeared a man in the doorway.

- d. There lived a king in days gone by that I must tell you about.
- e. There stood a little boy in the corner.
- f. There suddenly burst in five policemen.
- g. *There telephoned a hysterical victim.
- h. *There spoke an imposing woman in favor of ozone.
- i. *There painted a woman on the bridge over the Seine.

This distribution of grammatical and ungrammatical structures is exactly matched by corresponding NEX cases (I ignore Napoli's '??' vs '*' markings in (149), which do not correspond to anything in my judgments):

- (149)a. Into town strode the ugliest gunslinger alive.
- b. In the hall went up a cry of protest.
- c. In the doorway appeared a man.
- d. In days gone by lived a king that I must tell you about.
- e. In the corner stood a little boy.
- f. At that point suddenly burst in five policemen.
- g. *In the corner cried a little boy.
- h. *From the scene telephoned a hysterical victim.
- i. *At the meeting spoke an imposing woman in favor of ozone.
- j. *Throughout the storm painted a woman on the bridge over the Seine.

7.3.3.14 Idiomatic Objects

A notable characteristic of both NEX and presentational there clauses is that they are incompatible with at least a wide range of idiomatic objects, even those that are passivizable:

- (150)a. At that reunion a great deal of money/attention was paid to the new director.

b. At that reunion (there) was paid to the new director a great deal of money/*attention.

- (151)a. During that week (some) strong beverages were kept near the children.

b. During that week (there) were kept near the children (some) strong beverages.

- c. During that week very close tabs were kept on the children.
- d. *During that week (there) were kept on the children very close tabs.

(152)a. During that exhibition a very strong impression was made on the paper/the audience.

b. During that exhibition (there) was made on the paper/*the audience a very strong impression.

7.3.3.15 Metaphorical Interpretations

A striking and as far as I know never previously observed fact about both presentational there and NEX structures is that they seem broadly incompatible with at least many metaphorical interpretations of verbs. Thus for a verb which has both literal and metaphorical interpretations and permits passives of both, the corresponding presentational there and NEX structures nonetheless may well permit exclusively the literal readings:

(153)a. At that orgy many innocent tourists were killed.

b. At that orgy a lot of time was killed in arguments.

c. At that meeting a lot of fine proposals were killed.

d. At that orgy (there) were killed many innocent tourists.

e. *At that orgy (there) was killed a lot of time (in arguments).

f. *At that meeting (there) were killed a lot of fine proposals.

(154)a. At that meeting several women were screwed by licensed physicians.

(i) the physicians had sex with the women.

(ii) the physicians did something rotten to the women.

b. At that meeting (there) were screwed a large number of women.

(i) unspecified people had sex with the women.

(ii) *unspecified people did something rotten to the women.

(155)a. On Friday the Yankees were massacred by the Red Sox.

(i) The Red Sox murdered the Yankees in a violent way.

(ii) The Red Sox beat the Yankees by a wide margin in a game.

b. On Friday (there) were really massacred several minor league teams.

(i) Unspecified murdered the members of several minor league teams.

- (ii) *Unspecified beat several minor league teams by wide margins in games.
- (156)a. At that meeting several officials will apparently be roasted.
- (i) The officials will be cooked.
 - (ii) The officials will be strongly criticized.
- b. At that meeting (there) will apparently be roasted several notorious officials.
- (i) The officials will be cooked.
 - (ii) *The officials will be strongly criticized.
- (157)a. During that barbecue an enormous number of beers/crazed ideas were swallowed.
- b. During that barbecue (there) were swallowed an enormous number of beers/*crazed ideas.

It is bizarre that such constraints should have to be stated once in a grammar. But a view which fails to link NEX clauses to presentational there ones would seem committed to stating them twice.²⁷

7.3.3.16 Summary

Bresnan (1994: 103) claimed:

(158) “In summary, we have seen that many locative inversions in English lack a plausible expletive source, that a null subject leads to loss of generalizations over subject extractions, that English lacks other characteristics of null-subject languages, and that a null expletive cannot in any event explain the contrasts between English and Chichewa. For these reasons, I reject the expletive subject hypothesis for English locative inversions.”

But it has been shown here that talk of ‘sources’ is irrelevant, that the subject extraction generalizations cannot be stated over S3s, that the claimed lack of null expletive subject characteristics is only partially true and that the evidence linking NEX clauses to presentational there clauses is broad, diverse and sufficiently thorough-going as to undermine any account which fails to systematically relate these two types of structures. But that is exactly what an analysis like (4c) does. Only a null expletive treatment of NEX clauses seems to have a chance of capturing their similarities with presentational there

structures. ²⁸ One is left then with the issues of the relation between English NEX clauses and structures in other NLs and the unresolved issue of the proper way to state the extraction constraints which led Bresnan to the view that X-PPs were subjects (S3s). Before dealing with the latter obviously crucial issue, I turn to the foreign NL question, and argue that, with respect to the choice between (4a, b, c), it cannot cut the way Bresnan has claimed.

Section 8 Foreign Tongues

One of Bresnan's (1994) arguments for a subject analysis of X-PPs depends on cross-linguistic considerations, in particular, similarities between English NEX cases, more precisely, the locative inversion subpart of this construction, and certain structures from the Bantu language Chichewa, which Bresnan takes to instantiate the same universal locative inversion pattern. Apparently, Chichewa locative inversion structures parallel NEX cases in a number of specific properties and yet it is, according to Bresnan, clear that the corresponding locative forms are subjects. Hence the argument is that only the subject analysis of the X-PPs of English NEX cases captures the generalizations covering both English and Chichewa.

If one accepts the premises about Chichewa locative inversion cases and parallelisms with English NEX cases, this argument might seem to have a good deal of force. Its logic is roughly this. There are two parallel constructions, English NEX cases and Chichewa locative inversion cases in which locative constituents behave in special ways. In English, the status of these constituents, that is, X-PPs, is unclear and controversial, as we have seen. But in Chichewa, their subject status can be taken as established. This supports the subject status of X-PPs, since it permits stating the generalizations about the specific properties as properties of locative inversion subjects.

But the ability of this line of argument to show something about English is dependent on many other factors. An objector could well claim that the parallelisms between English NEX clauses and Chichewa locative inversion clauses are at least partially fortuitous or due to factors which can be captured without taking English X-PPs to be subjects.. This sort of objection could be justified if one could find other NLs which have constructions which also share

properties with English NEX clauses but where it is clear that their analogs of X-PPs are *not* subjects.

I claim that French is such a language, as illustrated initially in (159):

(159) Examples essentially from Gross (1975: 93-4)

- a. Un certain nombre d'ennuis r sulteront de ta d cision.
 "A certain number of problems will result from your decision"
- b. De ta d cision r sulteront un certain nombre d'ennuis.
 "From your decision will result a certain number of problems"
- c. Cette question correspond   cette r ponse.
 "This question corresponds to this response"
- d. A cette question correspond cette r ponse.
 "To this question corresponds this response"
- e. Des primes s'ajouteront   ce salaire.
 "Bonuses will be added to that salary"
- f. A ce salaire s'ajouteront des primes.
 "To that salary will be added bonuses"
- g. Une chemise   fleurs sort de son pantalon.
 "A flowered shirt is sticking out of his pants"
- h. De son pantalon sort une chemise   fleurs.
 "From his pants is sticking out a flowered shirt"
- i. Des dossiers sont dispos s sur la table.
 "Files are placed on the table"
- j. Sur la table sont dispos s des dossiers.
 "On the table are placed files"
- k. Des personnes bien dispos es interviendront a ce moment-l .
 "Well-intentioned people will intervene at that moment"
- l. A ce moment l  interviendront des personnes bien dispos es.
 "At that moment will intervene well-intentioned people"

This construction is also found with passives and interacts with raising in the same way as NEX cases:

(160)a. Des fleurs ont  t  mises sur la table.

- “Flowers have been placed on the table”
- b. Sur la table ont \odot t \odot mises des fleurs.
 “On the table have been placed flowers”
- c. Sur la table semble avoir \odot t \odot mises des fleurs.
 “On the table seem to have been placed flowers”

Surely, in examining cases like these, it is hard to imagine that this French construction is not *at least* as close to English NEX structures as Chichewa locative inversion cases are. If so, then valid cross-linguistic generalizations should treat French and English structures in parallel ways.

But it seems impossible to analyze French cases like (159) and (160) in a fashion parallel to the way Bresnan analyses NEX structures, that is, with the preverbal PP treated as a subject (S3). For French also has an analog of the English Anticomplementizer Effect; as a body of work makes clear, this is represented by the so-called que/qui alternation; see e.g. Moreau (1971), Kayne (1976; 1984: 69-71; 94-98); Pestsy (1981/1982). That is, where the standard French equivalent of the English finite complementizer that is que, the complementizer qui is required in cases of straightforward *subject* extraction:

- (161)a. l'homme que je crois que/*qui Marie d \odot teste
 "the man that I believe that Marie detests"
- b. l'homme que je crois *que/qui d \odot teste Marie ²⁹
 "the man that I believe detests Marie"

If then it were appropriate to analyze the French analog of NEX structures as involving PP subjects, one would expect that these cases would, like their English analogs, determine Anticomplementizer Effects, that is, behave like subject extractions. *But they do not:*

- (162)a. la table sur laquelle je crois qu'/*qui ont ete mises des fleurs
 "the table on which I believe have been placed flowers"
- b. A quelle question croit-il que/*qui correspond cette reponse?
 "To what question does he think corresponds that answer"

Thus if one adopts the very logic Bresnan appeals to and insists that English must be analyzed parallel to the straightforward analysis of an NL containing a construction paralleling NEX structures, one is led to reject Bresnan's subject analysis of X-PPs in favor of an analysis which is also applicable to French. This is an analysis which treats the French cases as involving null expletives and hence only *nonsubject* extraction in examples like (162). Since it is surely no less obvious that the French/English parallels are genuine than that the Chichewa/English ones are, at best the French facts undermine any argument for the analysis of NEX clauses based on Chichewa. If, as I believe, it makes much *more* sense to treat the French and English constructions the same than it does the Chichewa and English ones, the French facts provide a positive argument against Bresnan's analysis of NEX clauses.

And the French situation suggests in another way that a key problem in the treatment of NEX cases is the proper formulation of the English Anticomplementizer Effect. One now sees that this is not completely parallel to the French Anticomplementizer Effect in that in English, but not in French, the relevant effects are found in structures like NEX clauses. One key question which needs to be addressed then is what factor differentiates English NEX clauses from their French parallels in such a way that the former yields Anticomplementizer Effects but the latter does not. Nothing in Bresnan's proposal addresses this issue, which is treated at the end of the following section.

Section 9 A Novel Account of NEX Structures

9.1 Capturing the Similarities

Previous sections have, I believe, shown that the X-PPs of NEX structures are not S3s and that such clauses have invisible expletive S3s of the there type. In these terms, the failure of X-PPs to manifest *most* subject properties and the broad sharing of properties between NEX clauses and presentational there clauses that has been supported are entirely expected. *Not* expected is that NEX clauses obey the three extraction constraints of Section 2. It has already been argued that the apparently conflicting implications of the cooccurrence of these two sets of facts are not paradoxical, *inter alia* because, as independently supported by the A-Paranetical data, the extraction constraints cannot be uniquely defined over

S3 extraction. But that has left open just how they can be defined in such a way as to capture the English-internal generalizations. And the previous section has revealed that it is in addition reasonably requisite that the proper solution for that also provide a means of specifying that the French analog of NEX clauses does *not* yield in particular (the analog of) Anticomplementizer effects.

My suggested solution to these problems, in effect an answer to Bresnan's (1994) claim that an expletive S3 analysis of NEX clauses fails to account for the extraction data, appeals to the following logic. The (extracted) X-PPs of NEX clauses, unlike all other extracted PPs, are treated by the three extraction constraints of Section 2 like extracted S3s despite not being extracted S3s, because X-PPs *share certain abstract grammatical properties with S3s*, properties that are not shared with other constituents like direct objects and arbitrary other PPs. These properties can, I suggest, be characterized within an appropriate theoretical framework in terms of a view of the abstract syntactic structure underlying case.

It seems fair to say about both traditional notions of case marking and modern applications and extensions of them that at least two different levels of ideas are involved. First, there is a syntactic aspect. At this level, one can for example recognize that there is some close relation between subject and nominative case, between direct object and accusative case, etc. On a different level, there is the question of the morphological nature of case marking, whether it is even morphologically present, and if so, where, whether it involves prepositions, postpositions, infixes, inflections, etc. It should not be terribly controversial to hold that these two aspects are in principle independent. I have nothing whatever to say about the morphological aspect here. Present concern is exclusively with the syntactic aspect. Since my notions about this are quite nonstandard, I take the never pleasing step of denoting the relevant concepts by a novel term, *Quace*. It will ultimately be claimed that each of a range of core grammatical relations, subject, direct object, indirect object, etc. defines a syntactic object called a Quace, and, moreover, that these objects can be associated with certain other constituents (e.g. complementizers) via a type of agreement. The idea will be that e.g. final subjects determine for themselves a default type of Quace, call it subject-Quace (hereafter:1-Quace and in general, Quace types will be defined by the R-signs of (168) below) but that final subjects

can also have a partially distinct Quace, and that elements which are not final subjects can have a type of 1-Quace as well.

With respect to NEX structures, application of the ideas just invoked can be introduced highly informally as follows. Viewed from the vantage point of other phrases, both X-PPs and the invisible expletives of NEX clauses I have argued for are unusual. The former are unusual in two respects: they are obligatorily extracted and, although non-S3s, are subject to the three constraints otherwise largely but not completely characteristic of extracted S3s. The latter are unusual in that they are obligatorily invisible, whereas, of course, other instances of expletive there not only need not be but cannot be:

- (163)a. There suddenly broke out violent disagreements.
b. *Suddenly broke out violent disagreements.
c. Harriet prevented there from being an argument.
d. *Harriet prevented from being an argument.

Now, it is known that there is a domain of unusual or special behavior for nominal expressions instantiated in particular under notions of *non-canonical* case-marking; see Aikhenvald, Dixon and Onishi (2001) for a recent survey of this domain. Normally, talk of non-canonical behavior is invoked in cases where a nominal expression has an unexpected or *quirky* case, e.g., when a subject is dative or an object is nominative. But if one hypothesizes that there is a specific type of syntactic structure underlying the relevant sort of case-marking as well as more expected kinds (call the latter *straight* cases), one can appeal to a more general notion of quirky behavior even in contexts where no *morphological* case marking is present. This is the idea which underlies my proposal about English NEX constructions. Specifically, if the syntactic structure underlying case-marking is characterized in terms of the notion Quace, to be elaborated, then the idea is that there is, more fundamentally, straight and quirky Quace. The assumption then is that while the expletives I have argued are S3s of these constructions are subjects, they are quirky Quace subjects, that is, subjects with a Quace distinct from 1-Quace, the quiriness being what underlies their nonstandard property of invisibility. In an NL with case-marking, one would in such terms expect that the analogs would have some quirky case, that is, a non-nominative one.

Just so, while the X-PPs of NEX constructions are not S3s and thus would not in standard terms have the structure determining nominative marking, I assume that they too have quirky Quace, in particular, quirky 1-Quace. This will mean that they exceptionally possess in part the sort of overlain syntactic structure which determines nominative case on S3s regularly. In these terms, NEX clauses represent two types of jointly cooccurring quirky nominal structures; additionally, it must be assumed that by and large *each of them is only possible in the presence of the other*. The solution of the paradox developed earlier, with X-PPs sharing some (the extraction) properties with S3s but contrasting with true S3s in a host of other features, then takes the following form. The extraction constraints of relevance, which treat X-PPs and subjects (S3s) alike, will be claimed to be defined not directly over (final) subjects (S3s) but over a slightly larger domain, namely, that of phrases with a restricted type of 1-Quace. It can then be claimed that the elements of A-parentheticals and comparatives, which were shown to also obey some of the extraction constraints that X-PPs and S3s do, also have 1-Quace. More precisely though still obviously totally informally, in English, all and only S3s, X-PPs, A-parenthetical as forms, extracted comparative elements and fronted adjectival and participial phrases, which also induce the Anticomplementizer effect (see (179) below), will have 1-Quace.

9.2 A Few Generalities about the Metagraph Framework

To develop the ideas alluded to so far in a more precise (but still highly sketchy and incomplete) way, I will appeal to a development of an *arc-based* conception of syntactic structure like that of Johnson and Postal (1980), Postal (1986, 1990a, 1992, 1996), which, following Postal (1992), I refer to as *Metagraph Grammar*. The basic Metagraph idea about syntactic structure is that sentences are built of objects called *arcs*, *nodes* and two primitive grammatical relations between arcs called *Sponsor* and *Erase*. Each arc represents the existence of a grammatical relation holding between the object which is the head of the arc and the object which is the tail of the arc. Which relation an arc represents is indicated by its label, called a *R(elational)-Sign*. That is, an arc is a pair consisting of a primitive *edge* plus an R-sign. Each edge is paired with two *nodes*, one a *head* node, one a *tail* node.³⁰

The following remarks hold for the two primitive relations between arcs. They are each binary and irreflexive. Moreover, some arcs are sponsored (stand as second arguments of the Sponsor relation), others are not; the latter are called *initial* arcs. Sponsored arcs have exactly one sponsor. If arc A sponsors arc B, and they have the same head node, then B is a *successor* of A (reciprocally, A a *predecessor* of B). Any relation between arcs A and B is *local* if and only if A and B have the same tail node, meaning their head nodes are sisters; such arcs are called *neighbors*. Otherwise a relation between arcs is *foreign*. For any relation R between arcs, the logical *ancestral* (a reflexive relation) of R is denoted by *Remote-R*. So, for instance, if D is a successor of C, C a successor of B, B a successor of A, then each of A, B, C, D is a remote-successor of itself, D is in addition a remote successor of A, B and C, C is in addition a remote successor of A, B, and B is in addition a remote successor of A.

Some arcs have erasers (that is, stand as the second arguments of the Erase relation), others do not. No arc has more than one eraser. The Erase relation plays a key role in picking out from the total set of arcs in a sentence V a subset representing the superficial structure of V. A necessary condition for membership in this subset of arcs is that an arc *not* be erased.

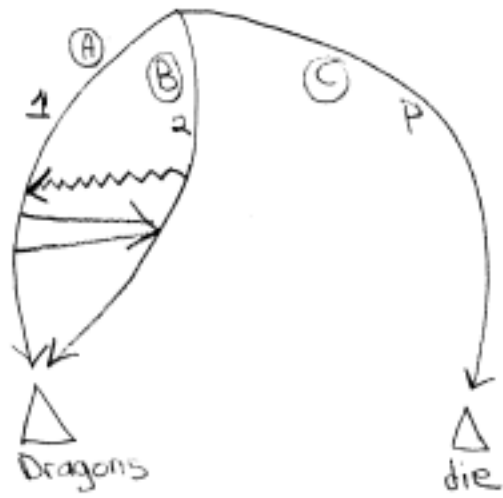
To illustrate a bit, assume that a clause like (164) involves an unaccusative verb, which in Metagraph terms means one whose only initial argument, here realized as Dragons, heads an (initial) 2-arc.

(164) Dragons die.

Since that phrase is a superficial subject, the overall structure of the clause would include at least the elements of (165):

(165)

(165)



In (165) and below, the Sponsor relation is graphically represented by a wiggly arrow with the sponsored arc at its point, the Erase relation by a double arrow with the erased arc at its point. Here arcs B and C have no sponsors, while B sponsors A. By the definition, the 1-arc A here is a local successor of the initial 2-arc B, also a remote (local) successor of it. In this simplified representation, A and C would qualify as superficial arcs, since both lack erasers, but B would not, as it does have one, namely A.

In (165), A, the successor of B, erases its predecessor. From a purely logical viewpoint, nothing precludes the inverse situation, erasure of a successor by its predecessor. While this pattern was claimed to be impossible in Johnson and Postal (1980), subsequent work including Postal (1992, 1996) has assumed that such relations are possible. And that assumption is crucial for specification of the present notion of Quace. I thus distinguish at least two subtypes of successor relations:

(166) Definition

- a. A is a *type I successor* of B (reciprocally, B a *type I predecessor* of A) if and only if A is a successor of B and A erases B.
- b. A is a *type II successor* of B (reciprocally, B a *type II predecessor* of A) if and only if A is a successor of B and B erases A.

Given what was said about the relation between the Erase relation and superficial structure, it can be seen that type I predecessors, like B in (165), are *never* candidates for inclusion in superficial structure. Therefore, type I successor/predecessor pairs can represent inter alia different types of ‘changes of status’; one instance is that of a phrase which, like Dragons in (165), is an object at one level of a fixed constituent but a subject at another ‘later’ one, with only the ‘later’ status having the possibility of determining a superficial status. Another is that where a phrase which is an initial and final subject of one clause ‘raises’ into a higher one, which, in Metagraph terms indicates that that constituent will head an arc which is a type I foreign successor of the final 1-arc it heads. This means then that the constituent *can* be a *superficial* constituent of the higher clause but not of the lower one, although it is a constituent of both.

However, for type II predecessors, no such remarks hold. For an arc A to have a type II successor has no direct implication at all for the potential superficial status of A. One might say then, entirely informally, that type II successor structures provide a sort of ‘covert’ status for a phrase, one which not only is not, but cannot be, directly represented in its surface status. So, heading a type I successor arc whose R-sign is Q gives a phrase the possibility of being a surface Q. But heading a type II successor arc whose R-sign is Q does not; it merely offers the possibility of sharing some properties with surface Qs.

A crucial notion for the present discussion is that of *final arc*. I will, generalizing a bit the statement in Postal (1992), take a final arc to be one which has no eraser arc internal to the constituent defined by its tail node; but see later comments and also note 35. More precisely:

(167) Definition

An arc A is *final* if and only if no Remote Branch of any neighbor of A erases A.

Since A is a *branch* of B if and only if A’s tail node is identical to B’s head node, a final arc is defined as one which is either not erased at all or is erased by some arc which cannot be reached from A by ‘traveling’ down branches starting from A or any neighbor of A.

I assume further that there is a class of *Nominal-arcs*, defined by their R-signs, including at least those of (168). Hereafter, arcs representing the relevant relations are named by their R-signs; so arcs representing the subject relation are 1-arcs, etc.

(168) Nominal-arc R-signs and the Relations They Characterize

- 1 subject
- 2 direct object
- 3 indirect object
- 4 subobject (see Postal, 1990a)
- 5 semiobject (see Postal, 1990a)
- 6 quasiobject (see Postal, 1990a)
- 8 chomeur
- 9 extraposed clause

Oblique₁

Oblique₂

...

Oblique_n

My assumption is that it is (only) (possibly a subset of) Nominal-arcs which define the domain of ‘primitive’ Quace determination. Other types of arcs will, as touched on presently, receive Quace, but only via what I take to be agreement phenomena.

9.3 The Notion of Quace

My assumption is that each final Nominal-arc determines a default Quace structure. Specifically, a final 2 should determine default 2-Quace, a final 3 default 3-Quace etc. To define such a default structure, I see at least two possibilities. Under one, call it *Proposal A*, the default Quace of a final R-arc A could simply be taken to be some *equivalent* type II local successor of A, where two arcs are equivalent if and only if they have the same R-signs.. Under another, *Proposal B*, the default Quace of a final R-arc A could be induced from A itself. That is, one could introduce a definition in which a final R-arc has by definition R-Quace, with no need to postulate an equivalent type II local successor for A, as in Proposal A. Proposal A might seem clumsy and ‘redundant’, as it requires every final Nominal-arc to have an equivalent type II local successor. Moreover, it requires a condition like (169):

(169) Condition 1 Equivalent Quace

If A is a final Nominal-arc, then there is a B which is an equivalent *type II* local successor of A.

Proposal B would not require (169). These formal factors indicate that it is worthwhile trying to develop an account of Quace in terms of Proposal B. But attempts along that line have not been very successful and thus here I adopt Proposal A. To understand the issue, it is necessary to recognize that ultimately, it seems correct to take the Quace structure of a final arc A to be consist of a sequence of arcs, certainly including some type II local successors. This fact makes Proposal A seem more motivated than it would simply in isolation

because, in contrast to Proposal B, it permits the sequence of arcs to consist of nothing but type II local successors, the simplest situation.

One can take advantage of the ancestrals of basic relations such as Remote-Successor, to define Quace structure as follows internal to Proposal A:

(170) Definition: Quace Marker

A sequence of arcs $\{Q_1...Q_n\}$ is the *Quace Marker of an arc A* if and only if:

- a. A is not a type II local successor; and:
- b. A is a type II local predecessor of Q_1 ; and:
- c. Q_n is *not* a type II local predecessor; and:
- d. for all i , $1 \leq i \leq n$, Q_{i+1} is a Nominal-arc type II remote local successor of Q_i .

The key points about a definition like (170) are, first, that it does not determine that an arbitrary arc has a Quace Marker. However, second, combined with Condition 1, it does determine that every final Nominal-arc has one. In such cases, the Quace Marker of a final arc A consists of the *maximal* sequence of Nominal-arc type II remote local successors of A. In no case, can a Quace Marker be null. Third, while Definition (170) determines that the Quace Marker of a final Nominal-arc A could consist exclusively of B, the single equivalent type II local successor of A whose existence Condition 1 guarantees, it also allows for richer possibilities in which B itself has a type II local successor.

The former situation in which there is a one arc Quace Marker will be taken to define what was called the default situation, that is, *straight* Quace. The latter possibility can be taken to define the notion *quirky* Quace. Put differently, one can specify that a particular type of final constituent in a particular context has quirky Quace by specifying that the final arc A defining such a final constituent has, not only the equivalent type II local successor determined by Condition 1, but at least one nonequivalent type II remote local successor whose R-sign is distinct from A's. Under the assumption that the notions relevant to Quace are limited to the domain of nominals, (170) limits all members of Quace Markers to Nominal-arcs. The exclusion of A itself from this specification is needed, as will be seen, to allow e.g. the arcs headed by complementizers, which are not Nominal-arcs, to have Quace Markers, a possibility instantiated, I suggest, only

through *agreement* in Quace. Possibly, more generally, Quace Markers for non-Nominal-arcs of any type arise only through Quace agreement.

Many questions evidently arise about Quace Markers but the search for their answers is in general beyond the scope of these remarks. Certain of these questions concern more generally type II local successors. One is whether a single arc can have more than one. I suggest not, a state of affairs imposed by Condition 2.

(171) Condition 2 Type II Local Successor Uniqueness

If A and B are type II local successors of C, then $A = B$.

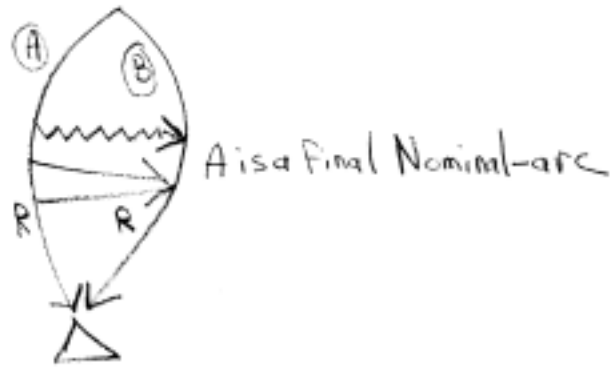
No analog of Condition 2 is necessary to exclude the case where one arc has two *type I* local successors, excluded by the uniqueness of the Erase relation. That is, an arc having two type I successors, local or not, violates the Unique Eraser Law of Johnson and Postal (1980), which limits each arc to a maximum of one eraser.

While Condition 1 specifies that each final Nominal-arc has a relationally equivalent type II local successor, it does not itself specify that no final Nominal-arc has any relationally non-equivalent type II local successor. That is, it requires situation (172a) but would alone be satisfied by (172b):

(172)a.

Chapter 1

(172) a.



b.



A is a Final Nominal

But (172b) could exist only if a type II predecessor could have distinct type II local successors, which, so far purely on grounds of conceptual neatness and lack of known instantiations, is barred by Condition 2.

Another question is whether type II local successors can themselves have type II local successors. The development here ends up requiring this. But I propose minimal limitations on this situation, in particular, eliminating the case where a type II local successor has an *equivalent* type II local successor. This can be done more generally by requiring cases where a local successor and its predecessor have the same R-sign to be such that the predecessor is not a type II local successor and its successor is.

(173) Condition 3 Local Successor Equivalence

If A is an equivalent local successor of B, then A is a type II local successor and B is not.

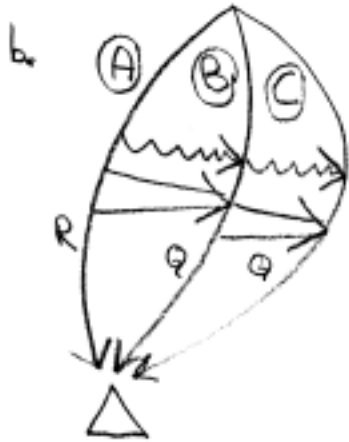
This excludes such situations as (174a, b):

(174)a. An equivalent type I local predecessor/successor pair:

(174)a.



b. An equivalent type II local predecessor/successor pair where the predecessor is also a type II local successor.



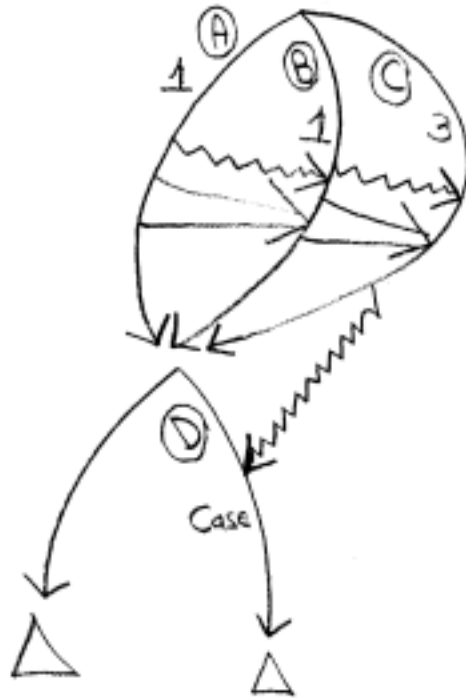
Condition 3 not only bars a type II local successor from having an equivalent type II local successor, it bars the apparently never motivated and redundant situation, which unhappily did not follow from anything independent in the system of Johnson and Postal (1980), where an arc has an equivalent type I local successor. This state of affairs would be consistent with arbitrarily long sequences of useless local successors like B in (174a), none of which can influence the surface status of a constituent.

Other questions which arise from the notion defined in (170) are specific to Quace Markers. For instance, one wants to know about bounds on their size, on the possibility of the same R-sign being repeated in the sequences (though given Condition 3, necessarily at best only in non-adjacent Quace Marker positions), etc.

Returning to descriptive issues, the intention is that in these terms, a quirky case, say dative, final subject would instantiate substructure (175), under the plausible view that dative case is determined by 3-arc Quace.

(175)

(175)



In a structure like (175), A's Quace Marker = [B, C], contains two distinct arcs. Let us say in such circumstances to simplify discussion that for a final arc A whose Quace Marker contains arcs B, C, etc. that B, C are *Quaces of A* and also that if B is an R-arc, that *A has R-Quace*. In a multiple arc Quace Marker, the different arcs do not have symmetrical status and it is important to distinguish them, which one can do terminologically as follows:

(176) Definition

A member, A, of a Quace Marker M is *finished* if and only if A has no (type II) local successor (that is, is the final arc of M).

So in (175) C is finished but B is not.

Structure (175) sketches a possible view of the relation between case and Quace. Although an investigation of the morphological structure of case is (far) beyond this discussion, the analysis in (175) has case represented in part by an arc (here D) with R-sign Case, where D is sponsored by an arc of which it is a branch. Moreover, the sponsor is a Quace arc, and, further, a finished Quace arc. One can speculate that these conditions are lawful. It would, I think, be bizarre in a structure otherwise like (175) to have D sponsored by e.g. B. For that would mean that the case is unrelated directly to the quirky Quace arc. Under the narrower view, it might then be possible to simply define the core cases, at least nominative, accusative and dative, as those sponsored by finished Quace-arcs with, respectively, the R-signs 1, 2 and 3.

With the apparatus just (very partially) specified in hand, one can approach the descriptive conclusions about NEX clauses argued for in earlier sections. What I want to say is that English allows a variety of final Nominal-arcs, including 5-arcs, 6-arcs, 8-arcs, Oblique₁-arcs,... Oblique_n-arcs, to have quirky 1-Quace, that is, to have Quace Markers with a finished Quace 1-arc. But this is subject to several conditions. The first, is that the relevant phrases are ultimately *extracted*, which, in the present framework, means those final arcs are remote foreign predecessors of certain arcs (called *Overlay-arcs* in Johnson and Postal (1980), including Wh Q-arcs, Wh-Rel-arcs, Topic-arcs, etc. The second is that the final Nominal-arc with quirky 1-Quace is a neighbor of a final 1-arc which itself has some kind of quirky Quace. I will specify *with some arbitrariness* that

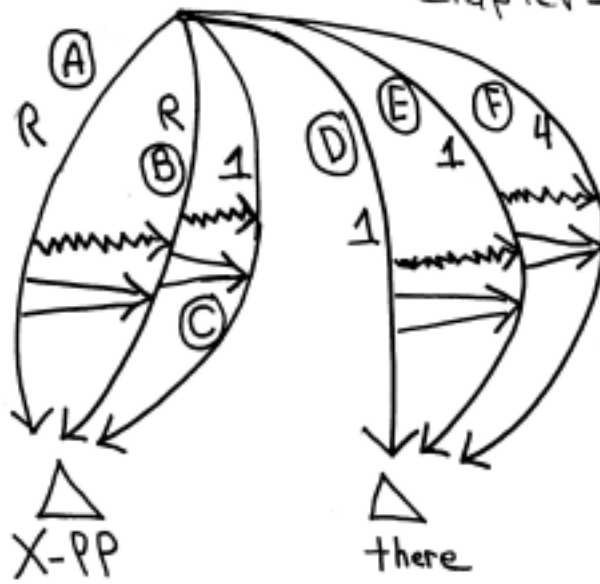
this is 4-Quace. ³¹ Third, it is assumed that a final 1-arc with 4-Quace is only possible in this construction if it is a neighbor of a final Nominal-arc with quirky 1-Quace. Fourth, I assume that the final 1-arc with 4-Quace, which must be a sister of the arc with quirky 1-Quace, is headed by an *expletive* and, moreover, exceptionally requires its head node to have a null phonological realization. ³² This is still not sufficient to characterize the NEX construction. It must additionally be specified that the relevant expletive is there and not one of the expletive it found in English. A full specification of the latter condition would require a full understanding of the difference between expletive there and the various expletive it. I do not possess such. However, it may be possible to specify that a there type expletive arc is one which is a remote successor of a 2-arc sponsored by a neighboring 2-arc whose head represents a DP that is not a complement clause.

Therefore, the NEX clause defining structure will include *at least* the elements of (177).

(177)

(177)

Chapter 1



Aisa final Nominal-arc

In this structure, I artificially ignore, as I will in what follows, the fact that X-PPs are PPs. This matter raises a variety of issues about the description of PPs which, though important and relevant, are not central to the present discussion; so I will not seek to deal with them here. In (177), arc A is the final R-arc which determines that X-PPs are not S3s. B is the type II local successor required by Condition 1, representing default Quace and C is the finished Quace-arc specifying that A has quirky 1-Quace. E is the default Quace-arc required by Condition 1, while F is the arc representing that D has finished quirky 4-Quace.

I will assume that the conditions just discussed on NEX clauses are a consequence of several distinct principles of English grammar. First, there is a specifically NEX clause characterizing condition which I take to specify three necessary conditions for a final Nominal-arc, like A in (177), which is *not* a 1-arc to have finished 1-Quace:

(178) Condition 4 NEX Clause Constraints

If A is a final Nominal-arc but non-1-arc, then A's Quace Marker's final element is a (finished) 1-Quace arc only if

- (i) there is a distinct neighboring final *expletive* 1-arc, B with finished 4-Quace; and
- (ii) A's R-sign is a member of {5, 6, 8, Oblique₁, ... Oblique_n}; and:
- (iii) A is a type I remote foreign predecessor of an Overlay-arc

Notable about (178) is that it does not restrict the existence of final expletive 1-arcs with finished 4-Quace to NEX clauses, and is consistent with their occurring in any sort of clause whatever. This is obviously inadequate, since I assume that it is precisely finished 4-Quace on a 1-arc which leads to an expletive subject not being pronounced. I will propose, however, that the conditions needed here are relevant more generally than to NEX clauses and are needed at least for those as clauses and comparative clauses shown in Section 5 to also involve null expletives. Moreover, I assume that the same conditions hold for fronted participial constructions like (179), which induce Anticomplementizer Constraint effects just as NEX clauses and the others do, but which space precludes discussing in detail: ³³

(179) Lying on the table (he is sure) (*that) were two sick gerbils.

I take this to mean that the participial constituent heads a final P-arc which has quirky 1-Quace. I thus propose:

(180) Condition 5 Quirky Expletive Subject Constraints

If A is final expletive 1-arc, then A has finished 4-Quace only if there is a neighboring final arc with finished quirky 1-Quace.

This constraint simply requires that finished 4-quace on an expletive arc only occur in a clause which contains some final arc with quirky 1-Quace. However, (180) fails to embody the informal assumption that all those expletives heading final 1-arcs with quirky 4-quace are not pronounced. So in particular Condition (180) does not specify that the expletive in NEX clauses is null. Typically, in the Metagraph framework, a null realization of some constituent K is represented by the erasure of (all) the arcs headed by K. That view always raises the question of the identity of the relevant erasers, which, in the present case, is not obvious.

Certain conclusions are possible though. Since internal to present assumptions, the quirky 4--Quace constituent, that is, the invisible expletive, needs to be associated with a final arc, the relevant eraser of at least one of the arcs headed by the expletive would not necessarily be internal to the minimal clause containing that expletive. For given the definition of 'final arc' in (167), such erasure would mean that the arc was not final. That conclusion is, moreover, seemingly strengthened since, as seen earlier, the expletive in question can arguably raise, meaning, that the 1-arc it heads can have a type I foreign successor. This needs to be assumed for raising cases like (181), argued in Section 1 *not* to show that the X-PPs were subjects:

(181)a. To Jerome seem/*seems to have been sent several threats.

b. To Jerome *seem/seems to have been sent a threat.

Moreover, the expletives posited for as cases, comparative cases and predicate ones like (179) arguably also can raise:

- (182a. Jerome is mad, as appears to have been obvious to everyone.
 b. Jerome was angrier than appears to be consistent with his mental health.
 c. Lying on the table seem/*seems to have been two sick gerbils.
 d. Lying on the table *seem/seems to have been a sick gerbil.

Since X-PPs have been shown not to be subjects, to embed cases like (181) and (182) in the general raising pattern, which involves the raising of final complement subjects, one must assume the invisible expletive has raised. By taking there type expletives to agree in number with the DPs they share a relation with, cases like (182c, d) are regular under an analysis positing raising of the expletive. That would mean then that the final 1-arc headed by the expletives in the (have) (been) sent clause of (181) has no eraser in that clause. Rather, it would seem that the ultimate expletive arc which is erased would have to be at least as high as the seem/seems clause. The only thing which is in that clause which is really particular to the NEX clause structure is the X-PP which has extracted through the seem clause to its ultimate overlay position. This might suggest that the eraser of the relevant expletive 1-arc is one of the 30-arcs.

But I reject that idea. My assumption is that the invisibility of the there in NEX clauses as well as other English cases of null expletive subjects is, rather, to be assimilated to the *general* invisibility of final 1 expletives in NLs like Italian and Spanish, which in general occur with nothing like an X-PP. Arguably then, the eraser for all such expletive arcs has to be the P-arc of the highest clause in which they occur. If so, then it is on various grounds necessary to revise the definition of ‘final arc’ so that the sort of erasure just posited does not preclude an arc being final. One way to do this would be to add a specification that the ‘Remote Branch’ referenced in (167) is a Nominal-arc. At any rate, the present idea is then:

(183) Condition 6 Invisibility of Expletives Heading Quirky-Quace Marked Final 1-arcs

If A is a final expletive 1-arc with finished 4-Quace whose neighboring P-arc is B, then if A is not erased by an arc distinct from B, A is erased by B. ³⁴

The motivation for the second ‘if’ clause is precisely the raising instances discussed earlier where final expletive 1-arcs of the sort at issue have type I foreign successors when they are in the infinitival complements of seem clauses.


9.4 Stating the Extraction Constraints


9.4.1 Remark


The claim of this section is that the three extraction constraints of Section 2 treat the X-PPs of NEX clauses in the same way that they treat S3s because of the fact that the former, exceptionally, have quirky 1-Quace, while S3s, representing the heads of final 1-arcs, regularly have (straight) 1-Quace. Logic then requires that the three constraints each be stated in a way which takes advantage of *the sharing of 1-Quace*, meaning that none of the three constraints can be properly stated via exclusive reference to *final* 1-arcs. The following three subsections sketch analyses of the three constraints in Quace terms.


9.4.2 The Anticomplementizer Constraint


The Anticomplementizer Constraint in its English variant says in effect that the complementizer of a *non-relative* type finite clause must be null under a specific condition Q. The constraint will then have two sorts of effects, given a background claim that of the various English finite complementizers, only that has a null variant. The others, as if/how/if/like/when/whether, do not permit this. Therefore, in any overall context where condition Q holds, the Anticomplementizer Constraint will force the null variant of the that complementizer and will render ungrammatical a clause with one of the other finite complementizers. The pattern will be like that of (184a-f):

(184)a. No gorilla did he believe *that/* would solve the problem.

b. No gorilla did it look *as if/* would solve the problem.

c. No gorilla did he see *how/* solved the problem.

d. No gorilla did he like it *if/* solved the problem.

e. No gorilla did he like it *when/* solved the problem.

f. No gorilla did he know *whether/* had solved the problem.

g. Culicover, (1993b: 104)

[On which table]_i were you wondering whether under certain circumstances t_i might have been put the books that you had bought

h. That is the tiger which_i they saw how at a key moment t_i had helped his trainer.

However, when, as in the Adverb Effect Environment illustrated in Culicover's (1993b) example (16d) repeated as (184g), or in (184h), subject extraction does not require a null complementizer, compatibility with a complementizer other than that is possible.

Leaving aside how the issue of null realization for different complementizers is to be described, the core of the formulation of the Anticomplementizer Constraint then reduces to specification of condition Q.

My suggestion is that the basic constraint is that a complementizer, C_n, is in the relevant environment Q if and only if there is some final Nominal-arc A of the highest clause of which C_n is the complementizer which has two properties: (i) A has finished 1-Quace; (ii) the head constituent represented by A is extracted past C_n.

Moreover, I will take the latter to mean that A is the foreign predecessor of a specific type of arc defining extractions; assume these to be defined, as in Postal (2001a), by the R-sign 30. The idea then is roughly that any *ordinary* (see the discussion of 40-arcs below for a bit of explication of this hedge) extraction involves a minimum of three types of arcs. First, there is an arc which is *not* a 30-arc and which has a 30-arc type I foreign successor. Call this a *Start* arc. In cases of nominal extraction, the Start arc will typically be a final Nominal-arc.³⁵ Second, there is a (non-null, possibly unitary) sequence of 30-arcs, the first a type I foreign successor of the Start arc and each subsequent one, if any, a type I foreign successor of the previous 30-arc. Assume that any type I foreign successor of a 30-arc is itself a 30-arc; call this the *Uniformity Condition*. Finally, there is some arc, a member of the class called *Overlay-arcs* in Johnson and Postal (1980), which is a type I local successor of the last 30-arc foreign successor. I will also assume, quite crucially, that that extraction always involves successive immediate constituencies; more precisely, an extracted element must be a constituent of every constituent between its original and final positions. So:

(185) Condition 7 Extraction Limitation

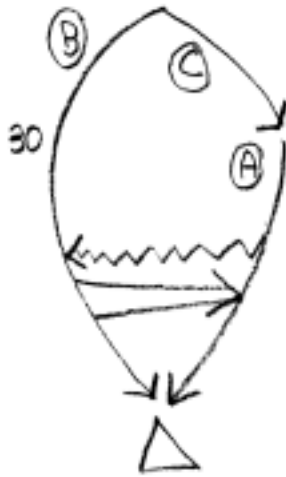
If B is a foreign successor of A, then there exists an arc C such that B is a neighbor of C and A is a branch of C.

That is, extractions must be like (186a) and never like (186b):

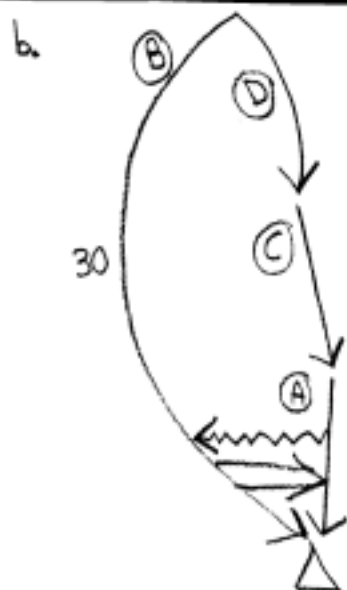
(186)a. Licit Extraction

Chapter 1

(186)a.



b. Illicit Extraction



In (186b) the type I foreign successor of A, B, defining the extraction is not, as required, a neighbor of an arc A is a branch of since A is a branch of C but only a remote branch of D.

The conditions determining the Anticomplementizer Constraint could be made more compact and cross-linguistically expected if it were possible to state a (hopefully universal) condition linking a complementizer to extractions from the clause it marks. This would be possible if there is in effect a kind of agreement between complementizers and (certain) phrases extracted from their clauses. Such a general agreement pairing has been previously recognized in e.g. Irish and Chamorro; see Chung and McCloskey (1987), Chung (1998). Moreover, it is also known that there is agreement between complementizers and elements of the clause they mark (e.g. subjects) independently of extraction; see Watanabe (2000) for examples, discussion, and references. The possibility for complementizers to agree thus seems clear.

I assume here, moreover, that English complementizers manifest at least agreement in *Quace* and, further that this agreement is mediated through the following (hypothesized) informally specified state of affairs:

(187) 30-arcs *agree in Quace* with their predecessors (Perhaps better and more generally: If A is a remote successor of a 30-arc, and A is a successor of B, A *agrees in Quace* with B).

The generalization in parenthesis here extends the claim of *Quace* agreement to successors of A, like, e.g., A₆ in (191b) below. Thus the more general version says that a 30-arc agrees in *Quace* with its Start-arc predecessor, that every remote successor of that 30-arc agrees with its predecessor and that the ultimate local successor of the last 30-arc in the sequence agrees with the latter in *Quace*. Thus *Quace* would be in effect passed up from the Start arc to each intervening 30-arc and finally to the ultimate remote successor of the Start arc, an Overlay-arc.

To make sense of claim (187) though, it is requisite to give a precise interpretation of the highlighted word sequence. To do this, one can first define an auxiliary notion for a fixed *Quace* Marker, as in (188):

(188) Definition

If $M = \{Q_1, \dots, Q_n\}$ is a Quace Marker, then a sequence of R-signs $\{R_1, \dots, R_n\}$ is *the Relational Marker of* M if and only if for all i , $1 \leq i \leq n$ Q_i is an R_i -arc.

That is a Relational Marker of a fixed Quace Marker QM is simply the total R-sign sequence defined by the successive R-signs of QM .

Given that, one can take a specification of the form (189a) to mean (189b):

(189)a. Arc A agrees in Quace with arc B

b. If B 's Quace Marker $= \{Q_1, \dots, Q_n\}$, then the Relational Marker of A 's Quace Marker $= \{R_1, \dots, R_n, \dots\}$

That is, agreement in Quace between two arcs means that the agreeing arc must have a Quace Marker whose *initial sequence* of arcs matches in R-sign the *full* set of arcs of the Quace Marker of the determining arc.

Given this, (187) requires that a 30-arc foreign successor, A , of a Start 1-arc with only straight Quace itself have a type II 1-arc local successor, and if A has a (type I foreign) successor, that 30-arc also will have to have a type II 1-arc local successor, and so on. That is, in effect, the Relational Marker of a Nominal-arc Start arc is passed onto to each member of any sequence of its 30-arc successors. Then, assuming that complementizers head arcs with the R-sign CT, it is possible to say something like (190):

(190) Condition 8 Complementizer Agreement in Quace

A CT-arc A agrees in Quace with an arc B if and only if B is a 30-arc neighbor of A .

Given (190), a simple subject extraction case of the sort relevant to the Anticomplementizer Constraint like (191a) will involve a structure including a subpart like (191b). To simplify diagrams for comprehensibility, however, here and below I suppress drawing separate type II local successor arcs for 30-arcs and sometimes for CT-arcs as well. Instead, I draw such arcs with complex R-sign combinations of the form 30/1/..., CT/1/2, etc. This should be taken to mean

(191)a. I know who they claimed (*that) supports Saddam.
b.



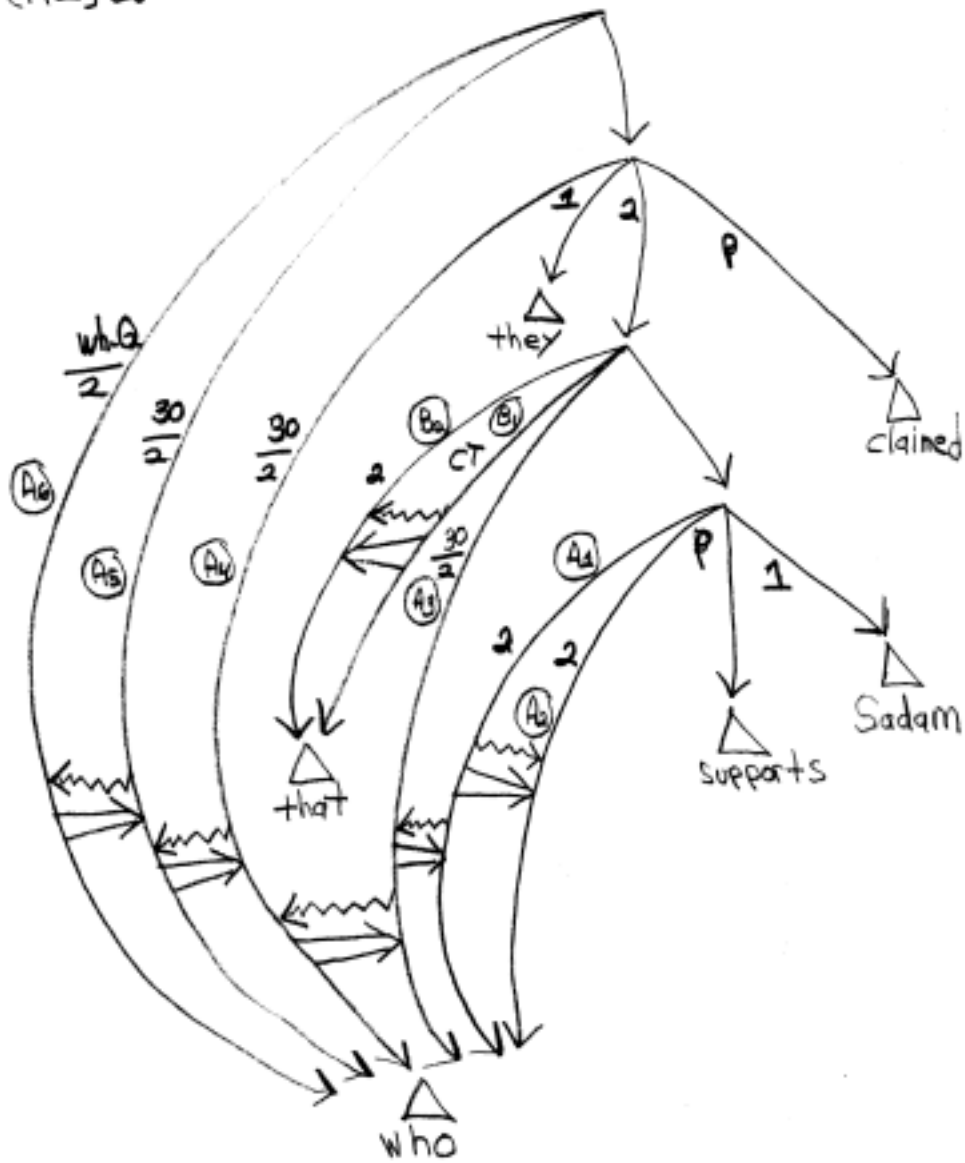
A non-subject extraction, say one like (192a), whose Start is a 2-arc, would be a model of: (192b):

(192)a. I know who they claimed (that) Saddam supports.

b.

Chapter 1

(192) b.



Notably, in (192) the CT-arc ends up via Quace Agreement with finished 2-Quace, not finished 1-Quace, as in (191).

At this point, the tools are largely available to indicate initially that both subject and X-PP extraction out of a complement clause must, ignoring the Adverb effect and another restriction discussed below, yield a null complementizer. For at this point, the relevant CT-arcs whose heads must be unpronounced have Quace Markers with finished 1-Quace.³⁶ The descriptive task can then be accomplished apparently by having the relevant 1-Quace arc erase the CT-arc.

(193) Condition 9 Non-Relative Clause CT-arc Erasure

A CT-arc of a *non-relative clause* with finished 1-Quace is erased by the arc it agrees with in Quace.³⁷

Given (193), the head of CT-arc B₁ in (191b) will have to be erased by the 30-arc A₃, although this erasure is not there indicated.

However, despite what has been said, in at least two subcontexts the description constructed so far fails to work correctly. First, for subjects extracted from a clause deeper than that the CT-arc is directly associated with, there are contrasts like (194a, b):

(194)a. the terrorist who I believe (*that₁) threatened Ernie

b. the terrorist who I believe (that₂) Ernie claimed (*that₁) threatened you.

In both (194a, b) the CT-arcs headed by complementizer that₁ should seemingly have 1-Quace as a consequence of agreement with the 30-arc, call it A, headed by the relative pronoun who, with that 1-Quace being determined by the fact that the 30-arc is a remote successor of the final 1-arc of the complement of claimed. But the CT-arc whose head corresponds to that₂ apparently must not have 1-Quace, although it is a neighbor of a 30-arc which is a remote successor of A, and thus, by previous specifications, that is, principles (187) and (190), should agree with it in Quace.. In other terms, despite the fact that subject extraction is present, the complementizer that₂ in (194b) does not manifest the

Anticomplementizer Effect, and this fact and its contrast with the case for that₁ is so far unaccounted for.

I suggest one can handle this contrast without altering anything said so far by positing an additional principle of restricted Quace determination by main predicates from whose complements things are extracted.. This takes account of the fact that under previous assumptions, the 30-arc which is a neighbor of the CT arc, A, associated with that₂, unlike that CT-arc associated with that₁, is a (remote) successor of a 30-arc, B, which is a neighbor of a P-arc (one corresponding to the verb claimed in (194b)). I suggest then that the 30-arc B is forced by an further principal *to have an additional Quace arc*, which I will hypothesize is a 2-Quace.

(195) Extraction Quace Assignment (first version)

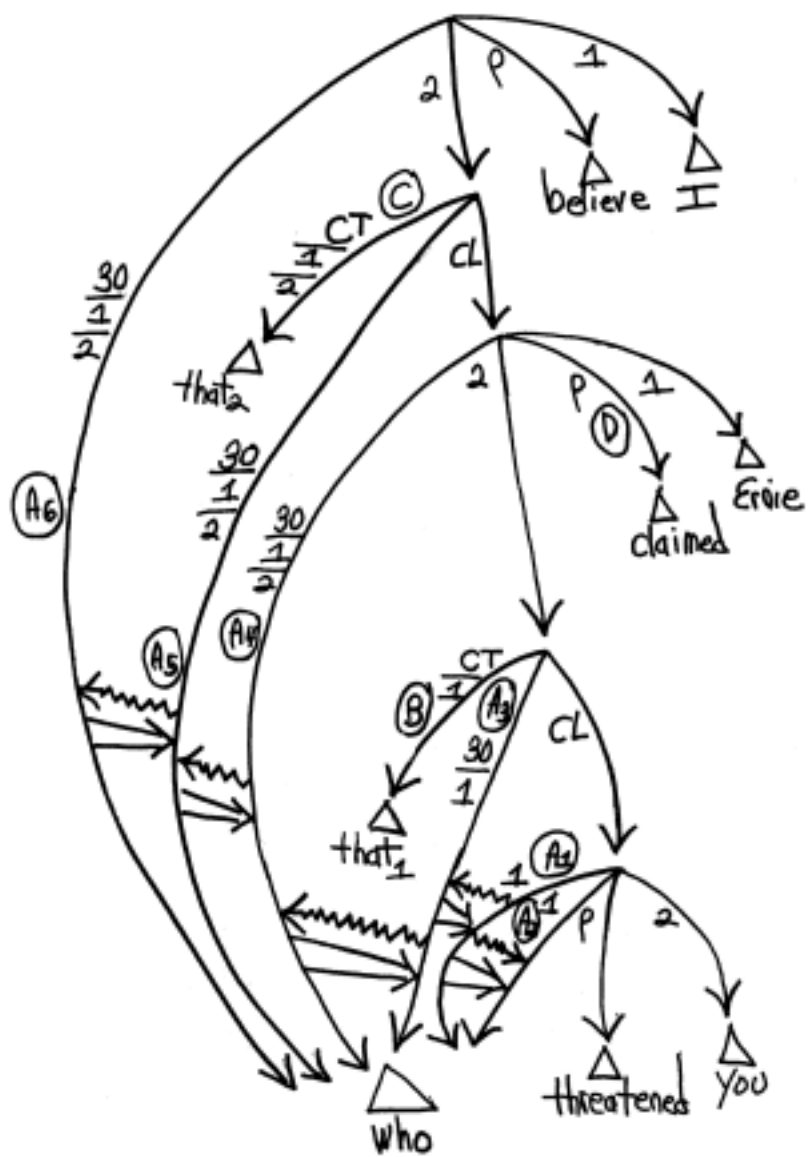
If A is a 30-arc whose Start is a final arc with finished 1-Quace, and A is a neighbor of a P-arc, then A has finished 2 Quace.

This principle can in general be satisfied by a 30-arc only if the latter's Quace Marker consists of the sequence {..., A, B}, where A is a type II 1-arc local successor and B is a type II 2-arc local successor of A. This is a reason why, as noted earlier, one must allow some type II local successors to themselves have type II local successors.

Given this new principle, the 30-arc remote successor of the 1-arc which might have been expected to determine (via the agreement specified in (190)) 1-Quace on the highest CT-arc in (194b) actually determines finished 2-Quace on that arc. Such a CT-arc is then properly *not* required by (193) to be erased.

That is, the relevant parts of (194b) would include the elements of (196):

(196)



Here, the CT-arc B must have finished 1-Quace, via agreement with its neighboring 30-arc, A_3 , which is not a neighbor of any P-arc and thus has no source of 2-Quace. But the 30-arc A_4 is a neighbor of the P-arc D and thus must have finished 2-Quace. Hence, by further agreement, A_5 has that, and thus the CT-arc C has it by agreement with A_5 . In these terms, it is not an accident that the higher instances of that do not yield an Anticomplementizer effect; for their CT-arcs are neighbors of 30-arcs which are remote successors of a 30-arc which is a neighbor of some P-arc, requiring finished 2-Quace via principle (195).

A virtue of the approach to the (194a, b) contrast just sketched is that it likely can be extended to the second so far untreated issue, which is the Adverb Effect. Recall that in the presence of many fronted adverbs, as first noted by Bresnan and stressed in later work by Culicover, the Anticomplementizer Effect is not found:

- (197)a. the nurse who he believes (*that) would watch her father
- b. the nurse who he believes that under those conditions would watch her father
- c. *the nurse who he believes \varnothing under those conditions would watch her father.

Here though there are actually two phenomena. First, unlike the ordinary subject case of (197a), the that of the grammatical (197b) is not *required* to be null. Second, unlike other (e.g. object extraction cases), the that is not *permitted* to be null, so that (197c) is ill-formed. Why should these properties hold? A partial answer, I believe, lies in the following circumstance, which is partially parallel to that holding in cases like 194b). In the latter, as represented in (196), the complementizer which fails to behave as if it had finished 1-Quace, that is, that₂, heads CT-arc B. As already discussed, the head of B is separated from the position of the head of the Start arc of the 30-arc with which B agrees in Quace by an intermediate verb, heading some P-arc, there D. I have claimed that that P-arc determines that a neighboring 30-arc with 1-Quace has finished 2-Quace; so A_4 is required to have finished 2-Quace..

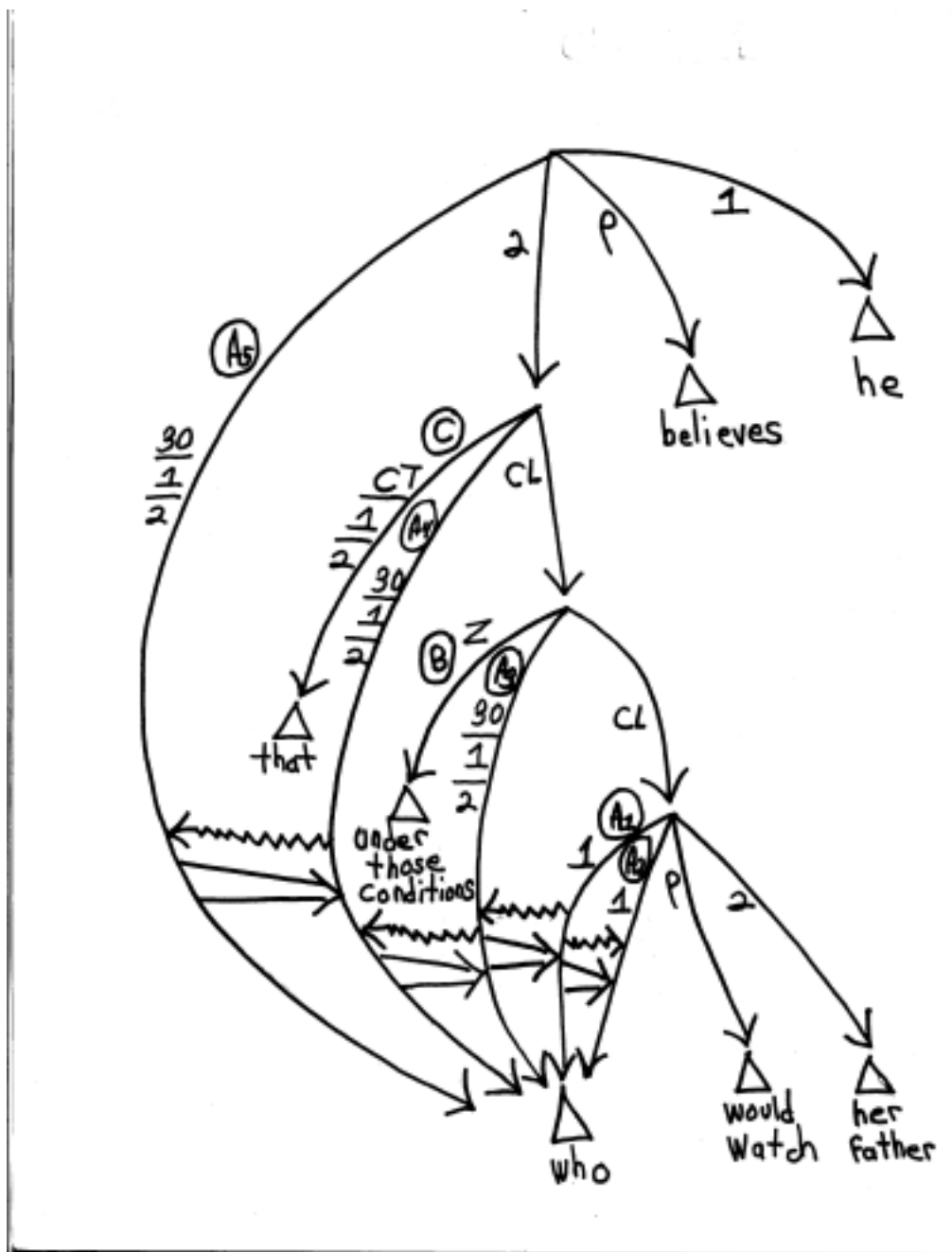
Notably then, in (197b, c) the fronted adverb which nullifies the Anticomplementizer effect is intermediate in position between the position of the head of the Start 1-arc and that of the complementizer which fails to be null. This means that under past assumptions, some 30-arc which accounts for the extraction of the 1 will be a neighbor of the arc headed by the adverb. Assuming that the R-sign of this adverbial arc is of a systematically specifiable type, say Z, then one can simply extend (195) to say:

(198) Condition 10 Extraction Quace Assignment (final version)

If A is a 30-arc whose Start is a final arc with finished 1-Quace and A is a neighbor of a P-arc or a Z-arc, then A has finished 2 Quace.

Given (198), it is now predicted that (197b) is possible, since the complementizer heads a CT-arc whose finished Quace will be 2-Quace, which does not invoke principle (193). The proposal is thus that the fronted adverbs which nullify the Anticomplementizer effect also determine non-1-Quace as the finished Quace on a CT-arc just as higher predicates do. The relevant structure of (197b) would be (199):

(199)



In (199), the key arc is A_3 , which, as a neighbor of the Z-arc B, is forced by (198) to have an extended Quace Marker with finished 2-Quace. That means that A_4 , the successor of A_3 , is forced to have finished 2-Quace, which determines that the CT-arc C has it, guaranteeing that it need not be null.

Further support for the view embodied in (198) arises when attention is turned to the Parallelism Constraint and the Complementizer Constraint. ³⁸

Before turning to the other constraints which extracted X-PPs share with extracted S3s, one should briefly note parallelisms between the present description of the Anticomplementizer Effect and Kayne's (1984: 6-7) account of what I claim is a related phenomenon. Kayne dealt with the marginal and perhaps largely archaic option of marking a subject interrogative or relative pronoun as whom, noting cases like (200a):

- (200)a. the man who(m) I believe has left
- b. the man who(*m) left
- c. Who(m) do you believe left first?
- d. Who(*m) left first?

A key fact is that (200a, b) clearly contrast, as do (200c, d). In Kayne's transformational terms, cases like (200a, c) were the result of a second cyclic case assignment into Comp.

In the present framework, the extra objective case marking is arguably possible in just the context seen above to determine finished 2-Quace on a 30-arc, that is, in a context where a wh form achieves its final position only by raising past the locus of a predicate (here, believe) ³⁹ If the parallelism is genuine, one would also

expect that the contexts of the Adverb Effect, unified with the higher predicate context in (198), would permit the case marking seen in (200a, c). I believe this is at least weakly the case:

(201)a. a woman who(*m) might be hired

b. a woman who(??)m under the sort of conditions you have just referred to might be hired

c. a woman who(??m) at the time the police believe the crime was committed was thought to be in Istanbul

d. I don't know who(*m) might be hired.

e. I don't know who(??m) under the sort of difficult conditions you have just referred to might manage to get hired.

f. a politician who(*m) looks ill whenever I see him

g. a politician who(?m) whenever I see him looks ill.

h. someone who(*m) is now the ruler of the country

i. someone who(??m) for all intents and purposes is now the ruler of the country

j. someone who(*m) has supported terrorism for years

k. someone who(??m), as the National Review has recently documented, has supported terrorism for years

While (201b, c, e, g, i, k) are hardly lovely, there is, I find, a sharp contrast with the hopeless long versions of (201a, d, f, h, j).

Arguably then, the special objective case marking of an extracted S₃ found in (200a) should be limited to the head of an Overlay-arc which, while a remote successor of a Start arc with finished 1-Quace, is also a remote successor of an intermediate 30-arc which, via principle (198), has finished 2-Quace. Properly then, this possibility cannot be available for the Overlay-arc headed by whom in (200b), which has no way of receiving finished 1-Quace via principle (198).

9.4.3 The Parallelism Constraint

Turn then to the Parallelism Constraint.. In its primitive form this prevents a main clause final subject from being combined under coordination with a main clause non-subject, yielding e.g.:

(202)a. *a woman who sang well and Greg praised

b. *a woman who Greg praised and sang well

However, the constraint does not bar such combinations if the final subject at issue is an embedded one:

(203)a. a woman who Greg proved could sing well and Tony wanted to meet

b. a woman who Tony wanted to meet and Greg proved could sing well

Bresnan's key observation then was that X-PPs behave in the same way, which she took to support the claim that they are subjects (S3s in present terms).

(204)a. *In that cage was lying a gorilla and they then placed a monkey.

b. In that cage they believed was lying a gorilla and they then placed a monkey.

It has been seen that Bresnan's conclusion is not viable. Moreover, given the Quace assignment principles of this section, no assumption that X-PPs are final 1s is motivated by facts like (204b). All that is required, arguably, to determine that they behave like 1s under the constraint is that the latter be stated in terms of *finished 1-Quace*. While the facts of coordination are too complex to permit here a serious account of the Parallelism Constraint, it seems that the following informal statement is defensible:

(205) Coordinate combinations of the sort which underlie Bresnan's Parallelism Constraint preclude combinations of two constituents, one of which heads an Overlay-arc with finished 1-Quace and the other of which does not. ⁴⁰

Moreover, formulation (205) explains the difference in (204). That is, in (204a), the underlying PP in the first conjunct, which is a NEX clause, will have finished 1-Quace while that in the second conjunct will not. Combination is thus banned. But in (204b), the PP in the first conjunct has no source of finished 1-Quace and neither does that in the second; violation of (205) is not possible.

If that is the proper view, then given constraint (198), one would expect that, like the Anticomplementizer Constraint, the Parallelism Constraint should also be *nullified* in environments where the Adverb Effect holds. This seems correct:

(206)a. *He believes that in that cage they kept a monkey and had already been placed a gorilla.

b. ?He believes that in that cage they kept a monkey and at some earlier point in time had already been placed a gorilla.

While (206b) is not lovely, it shows considerable improvement over (206a), which would lack any Z-arc to assign finished 2-Quace to the X-PP which is combined with an ordinary PP from the first complement conjunct. See also the parallel:

(207)a. *Stella claimed that during that era the Arabs had formulated many axioms and had been proved many theorems..

b. ?Stella claimed that during that era the Arabs had formulated many axioms and despite considerable controversy had been proved many theorems.

If something like (205) is correct, it predicts facts like (208) under my assumption, necessary given the inducement of the Anticomplementizer Constraint in cases like (179), that fronted participial phrases in inversion cases represent arcs with finished 1-quace.

(208)a. Arrested by the police may have been Mickey Cardozo.

b. Arrested by the police Sally Reynolds is said to have been.

c. Arrested by the police is said to have been Sally Reynolds.

d. Arrested by the police Mickey Cardozo may have been and Sally Reynolds is said to have been.

e. Arrested by the police may have been Mickey Cardozo and is said to have been Sally Reynolds.

f. *Arrested by the police may have been Mickey Cardozo and Sally Reynolds is said to have been.

g. *Arrested by the police Sally Reynolds is said to have been and may have been Mickey Cardozo.

In (208d), the participial phrase does not correspond to the predicate of an inversion clause and thus would not head an arc with 1-Quace. In (208e), the participial phrase corresponds to the predicate of inversion clauses in both conjuncts...thus a 1-Quace phrase would be combined with a 1-Quace phrase. But in the ungrammatical case, (208f), the predicate of the first clause would have 1-Quace while that of the second would not, and in the ungrammatical (208g), the predicate of the first clause would not have 1-Quace while that of the second

would. Note that in these terms, principle (195) would be irrelevant, since it only determines assignment of 2-Quace to arcs having 1-Quace, which, given condition (180), is just not the case for the participial phrase arc of the second conjunct of (208f) or the first conjunct of (208g).

9.4.4 The Complementizer Constraint

Finally, I turn to the Complementizer Constraint, which holds only of relative type clauses and which is something of the opposite of the Anticomplementizer Constraint; that is, it requires that a complementizer be non-null.

(209) the vampire that/* \emptyset attacked Tony

It was observed in Section 1 that this also holds for X-PPs:

(210) It was to Larry that/* \emptyset were sent threatening postcards.

Serious discussion of relative clauses being impossible here, suffice it to say that the fact that this constraint holds for both S₃ and X-PP extractions can also be captured by stating the constraint in terms of 1-Quace. Assuming that the relative clause initial that of cases like (210) is a complementizer, agreement principle (190) already determines that CT-arcs like that headed by that in (210) have finished 1-Quace. So an informal version of the constraint needed for relative clauses might say:

(211) If A is a *relative clause initial* CT-arc and has finished 1-Quace, A is not erased.

If present assumptions are roughly correct, the embedded environments and the Adverb Effect which both lead to assignment of finished 2-Quace (via condition (198)) should nullify the consequences of (211). This is correct (for the higher complementizer) in the case of the embedded environment, see (212), but sharply incorrect in the Adverb Effect environment; see (213):

(212)a. the vampire (that₂) they said (*that₁) attacked Tony

b. a vampire that/* Q under the right sort of conditions would certainly attack Tony

(213)a. It was to Larry (that₂) they said (*that₁) were sent threatening postcards.

b. It was to Larry that/* Q at that time were sent threatening postcards.

Although in present terms, the CT-arcs in both (212b) and (213b) should have finished 2-Quace and so not fall under (211), the Adverb Effect environment has no improving effect in cases like (212b) or (213b). I do not have an account of this fact. The only bright feature of the situation is that X-PP extraction and S3 extraction in the relevant contexts behave the same. To handle this in present terms, it seems like it would be necessary to modify the Z-arc part of (198) so that it is only satisfied in a *non-relative* clause. This ad hoc limitation on only part of a condition is evidently ugly and suspicious, but I have nothing better to offer at this point.

9.5 French

Recall that Section 8 showed that in French, the analog of NEX clauses interacts with the French variant of the Anticomplementizer Effect, that is, the obligatory mapping of complementizer *que* to *qui* in the case of S3 extractions, in such a way that, in contrast to English, the Anticomplementizer Effect is *not* found in French NEX clauses. Combined with other factors, there is then no evidence that French analogs of X-PPs have any commonalities with French S3s at all. One approach to the facts would then just deny that there is quirky 1-Quace marking of French X-PPs. Another, which would keep the French construction abstractly more similar to the English one, would posit the same 1-Quace marking on X-PPs as has been posited for English but state CT-arc agreement in French, that is, the analog of (190), in a more restricted way, such that perhaps Quace agreement is only defined for non-Quirky 1-Quace, that is, for single arc Quace Markers. I will not attempt to choose between such approaches here. It suffices that there is no particular mystery apparent in the French facts and no particular problem is raised for the present approach to the English NEX clause phenomenon.

There is one further fact of relevance though. This is represented by the English/French parallelism in (214):

- (214)a. the dragon (that) I believe (*that) was found
 b. le dragon que/*qui je crois *que/qui a t trouv

Evidently, just as the English Anticomplementizer Effect only holds for the minimal clause, the one which in the present account contains the Start arc for the extraction, just so the French analog only holds there. This would indicate that parallel conditions are at work. In present terms, it means that 1-Quace assignment to CT-arcs and additional assignment of 2-Quace to certain 3O-arcs in contexts of ‘deep’ extraction are also found in French.

9.6 Final Comment

The key evidence seemingly favoring position (4c) is that X-PPs obey the various extraction constraints, the Anticomplementizer Constraint, the Parallelism Constraint and the Complementizer Constraint. I have tried to sketch though a method based on the notion of Quace which permits capturing the extension of these constraints, mostly relevant to S3 extraction, to X-PPs without the really radical and ultimately untenable idea that X-PPs are S3s. Rather, it can be stated that all these constraints pick out the relevant class of forms via specification of the notion finished 1-Quace. And I further sketched how a parallel treatment was possible for the French analog of the Anticomplementizer Constraint.

To conclude, one really terminological remark might be appropriate. The reader will have noted that in the present development, although it is denied that X-PPs are S3s, each X-PP does correspond to the head of a 1-arc, namely, the 1-arc type II local successor which provides its finished 1-Quace. Despite this, I think it is correct to avoid, as I have throughout, calling such phrases ‘subjects’. It is easy to give a general principle underlying the choice of terminology (or non-terminology). Namely, a phrase has been called a ‘subject’ only if it heads a 1-arc of the sort which could be a superficial arc, that is, one which is not necessarily erased. Since every type II local successor is (by definition) erased, the inference is that merely heading a type II local successor R-arc is not grounds for being called an R. Adopted systematically then, this approach to terminology would not call a nominative object, one likely heading a final 2-arc with quirky 1-Quace, a subject, and would avoid calling a dative subject, one say

heading a final 1-arc with quirky 3-Quace, an indirect object. These terminological choices are formally clear, given the precise notion of type II local successor, and seem in accord with tradition as far as comparisons are possible. The only caution necessary then is that in an enriched arc framework which recognizes Quace arcs, it is simply not the case that e.g. merely being the head of an arbitrary 1-arc determines that a constituent is a subject, etc.

Notes

1 Irrelevantly to present concerns, one might strengthen this claim to ‘always’. This depends on the status of *inter alia* apparent PP subjects like that highlighted in (i), discussed below, and WH infinitives, such as that highlighted in (ii):

(i) *Inside the closet* is a fine place to hide the snake.

(ii) Was *when to use a microscope* ever discussed?

2 Various principles in different frameworks have been proposed which would arguably require an S3 in a wide range of clauses, subject perhaps to specific structural factors and/or parametric variation. These include the relational grammar *Final 1 Law* (see Perlmutter and Postal, 1983: 100-101), the lexical-functional grammar Subject Condition (see Dalrymple, 2001: 18-19) and the government-binding *Extended Projection Principle* (see Chomsky, 1981: 25-27).

3 Hoekstra and Mulder (1990: 31) seem to view the construction at issue as defined by locative PP preposing in particular. For instance, they specifically cite such PPs in saying: “...our hypothesis predicts that unergative verbs of the type sleep, eat, etc. can also be ergativized in this way. English preposing constructions provide direct evidence for the correctness of our hypothesis, as we find constructions with these verbs with postverbal subjects, but only if there is a locative PP in sentence initial position.”

They then cite:

(i) In this bed has slept an important member of the royal family.

(ii) In this restaurant used to eat the famous encyclopedists.

But these very verbs permit NEX clauses with *non-locative* PPs:

(iii) Only with the help of drugs could finally succeed in sleeping soundly a number of the most gravely ill patients.

(iv) For that reason were sleeping late most of the members of the mime troupe.

(v) In that artificial style/manner appear to have ostentatiously eaten many of the visiting foreigners.

4 Bresnan (1976: 486) cited e.g. (i), claiming that the highlighted phrase was a subject, one which then falsified the claim of Postal (1974: 91) that subjects cannot be the targets of Complex DP Shift:

(i) Over my windowsill climbed *an entire army of ants*.

She cited two arguments for the subject status: (i) the DP in question determines verb agreement; (ii) the DP satisfies a definition of 'subject' in Postal (1974). The latter, having been long abandoned, can be ignored. The former point was also cited in Bresnan (1977: 186), who said "I assume that the PP in (65) is not a subject, on the ground that subjects can induce number agreement of the verb."

The factual reason was then the verb agreement. But as observed in Postal (1977), a reply to Bresnan (1976), the same agreement determination typical of subjects is seen with the postverbal DPs of there insertion sentences like (ii), clear non-S3s:

(ii) Over my windowsill there were/*was climbing thousands of huge ants.

Bresnan's claim did not control for this fact and thus gave no real grounds for choosing a view that the DP in (i) is a subject, in effect view (4b) of this work, as against the view, in effect (4c) of this work, that it has the status of the postverbal DP in (ii). I return to this point.

5 Notably though, Bresnan (1977: 179, 180, 186) cited cleft extraction cases like (i):

(i) = Bresnan's (41a)

It's in these villages that are found the best examples of this cuisine

6 Contrary to Pesetsky's remark and the implications of the quote from Bresnan (1994), Postal (1977) did *not* say anywhere that the X-PPs underwent subject raising.

7 One might add that a non-top level subject can also coordinate with a top level subject, yielding alongside (10d):

- (i) She's someone that --- likes cooking and I expect --- will hate jogging.

8 And the following matches (12a):

- (i) That's the old graveyard in which ___ will be buried the president and they say ___ is buried a treasure.

9 Although the adverb effect was introduced into grammatical discussion with great emphasis in the 1990s in the work of Culicover, arguably this phenomenon was discovered by Bresnan (1977: 194 note 6). I am indebted to Ivan Sag for this information. Bresnan noted then that her constraint (17), proposed to account for the anticomplementizer effect, allows all of the following, which she then characterized as only awkward:

- (i) Who did she say that tomorrow --would regret his words?
- (ii) an amendment which they say that next year will be law
- (iii) Which doctor did you tell me that during an operation---had had a heart attack?

But until Culicover's work of the last few years, most discussion of the anticomplementizer effect seems to have ignored the adverb effect.

10 Davies and Dubinsky (2001: 252-253) criticize Bresnan's proposal and suggest an alternative of the form (i):

- (i) [_{DP} [_D ~~the~~] [_{PP} under the bed]]] is a good place to hide

They argue that Bresnan's proposal, with a zeroed noun, is dubious because of:

- (ii) ??the location (of) under the bed is a good place to hide.

But replacement of the definite by an indefinite article yields a perfect result, so this argument cannot show much. In any event, the difference between Bresnan's proposal and that of Davies and Dubinsky has no relevance to present concerns. Both are agreed that the superficial subject PPs in fact are parts of subject DPs, a view adopted here.

11 A distinct and not directly relevant question is whether P-subjects can link to SFQs. I would claim no for my dialect; so the following are simply terrible:

- (i) *Into the cafeteria have both just rushed the students I was telling you about.

(ii) *From this pulpit have both preached Cotton Mather's closest and most trusted associates.

But Culicover and Levine (2001: 301) cite essentially these examples as well-formed.

12 Cases previously discussed such as (i) also preclude NFQs.

(i) Under the table and/or under the chair are good places (*each) to hide the heroin.

There is no great mystery here as NFQs are in general bad with predicate nominals, regardless of the subject they link to:

(ii) The table and the chair were good places (*each) to hide the heroin (*each).

13 Actually, it is of great significance that, while valid for cases like those cited in the text, this claim is not true across the board. So some restriction is needed to allow the (for me) perfectly grammatical extraction case correspondents in (ib, d) of the impossible reflexive forms in (ia, c):

(i)a. *Herself was described to Sylvia by Martin.

b. Herself, they proved had never been described to Sylvia by Martin.

c. *Themselves had been praised by the prizewinners.

d. It was themselves who had been praised by the prizewinners.

The point of the argument in the text is maintained by restricting attention to cases where, independently, extraction does *not*, as in (ib, d), repair reflexivization violations.

14 Green (1985: 125-126) considered the relation between expletive there sentences and NEX sentences and concluded that the correlation was not perfect and that there were many gaps. Examples included:

(i)a. Into the game now is the fullback Jenkins.

b. *Into the game now there is the fullback Jenkins.

But such real gaps in no way determine the inadequacy of a linkage between NEX cases and expletive there. The issue is what hypothesis gives the best overall account of all the data.

15 As indicated in Postal (1998: 111), I believe the right constraint on these verbs is that they are incompatible with clausal extraposition structures. This is

something of the opposite of the constraint on verbs like feel, hold, which require their underlying complement clause to occur in that structure.

16 It might seem that (59) explains, and thereby gains further support from, the fact cited in Tellier (1988: 135) (taken from Stowell, 1981), that A-Parentheticals cannot be formed corresponding to subject that clauses which are unextraposable because of the presence of object complements:

- (i)a. That John owns the gun shows that he is guilty.
- b. *It shows that he is guilty that John owns the gun.
- c. That Jenny is famous convinced Jim to visit her.
- d. *It convinced Jim to visit her that Jenny is famous.
- e. *John owns the gun, as shows that he is guilty.
- f. *Jenny is famous, as convinced Jim to visit her.

However, this argument does not stand up for two reasons. First, while (id) is for me impossible, (ib) is merely awkward. Second, these verbs permit extraposed structures like (ii), which still lack corresponding A-Parentheticals:

- (ii)a. It must show something that he owns a gun.
- b. *He owns a gun, as it must show something.

Appeal to (59) is thus not strong enough to block all the bad A-Parentheticals with these verbs. It might be, as suggested in Tellier (1988), that something like appeal to the principle that an A-Parenthetical cannot be based on a logical subject that clause is relevant. If so, the cases in (i) do not support (59) as they would be independently precluded. My own view is that what is involved is the notion Quace of Section 9. That is, clauses which are logical subjects, whether extraposed or not, are assigned 1-Quace, which precludes as formation. Very likely this is linked to the fact that 1-Quace on a complement makes it an island, since in general islands are incompatible with as formation.

17 This conclusion falsifies the claim of Bresnan (1994: 103) to the effect that in English, unlike other Germanic NLs such as Dutch, Faroese, German and Icelandic, null expletive subjects are lacking in inter alia extraposition cases. The evidence cited shows that, while generally true, null expletive subjects are found in restricted classes of embedded extraposition cases.

18 The third claim is not incompatible with the assertion of Coopmans (1989: 733), who cites (i) as well-formed:

(i) Out of which barn ran which horse?

Nonetheless, I find (i) entirely impossible.

19 For reasons I do not understand, facts like these seem much clearer when the P-subject is plural.

20 Note though that both types of clausal structures are grammatical when combined with passives of transitives taking predicate nominals:

(i)a. They turned Maurice into a doctor.

b. In that way (there) were turned into doctors several previously unsuccessful immigrants.

(ii)a. The community elected Sarah and Jane councilwomen.

b. At that time (there) were elected councilwomen several previously unsuccessful candidates.

21 This observation should probably be theoretically linked to the long known fact that the French extraposition of indefinite construction is also incompatible with adjectival clauses; see Ruwet (1972: 21) and Kayne (1975: 332).

22 Full generality of the claim in the text is hostage to the analysis of cases like (i):

(i) Levin and Rappaport Hovav (1995: 248)

and on it are engraved three pyramids.

Such cases form part of a grammatical pattern also illustrated in:

(ii) On the blackboard (there) were written several threats.

(iii) In his notebook (there) were pasted several nude photos.

(iv) On his passport (there) were stamped several secret identifications.

(v) Into the rock (there) was carved the image of a deity.

If the short versions of (i)-(v) are NEX versions of adjectival passives, as suggested in Landau (forthcoming: 105), then the generalization in the text is not right. But this would not really bear on current concerns, since, to my ear, the longer versions of these examples with explicit there are also grammatical. It is notable though that in contexts which force an adjectival analysis, such as those where the negative prefix un is present, and/or where the putative

adjective is embedded below the main verbs go or remain, analogs of (i)-(v) seem totally bad:

- (vi)a. *On her passport (there) remained unstamped any identification marks.
- b. *In our notebooks (there) went unpasted any nude photos.

23 WH infinitives and WH finite clauses can be P-subjects, as in:

(i)a. At that time should certainly be asked how to find the remaining witnesses.

b. In that way can no doubt be determined when to add the other ingredients.

(ii)a. Through the use of these new research tools will probably be discovered what happened to the missing villages.

b. In our lab can now easily be calculated how long it will take for the planet Jupiter to shrink to the size of a walnut.

24 Other exceptional forms include idiom chunks, as in:

(i)a. They prevented tabs from being kept on her movements.

b. *Tabs were prevented from being kept on her movements.

(ii)a. Only that prevented all hell from breaking loose.

b. *All hell was prevented from breaking loose.

25 For discussion of middles, see Keyser and Roeper (1984), Hale and Keyser (1986), Roberts (1987), Fagan (1988), Fellbaum and Zribi Hertz (1989), Stroik (1992, 1995, 1997, 1999), Zribi-Hertz (1993), Ackema and Schoolemmmer (1995).

26 Bresnan's claim that the shifted phrases (my P-subjects) in NEX clauses must be *thematic* objects is, on several grounds, clearly untenable under any substantive interpretation of 'thematic'. First, it fails for exactly the reasons that Levin and Rappaport (1986: 634-635) argue that a parallel claim about the phrases which can be subjects of adjectival passives is untenable. Specifically, both of the postverbal phrase types of cases like (i) can form the subjects of adjectival passives and be P-subjects:

(i)a. They provided such corn chips to the students.

b. They provided the students with such corn chips.

(ii)a. Such corn chips remain unprovided to the students.

b. Those students remain unprovided with such corn chips.

(iii)a. At that time were provided to the students several varieties of corn chips.

b. At that time were provided with corn chips several groups of students.
But clearly if such corn chips in (ia) is thematic, the students in (ib) cannot be.

Second, a major claim of Bresnan's recent work on NEX structures is that they are impossible with transitive clauses, those containing a direct object; see Bresnan (1994: 77-78). This claim is in accord with a broad range of previous work (see Langendoen, 1979; and Postal, 1977) and there is ample apparent evidence in favor of this position, as attempts to form NEX structures with standard direct objects present invariably fail:

(iv)a. *In that office have written valuable papers several philosophers.

b. *At that time will file important charges a large number of state attorneys.

But in spite of the agreement and the rich body of evidence apparently supporting the claim that NEX clauses are incompatible with direct objects, no such constraint really holds. Although there is a constraint which blocks most transitive cases, this is not a direct ban on direct objects. In support of this consider:

(v)a. In the second bathroom was grooming *Bob/himself a short foreign-looking old man.

b. At that night club were amusing themselves/*Glen and Louise a trio of bankers on vacation.

The fact is that a good number of reflexive direct objects do not preclude NEX structures. For at least some speakers, this may also be true of *reciprocal* direct objects:

(vi)a. Near the zerox machine were consoling each other two of the victims of the hurricane.

b. Inside the blimp seem to have been hassling each other two very macho parachutists.

Clearly, in any cases like the good versions of (v) and (vi) the P-subject is not a theme in Bresnan's terms.

Third, in cases like (vii) the P-subject is in Bresnan's terms clearly an agent:

(vii)a. At that time were proven to have committed perjury several congresswomen.

b. During that hearing were found to be lying all of the witnesses with guilty expressions.

27 There are other constructions, e.g. middles, which seem to show a similar antimetaphoric sensitivity:

(i) Such armies/groups/well-trained troops don't massacre/obliterate/crush easily.

(ii)a. The Yankees really massacre/obliterate/crush such teams.

b. Such teams don't massacre/obliterate/crush easily.

I find that (iib) lacks the sports reading of 'defeat in a contest' possible in (iia) and has only the same literal, physical violence reading of (i).

28 In work which appeared long after the bulk of the present paper was completed, Culicover and Levine (2001) observe a similarity between NEX clauses and those with extracted S3s, which they take to support a subject view of X-PPs. This involves weak crossover effects (WCO). They note (p. 289) contrasts like:

(i)a. *Into every dog's₁ cage its₁ owner peered.

b. Into every dog's₁ cage peered its₁ owner.

That is, in the non-NEX case (ia) there is WCO, but in the NEX clause (ib), there is not. Culicover and Levine (2001) take this to support a subject analysis of the X-PP in (ia), as in Bresnan's (1994) analysis, because of the parallelism with the lack of WCO in clear cases of extracted S3s like (iia), compared to WCO effects in extracted non-S3s:

(ii)a. Who₁ appears to his₁ mother to be a genius?

b. ?*Who₁ is his₁ mother grilling obsessively?

However, this argument does not work against the proposal of the present essay, since the lack of WCO in (ib) is also found in cases with audible expletive there; so (iii) is just like (ib) not like (ia):

(iii) Into every dog's₁ cage there peered its₁ outraged owner.

See also:

(iv)a. *To some nurse₁ her₁ own father's care was/seems to have been entrusted.

b. To some nurse₁ there was/seems to have been entrusted her₁ own father's care.

c. To some nurse₁ was/seems to have been entrusted her₁ own father's care.

29 Of course, (161b) is irrelevantly well formed on a reading involving object extraction and subject verb inversion of Marie.

30 As in previous works on Metagraph grammar beginning with Johnson and Postal (1980), the present account appeals to a class of primitive nodes as well as a class of primitive arcs; such a development is also standard in graph theory, the branch of mathematics which in effect underlies the structures at issue; see e.g. Gould (1988). However, I believe it is possible to construct a form of this framework with only primitive arcs, one in which nodes would be defined in terms of the set of primitive relations between arcs.

31 The reason for this choice is that I vaguely suspect that quirky 1-Quace, 2-Quace and 3-Quace all have distinct instantiations in diverse English constructions and choice of a contrasting Quace is thereby suggested to keep distinct constraints distinct. Elaboration of this point is not relevant here.

32 In the framework of Johnson and Postal (1980), expletive constituents were defined as those which corresponded to heads of a certain type of arc (type defined in terms of its sponsor relations) called a *Ghost arc*. Expletive arcs in general were simply all the remote successors of ghost arcs.

33 To embed examples like (179) in Bresnan's (1994) view that the Anticomplementizer Constraint is defined over extracted S3s demands, evidently, taking predication phrases like lying on the table to be S3s. Besides the intuitively dubious character of such a claim, it would require some special stipulations to allow, for instance, for the choice of tag:

(i) Lying on the table were two sick gerbils weren't there/*it/*them.

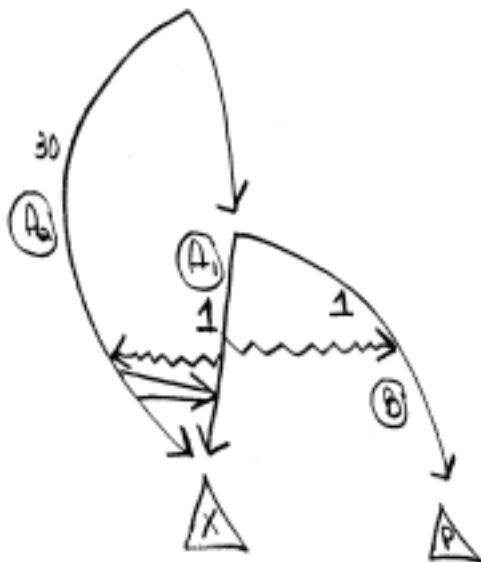
But this would be expected if, as for NEX cases, it is claimed that such examples involve invisible expletive there S3s.

34 This statement could be made more compact by appeal to the notion *Erasable* (A, B) “A is erasable by B” of Postal (1990a); but I will not bother here.

35 An issue being glossed over here involves the existence of extractions which link to resumptive pronouns in the extraction site. In Metagraph terms, such a case, say one involving extraction of a subject, would, I suggest, have the substructure in (i), assuming all Quace arcs are suppressed:

(i)

Note 35
(i)



Now, in terms of definition (167), A_1 , whose head represents the extracted constituent, and B, whose head constituent represents the resumptive pronoun, would both qualify, quite undesirably, as final 1-arcs. In the terms of Johnson and Postal (1980), arc B represents a type called a *replacer* (of A_1). In such a case, the presumed final subject would be the resumptive pronoun. This suggests first

that one take definition (167) to define a slightly distinct concept, call it *prefinal arc* and that one defines a *final arc* as a prefinal arc *which is not replaced*.

Second, the development of Quace assignment and Quace agreement in the text was assumed to ‘begin’ with final Nominal-arcs. Evidently, if the suggestions of the previous paragraph are taken, this should be refined to prefinal Nominal-arcs. Third, the issue arises as to the relation between the Quace of a replacer arc like B and that of its sponsor, A_1 . My assumption would be that this should be an instance of identity mediated by another type of Quace agreement. Roughly:

(ii) If A is a prefinal arc whose Quace Marker has the Relational Marker M, and B replaces A, then B’s Quace Marker has the Relational Marker M.

36 There is a potential problem inherent in what has been said. Namely, suppose two distinct constituents extract from below a fixed complementizer C_n to positions higher than C_n . Then according to the development so far, it might seem that the CT-arc headed by C_n would have to agree in Quace with two distinct 30-arcs, which, if the latter have distinct Quace Markers, could be impossible and would be in every case where the Relational Marker of one Quace Marker was not a proper initial sequence of that of the other.

Multiple extractions in English are rare, but not unknown. Many people including the author accept (i) for example, and (ii) does not seem too bad either:

(i) Janet, I am sure that the police will interrogate everyone who knew.

(ii) Janet, never did I believe (that) they interrogated.

(iii) *Janet, never did I believe (**that) interrogated the suspects.

And while even the short version of (iii) is bad, it is clear that the Anticomplementizer Constraint still manifests, since presence of a pronounced complementizer is much worse than its absence.

While it is difficult to investigate this matter in English, the proposal I would make relates to the ideas of Postal (1998). There it was claimed that extraction from (selective) islands must involve invisible resumptive pronouns, at most optional for other extractions. Moreover, I would assume that each extraction creates an island. If so, then at least one of the extractions in multiple intersecting extraction cases must involve (selective) island extraction. One

obvious way to keep such phenomena consistent with the development of the present section is to assume that while ‘ordinary’ extractions involve 30-arc successors, extractions from selective islands involve at least one other type, say 40-arcs; these would be subject to an analog of the Uniformity Condition for 30-arcs.. The constraint of Postal (1998) could then be informally that extractions involving 40-arc successors must determine resumptive pronouns. Given these assumptions, the CT-arc headed by the complementizer that in cases like (ii) and (iii) will be a neighbor of both a 30-arc and a 40-arc. But it is only required by Condition (190) to agree in Quace with the former.

However, this could not be the end of the matter since nothing yet guarantees that in e.g. (iii) it is the subject extraction (of Janet) which involves a 30-arc, while the extraction of never involves 40-arc successors. Perhaps then one needs to either specify (iv) or determine that it follows from something more general:

(iv) If A is a 1-arc Start arc remote foreign predecessor of some Overlay-arc, then A’s foreign successor is a 30-arc.

Clearly, one would want to link (iv) to the well-known fact that in many cases extraction of final subjects from selective islands is banned, as in (va); but one must also allow for the improvement when the subject is not the subject of the highest clause in the island, as in (vb), or is in an Adverb Effect environment, as in (vc):

(v)a. *What candidate did Janet learn whether could speak Spanish?

b. ??What candidate did Janet learn whether Tom thought could speak Spanish?

c. ?? What candidate did Janet learn whether under a deep form of hypnosis could speak Spanish?

Plausibly, the improvement here is linked to Condition (195), which would determine that the highest arc in the adjunct headed by What candidate in both (vb) and (vc) would have finished 2-Quace, not the finished 1-quace which the highest such arc in (va) would have. This relation could be captured by refining (iv) to something like:

(vi) If A is a 1-arc Start arc remote foreign predecessor of some arc B which is a 30-arc predecessor of an Overlay-arc C, then B has finished 2-Quace.

However, real exploration of these issues is again well beyond possible discussion here.

37 The notion represented by the highlighted subexpression is here left totally informal.

38 It remains unexplained, of course, why (197c) is bad. One can suspect that this state of affairs is due to whatever principle (see Grimshaw, 1997 for discussion in terms very removed from those of these remarks), precludes a null complementizer in the case of complement-internal extractions:

- (i)a. Mason believes that/* \varnothing Sonia, Kim will never hire.
- b. Mason believes that/* \varnothing never will Kim hire Sonia.
- c. Mason believes that/* \varnothing no matter who Kim hires, she will complain.
- d. Mason believes that/* \varnothing such large lights, Kim will never agree to install them.

I will not attempt to say more about this feature; I suspect though that it is related to the fact that complement internal extractions like those of (i) map clauses which are otherwise not islands into islands. For it is generally true that a non-relative clause structure of the form $[X [_\alpha \text{ that } Y] Z]$, where the constituent is an island with respect to anything external to it cannot alternate with one in which that is replaced by \varnothing .

39 Kayne (1984: 5) claims that a contrast exists between (i) and (ii):

- (i)a. the man whom I believe has left
- b. the man who I think is quite intelligent
- (ii)a. the man whom it is obvious likes you
- b. the man whom it is likely admires her

He regards those in (ii) as ungrammatical. But neither I nor my colleague Mark Baltin perceive a contrast between such cases. Equally clear to me is that the adjectival and verbal variants of (iii) do not differ:

- (iii)a. the woman whom he is sure/recognizes loves you
- b. the only doctor whom I am confident/know can help you

All the examples of (i)-(iii) really deserve question marks, but none obviously more than the others. For Kayne the perceived contrast between (i)-(ii) is due to the fact that the former pair involves a higher *verb*, the latter pair a higher *adjective* and in the GB terms Kayne was adopting, verbs but not adjectives assign case. It would be possible, though a priori undesirable to build a verb/adjective distinction into a variant of principle (195).

40 A problem for condition (205) is visible in pairs like (i)

- (i)a. the guy who once hired Joan and they now claim I should hire
- b. *the guy who they claim I should hire and once hired Joan

Here, in both cases, a main clause subject is combined under coordination with an embedded object. Since neither subcontext of principle (195) determines any 2-Quace for the higher subject, combination with the lower object would be predicted by the discussion in the text to be bad. This is clearly correct for (ib) but seems wrong for (ia). So the question is what analysis of the latter is possible consistent with (205). I do not have a good answer, but perhaps (ia) involves a phenomenon linked to relative pronouns. That is, perhaps (ia) is related by some form of relative pronoun zeroing to (ii), which is not constrained by (205):

- (ii) the guy who once hired Joan and who they now claim I should hire

Note that analogs of (ia) do not seem so good if not based on structures which arguably contain relative pronouns:

- (iii)a. What manager once hired Joan and do they now claim I should hire.
- b. ?What manager once hired Joan and do they now claim I should hire.
- (iv)a. No engineer (both) praised Jack and claims I should praise Jerome.

b. *No engineer (both) praised Jack and do they now claim I should praise.